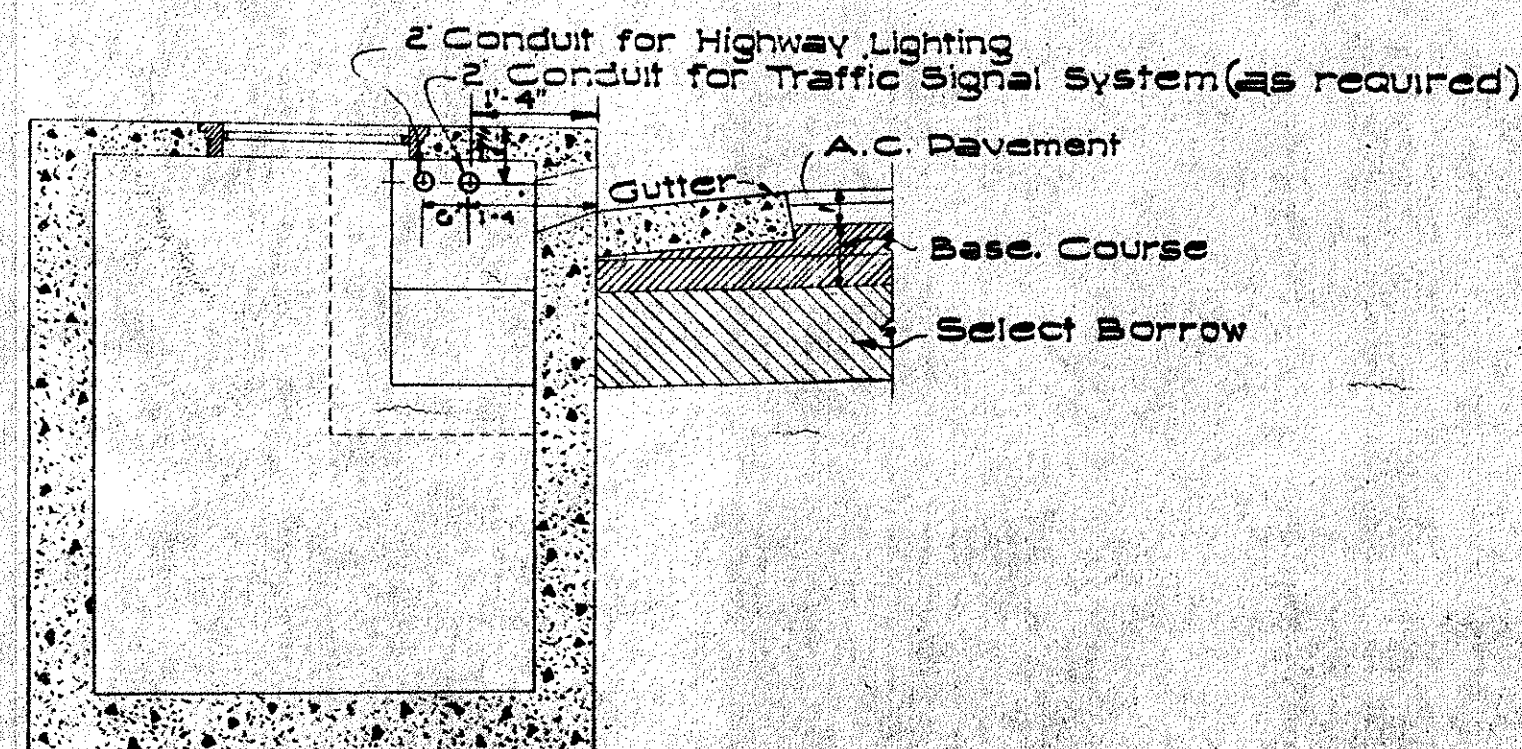


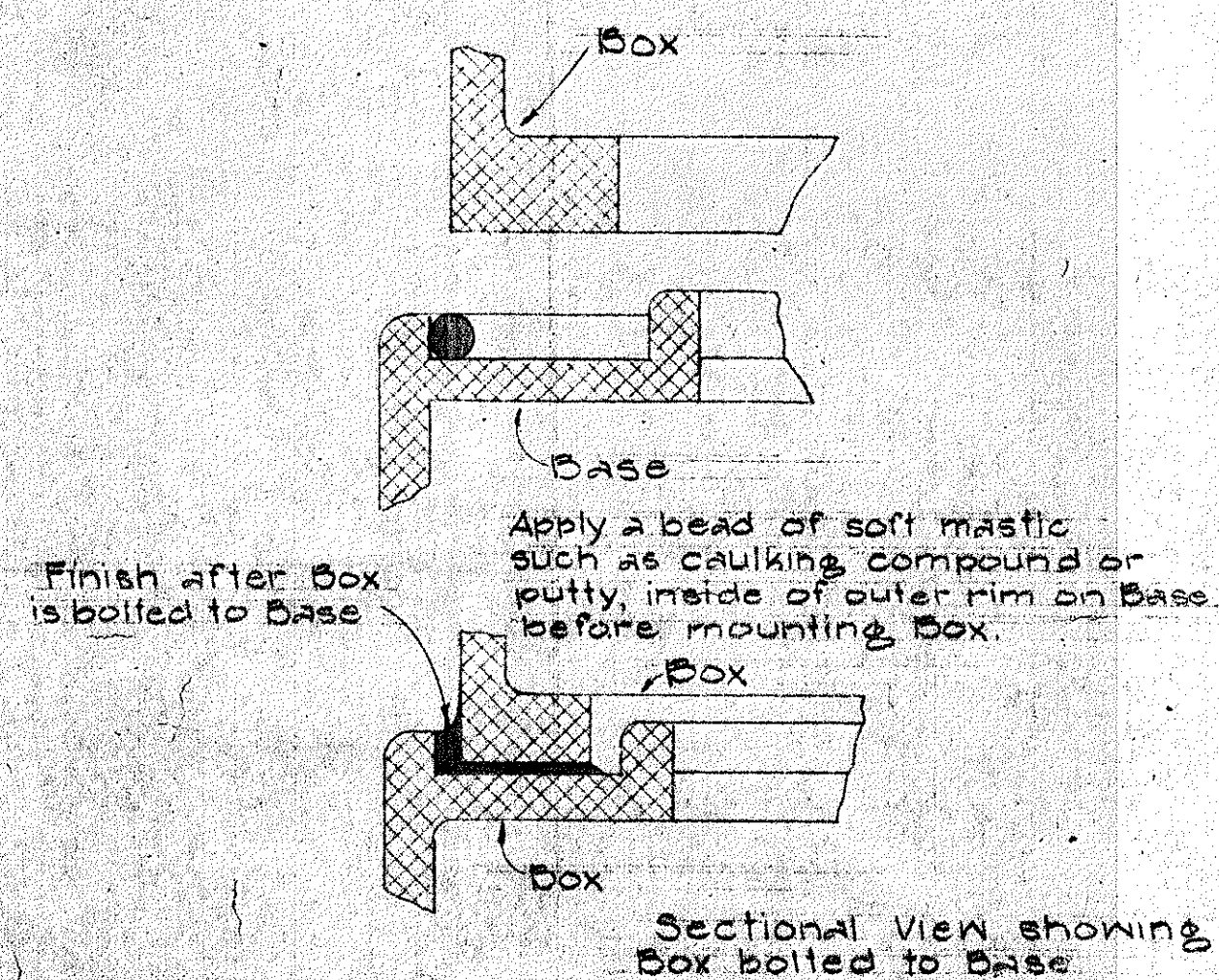
2/17/62

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.				

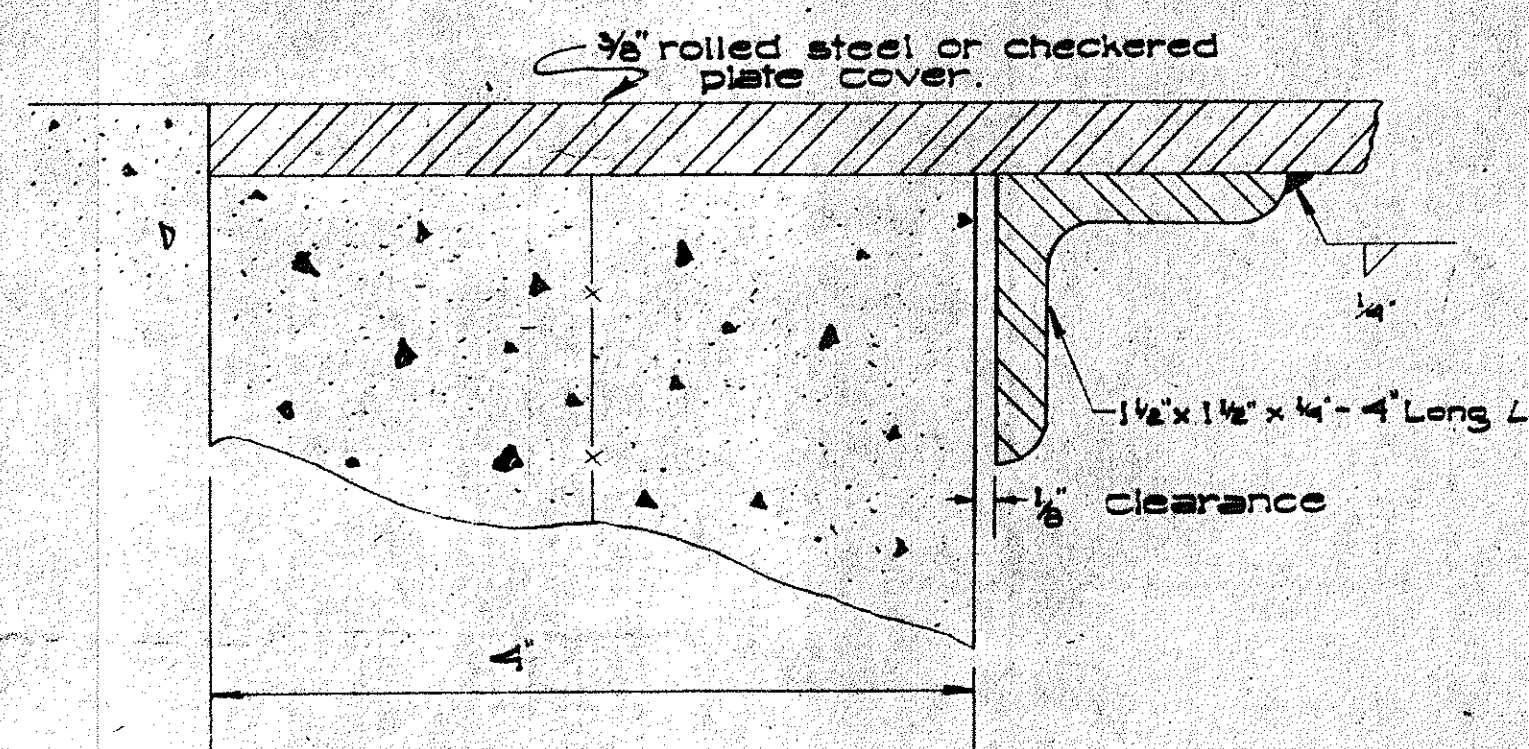
NOTE: Galv. 2 Conduits shall be supported by Band Hangers bolted to the top slab of Catch Basins. Pipe Hangers and bolts shall be incidental to item No. 4G(1) Class A-1 Concrete other than in Bridges.



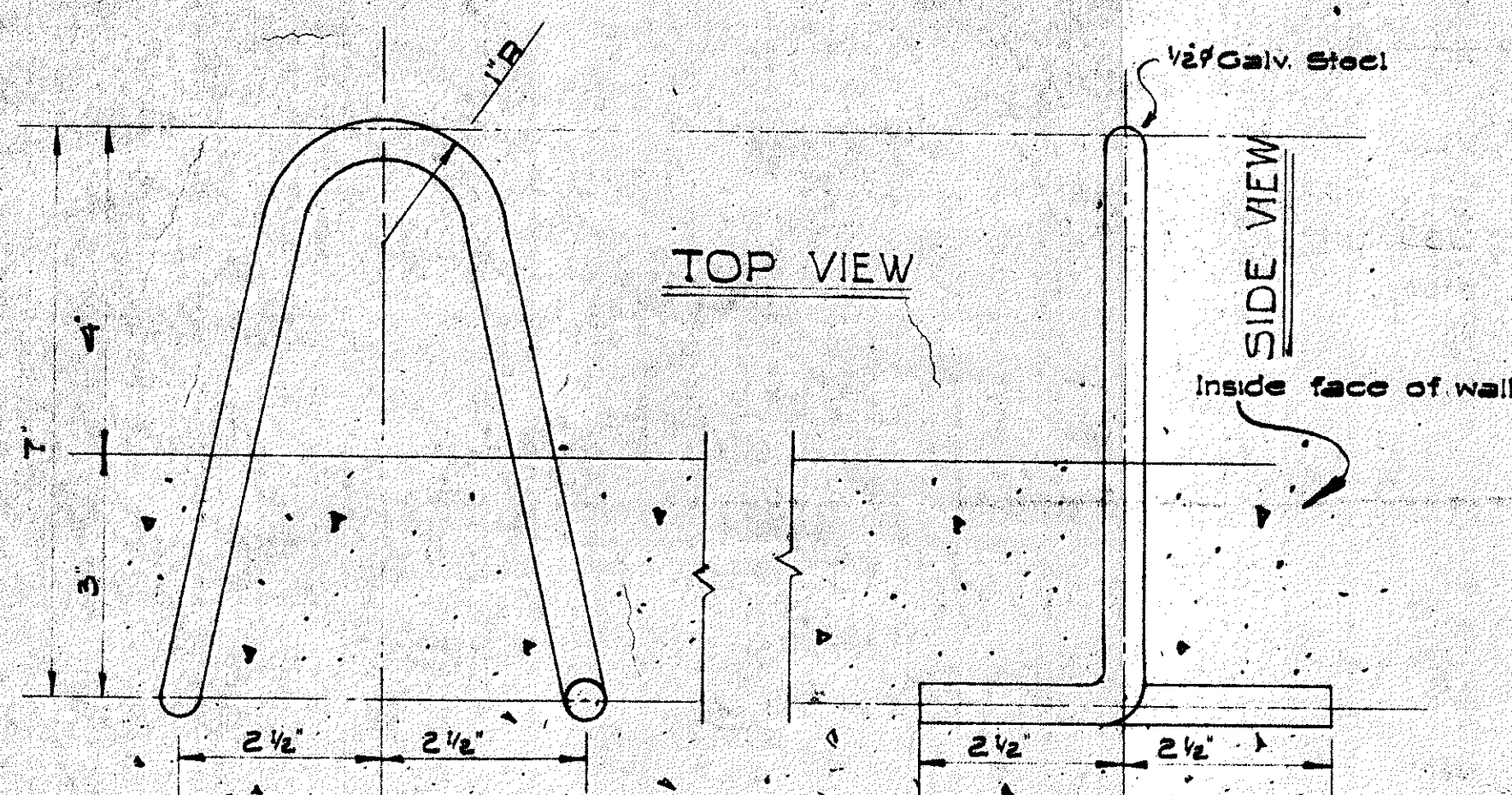
TYPICAL SECTION SHOWING CONDUITS PASSING THROUGH CATCH BASINS
Scale: 1/2" = 1'-0"



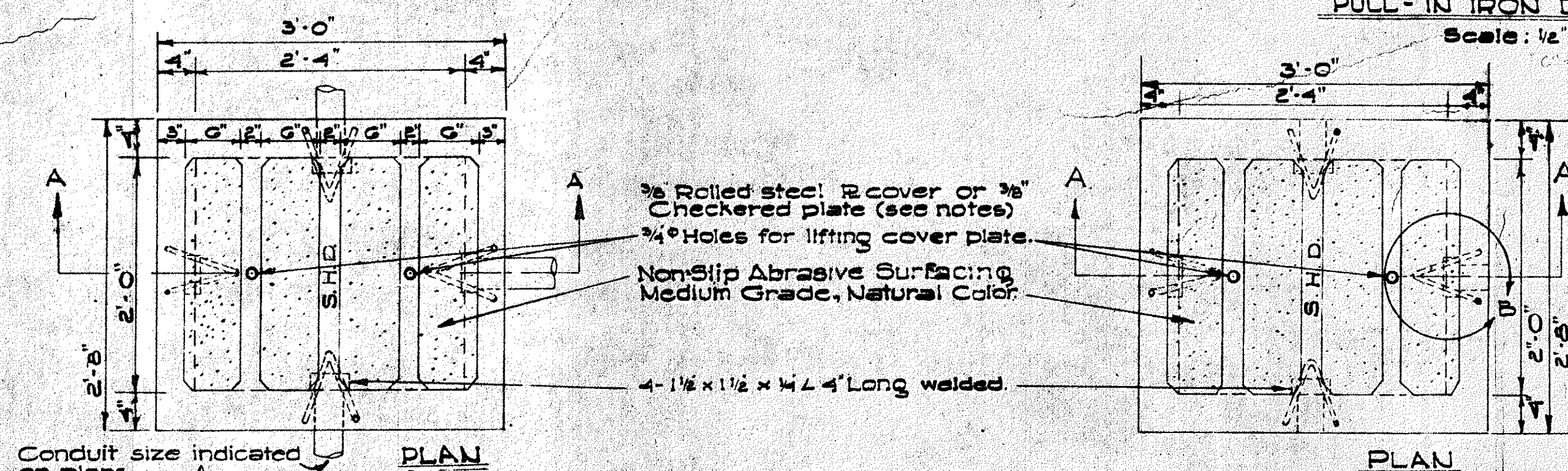
DETAIL "A"



DETAIL "A"

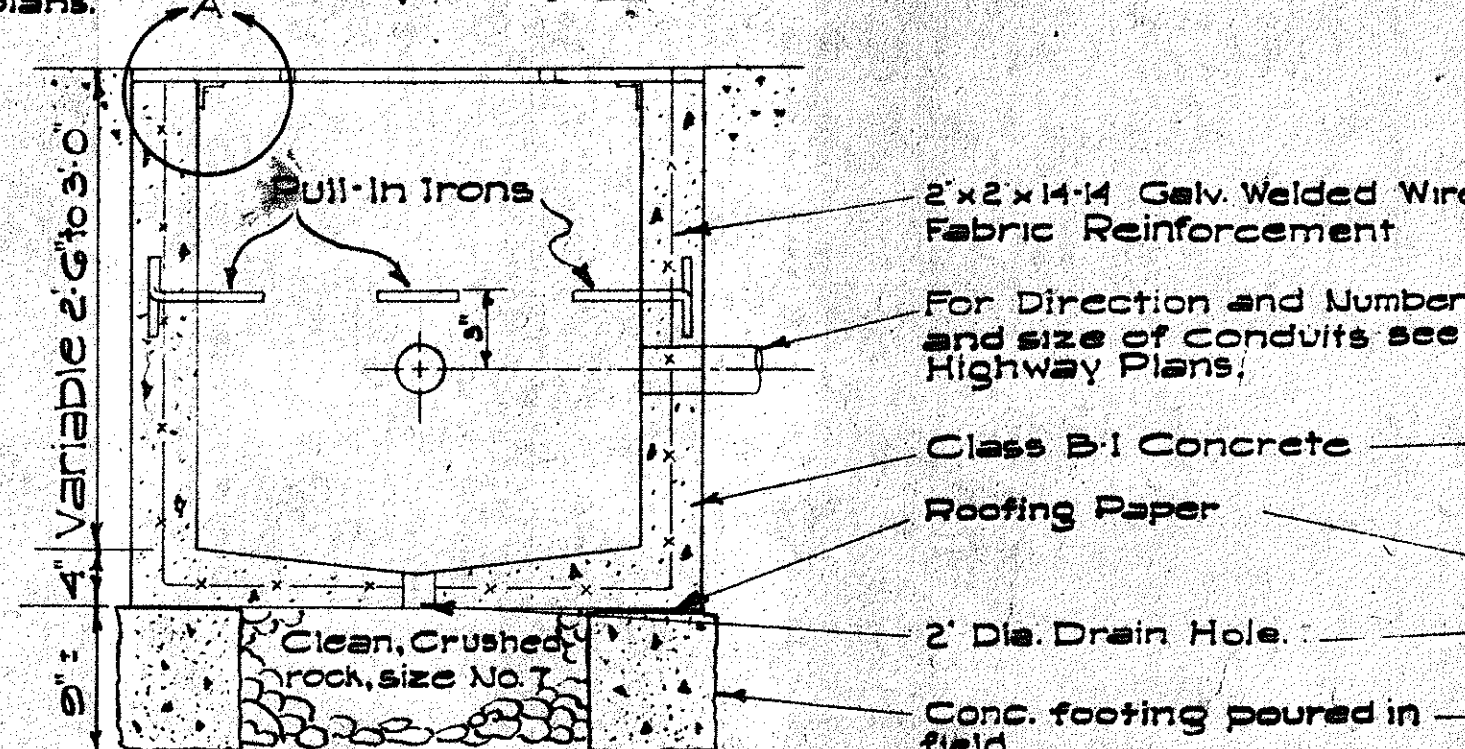


PULL-IN IRON DETAIL "B"
Scale: 1/2" = 1'-0"

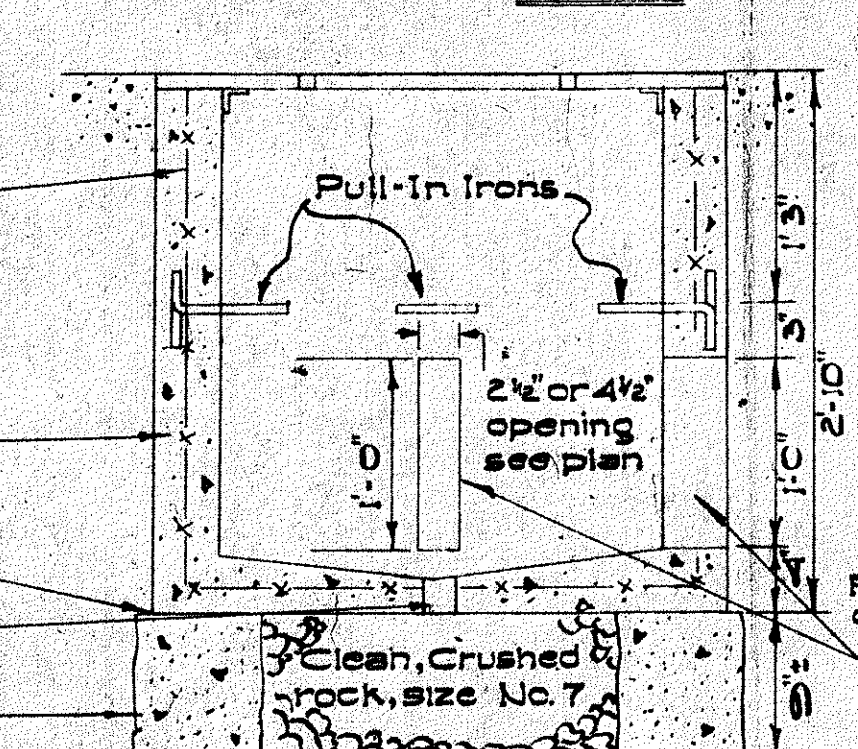


PLAN

Conduit size indicated on plans.



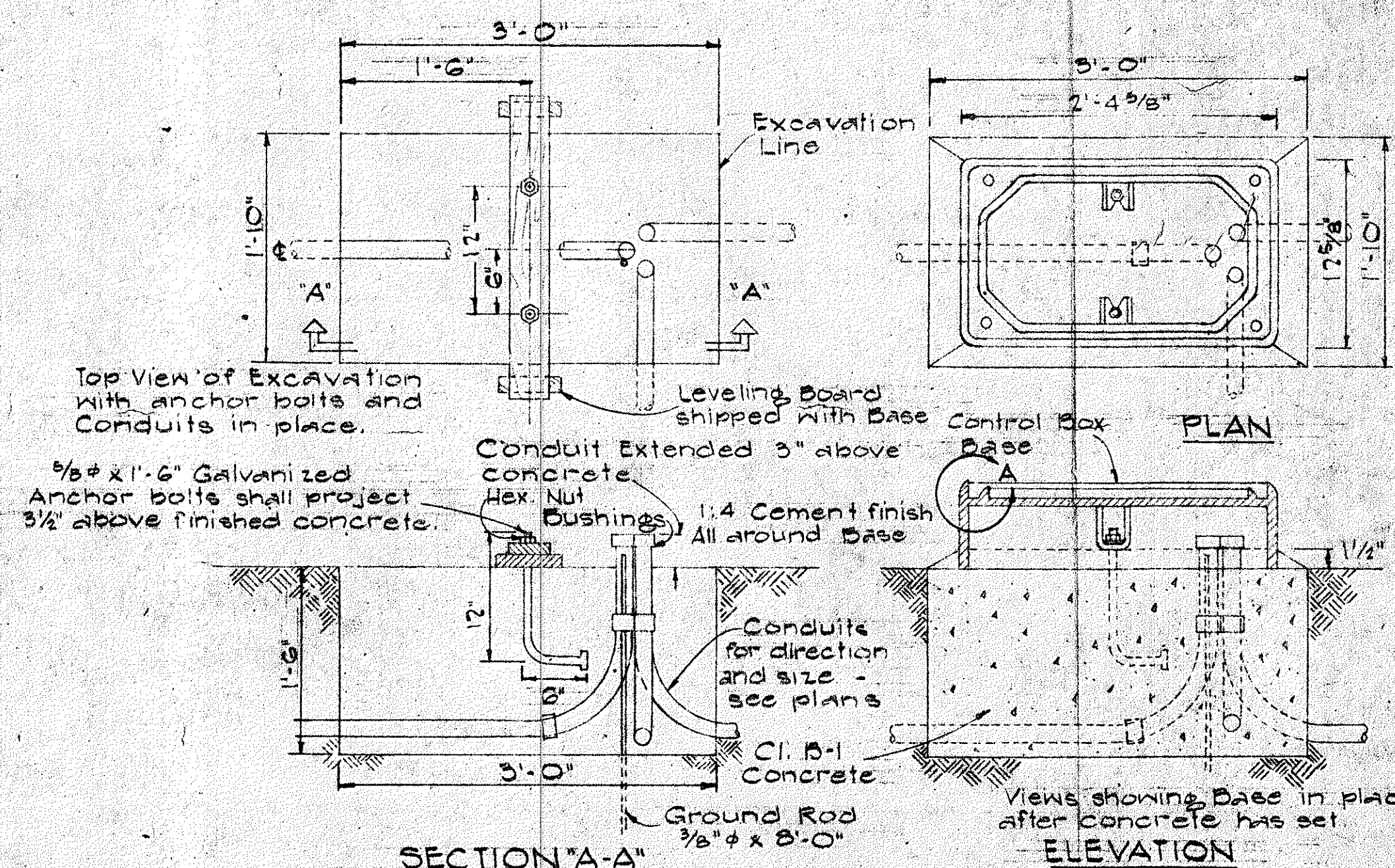
SECTION A-A
TYPE "A" PULL BOX-CAST-IN-PLACE
Scale: 1" = 1'-0"



SECTION A-A
TYPE "A" PULL BOX-PRECAST
Scale: 1" = 1'-0"

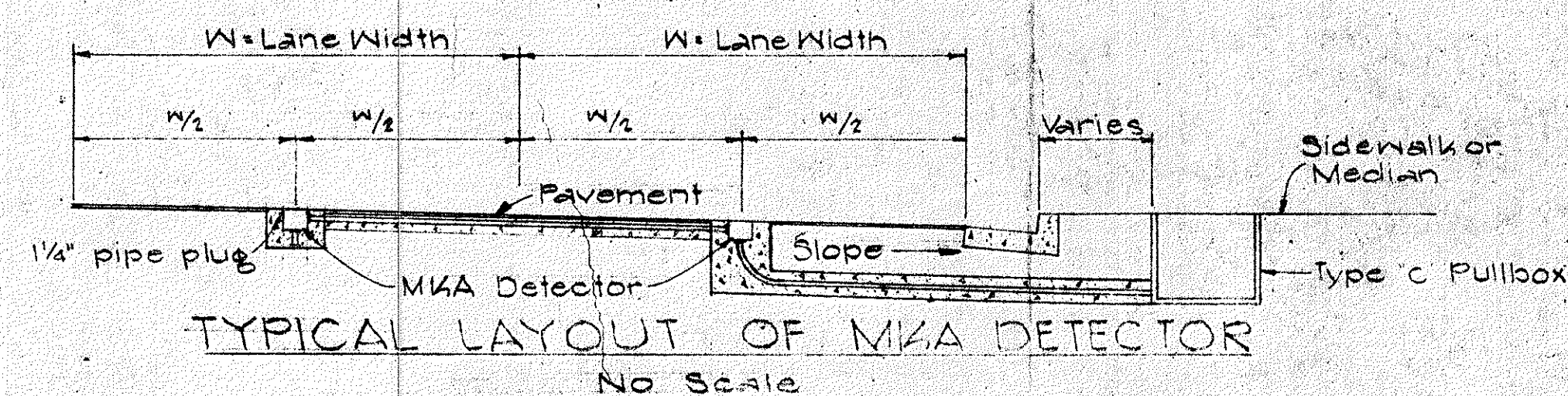
- Note:
1. 3/8" Rolled steel Plate Cover with non-slip Abrasive Surfacing Medium Grade, Natural Color shall be used on all Pull Boxes located in median areas and other locations where there are no pedestrians walking.
 2. 3/8" Checkered Plate Cover shall be used on all Pull Boxes located in median areas and other locations where there are no pedestrians walking.
 3. Pull Irons shall be placed opposite each conduit slot.
 4. Covers on all pull boxes located in sidewalk areas shall be set flush with the concrete sidewalk.
 5. Each Pull Box shall have a pair of pull irons opposite each other for lifting purposes.

For direction and number and size of slots for conduits (see plan)
Grout Conduit Slot with 1:3 Cement Mortar after Conduit is placed.

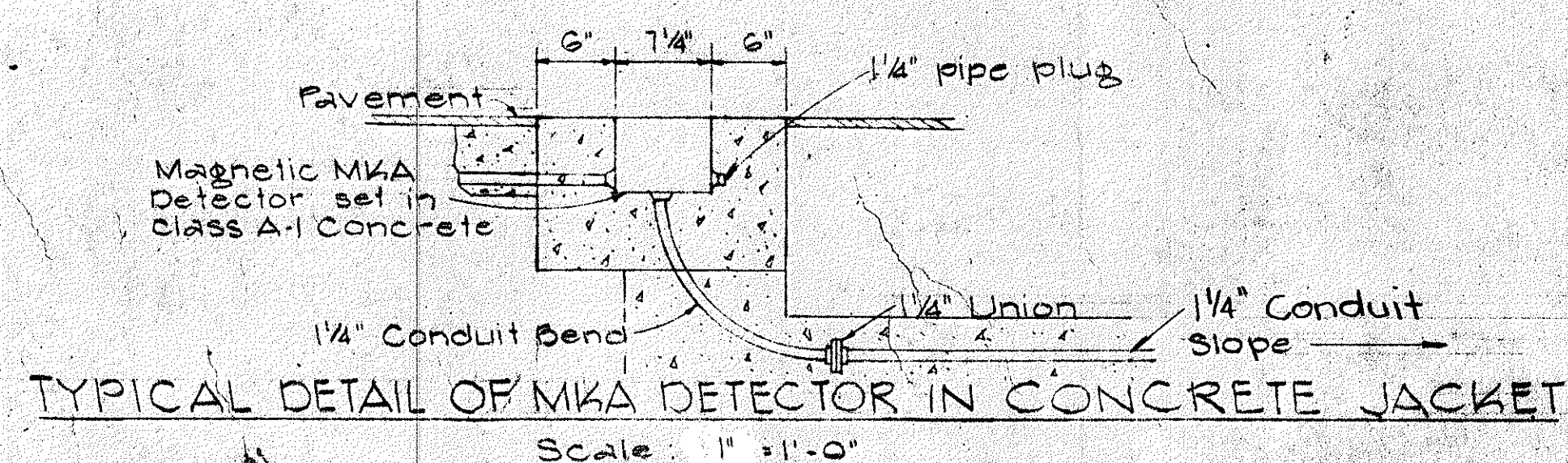


TYPICAL INSTALLATION DETAILS FOR TYPE "M" CONTROLLER BOX
Scale: 1" = 1'-0"

NOTE: Dimensions and details are approximate only. Exact details and dimensions shall be furnished by the manufacturer and as directed by the Engineer.



TYPICAL LAYOUT OF MKA DETECTOR
No Scale



TYPICAL DETAIL OF MKA DETECTOR IN CONCRETE JACKET
Scale: 1" = 1'-0"

REVISED: April 5, 1963

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
TYPE "M" CONTROLLER BASE,
PULLBOX AND
MAGNETIC DETECTORS

SCALE: As Noted

SHEET No. OF SHEETS

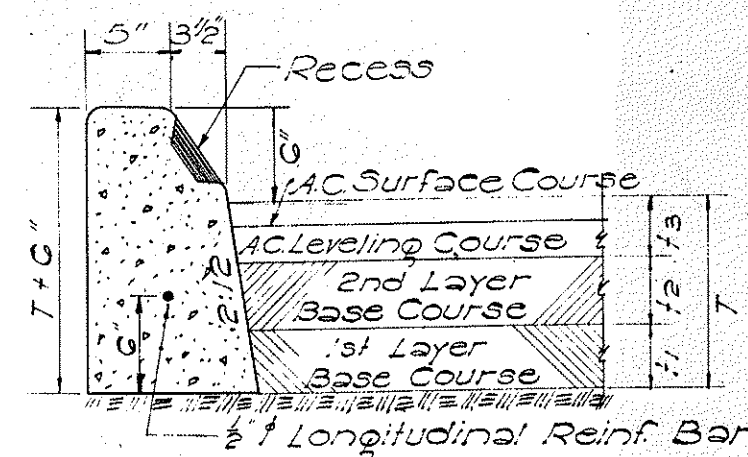
B-1092-01-65

(11)

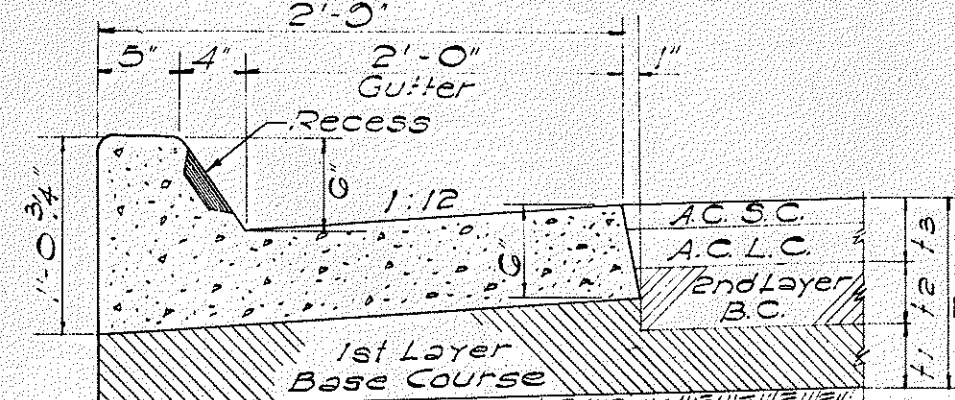
DATE	7/11/57
DESIGNED BY	J. A. Nardiel
DRAWN BY	J. A. Nardiel
CHECKED BY	J. A. Nardiel
NOTED BY	J. A. Nardiel
NO.	

2/17/50
9/22/61

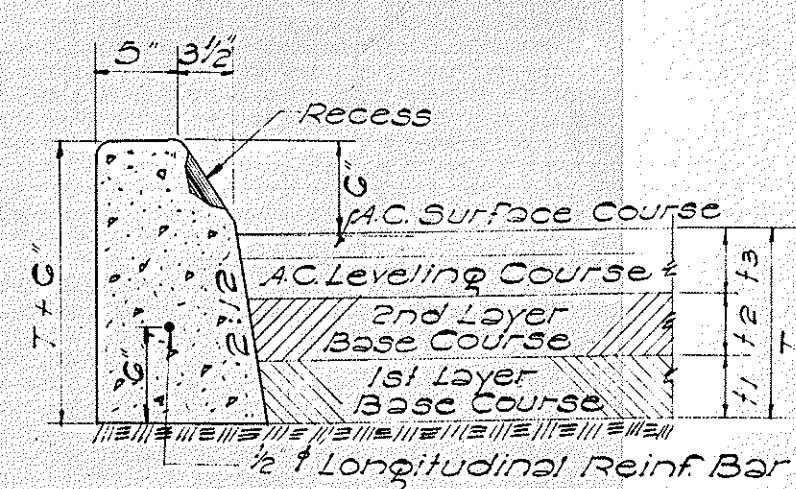
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
				AUG. 1957	



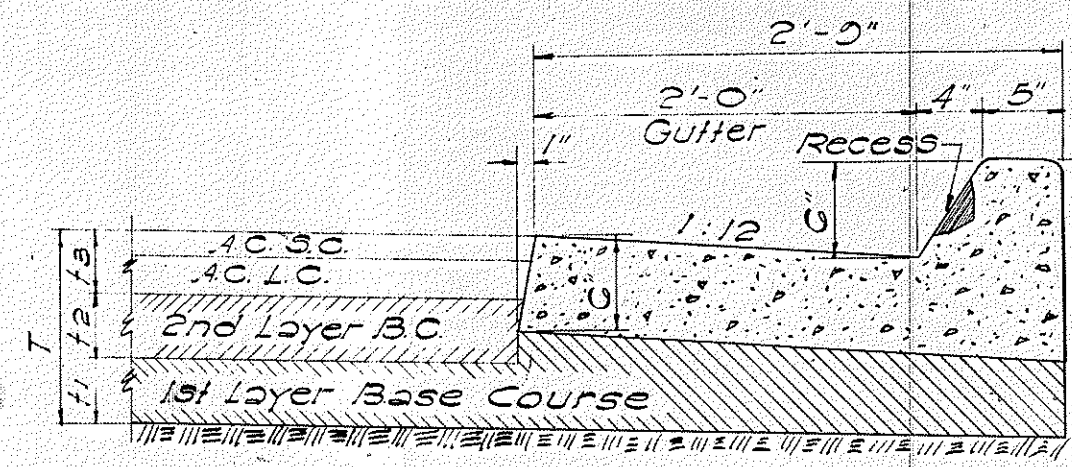
TYPE "A" & "B" CURB
SCALE: 1" = 1'-0"



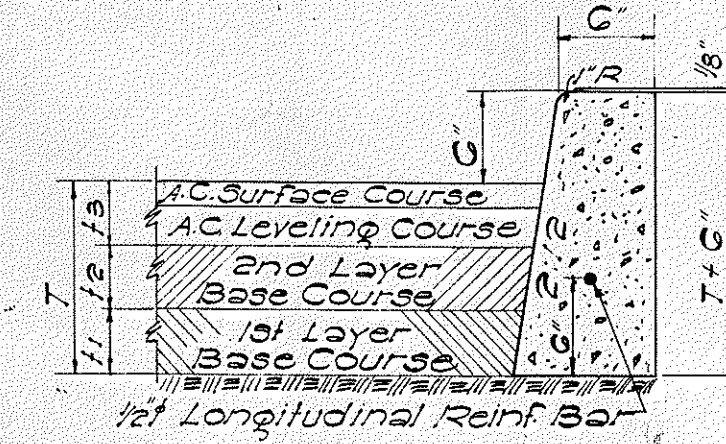
TYPE "AG" & "BG" CURB & GUTTER
SCALE: 1" = 1'-0"



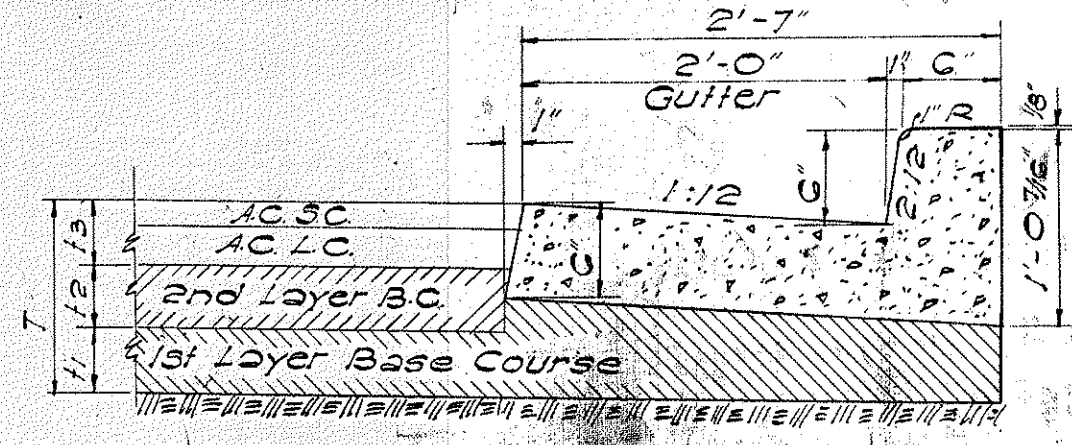
TYPE "C" CURB
SCALE: 1" = 1'-0"



TYPE "CG" CURB & GUTTER
SCALE: 1" = 1'-0"

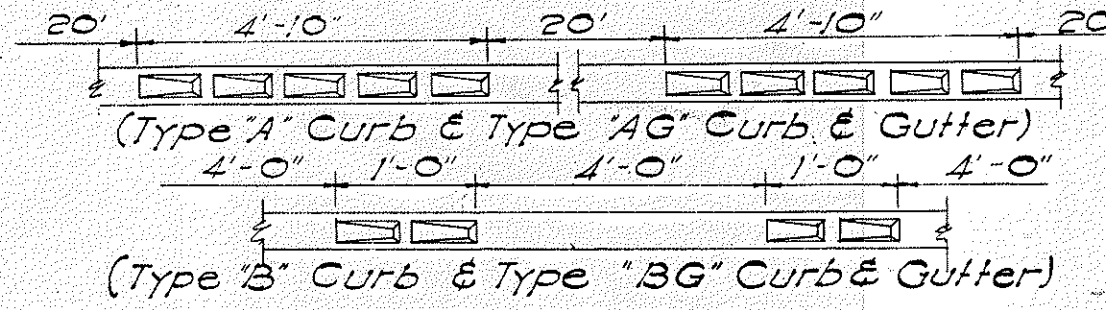


TYPE "D" CURB
SCALE: 1" = 1'-0"

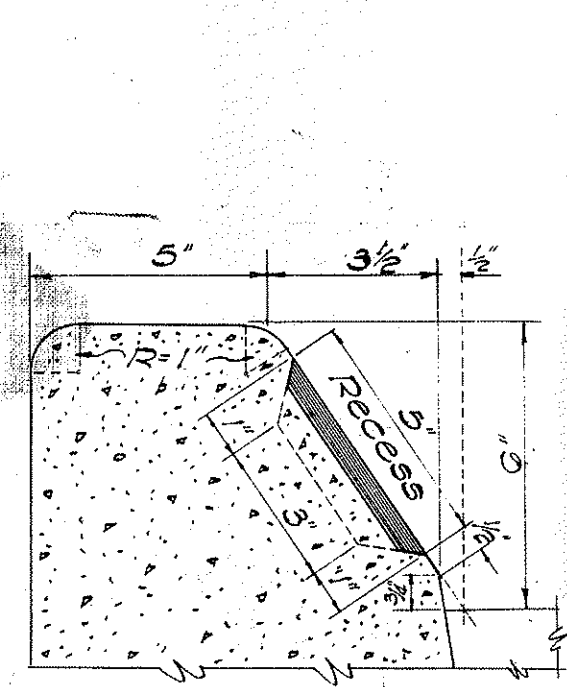


TYPE "DG" CURB & GUTTER
SCALE: 1" = 1'-0"

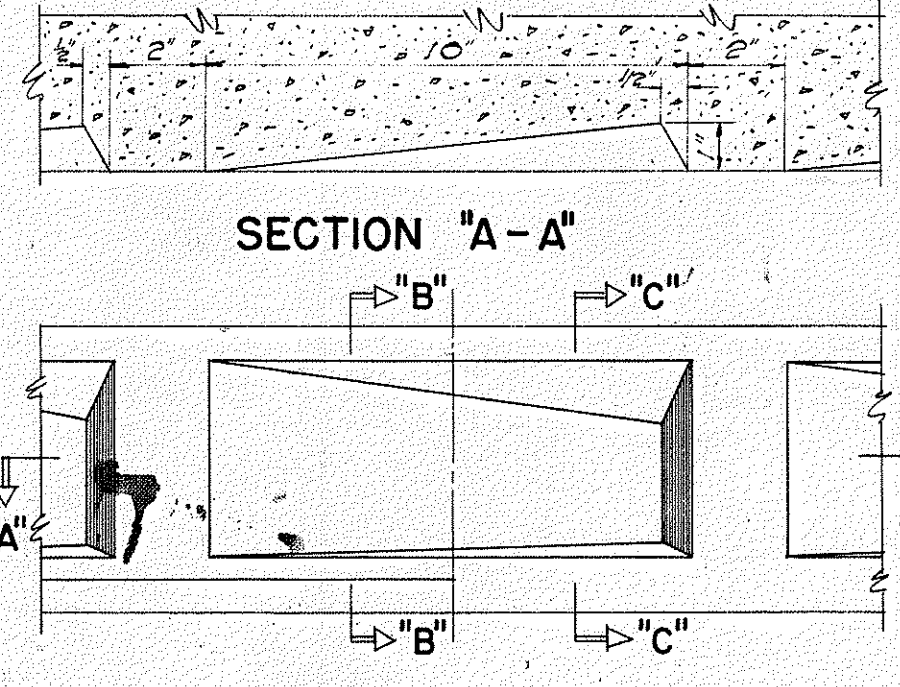
General Note Covering All Types of Curbs:
Occasionally curb rests on first layer of base course. See typical sections.



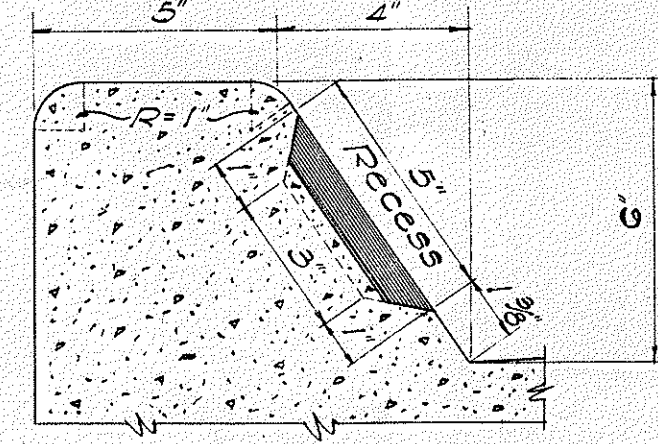
TYPE AND SPACING OF RECESSES



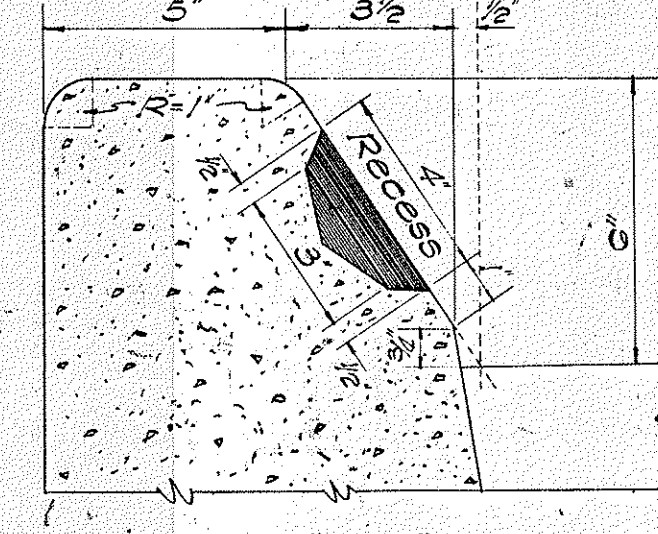
SECTION "B-B"
TYPE "A" & "B" CURB



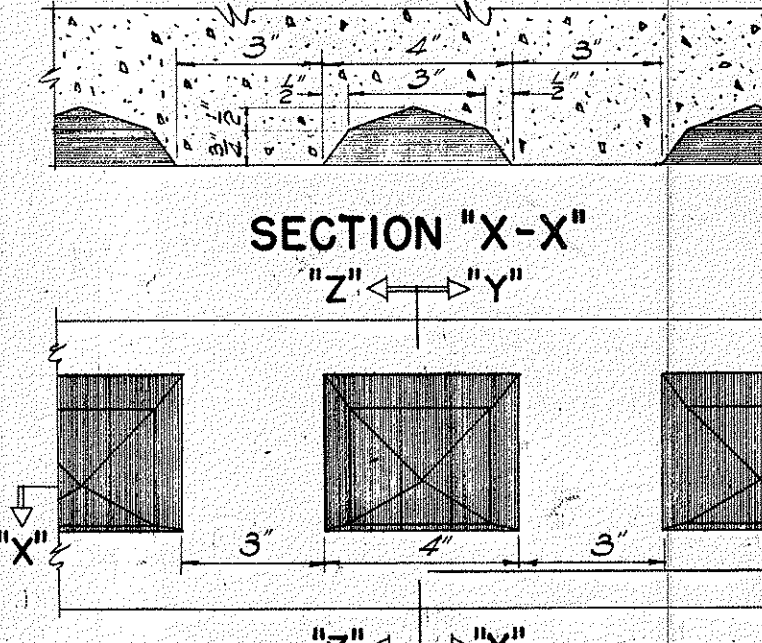
ELEVATION
SCALE: 3" = 1'-0"



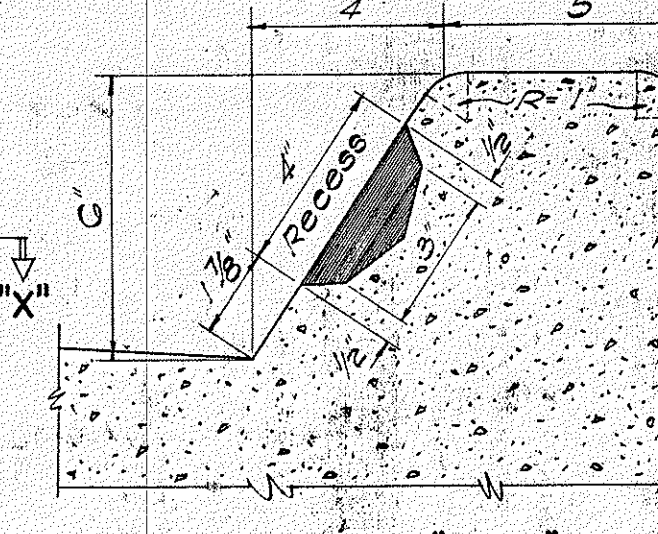
SECTION "C-C"
TYPE "AG" & "BG" CURB



SECTION "Y-Y"
TYPE "C" CURB

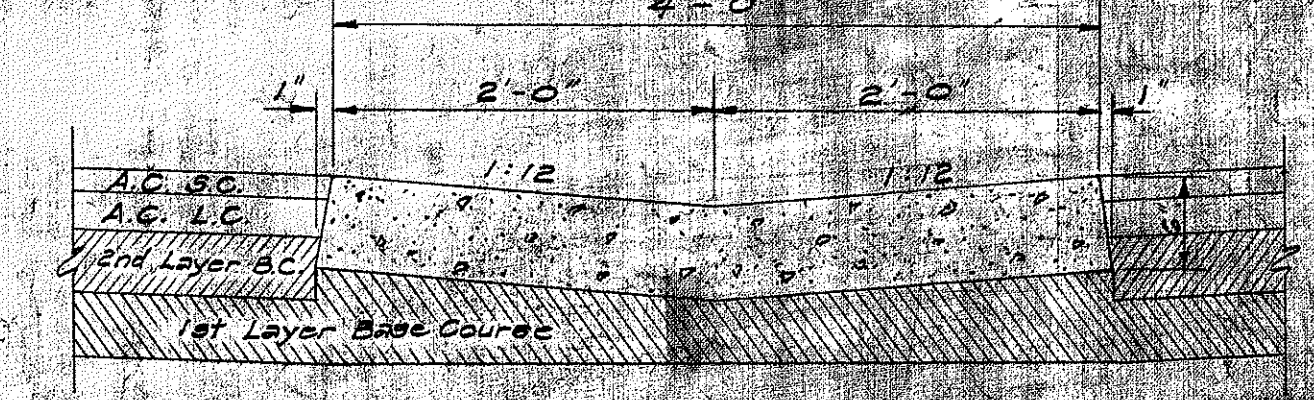


ELEVATION
SCALE: 3" = 1'-0"



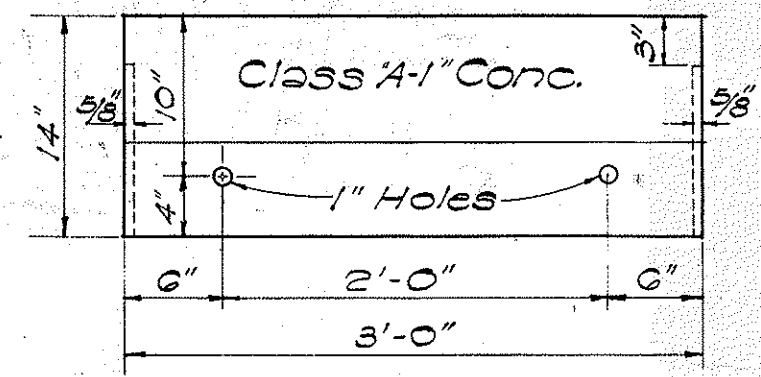
SECTION "Z-Z"
TYPE "CG" CURB

- NOTES:
- 1) Types "AG", "BG", "CG", "DG" and "E" Concrete Curbs and Gutters are to be poured monolithically.
 - 2) Types "A", "B" and "C" Curbs and Types "AG", "BG" and "CG" Curbs and Gutters occur at Median Strips and Traffic Islands.
 - 3) Shaded area in Curbs are to be painted with an approved white lacquer (One Coat).
 - 4) All Concrete Curbs and Gutters shown herein are to be of Class "A-1" Conc. and Cast in Place.



TYPE "G" GUTTER
SCALE: 1" = 1'-0"

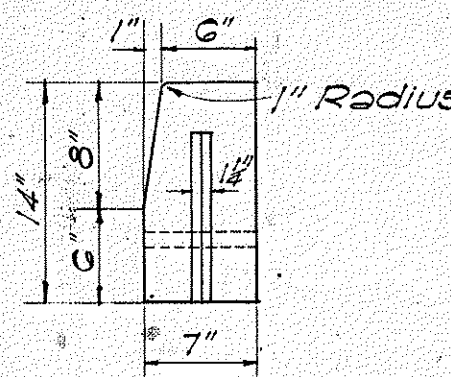
DETAILS OF CAST-IN-PLACE CONG. CURBS AND GUTTERS



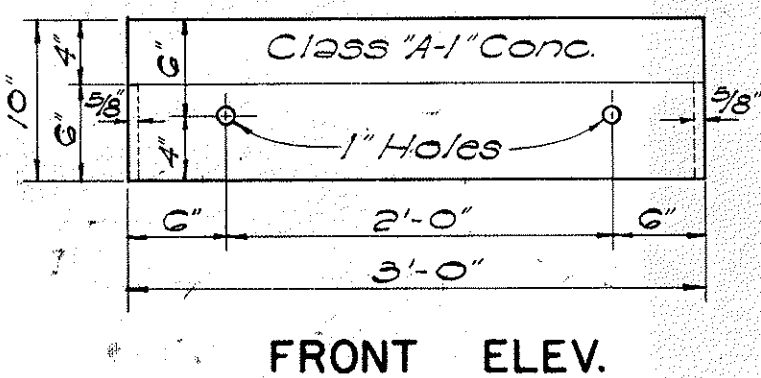
FRONT ELEV.

PRECAST CONG. CURB

SCALE: 1" = 1'-0"



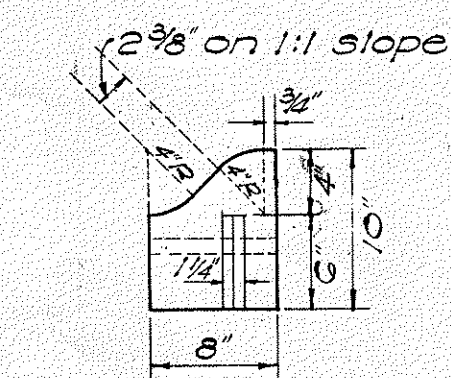
END ELEV.



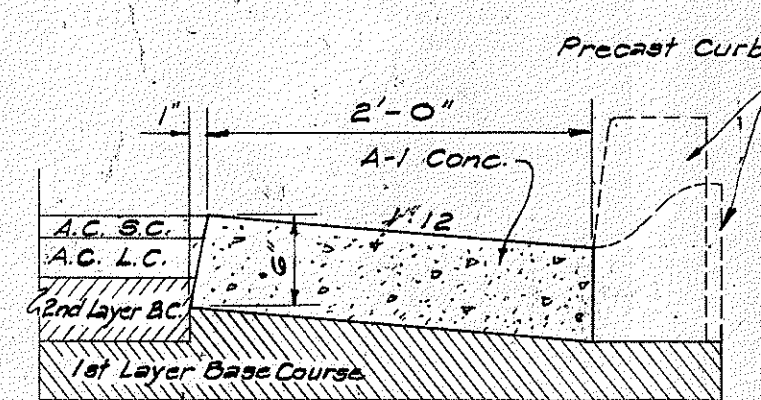
FRONT ELEV.

PRECAST CONG. ROLL CURB

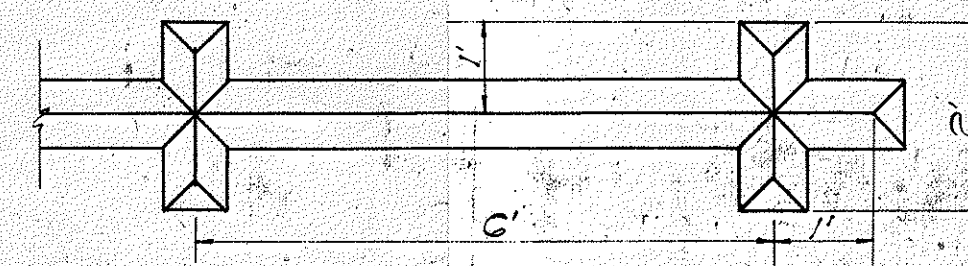
SCALE: 1" = 1'-0"



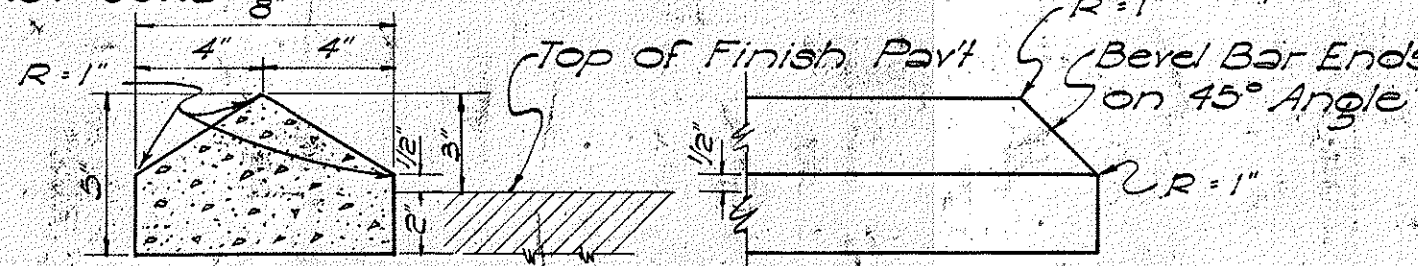
END ELEV.



TYPE "F" GUTTER
FOR PRECAST CURB



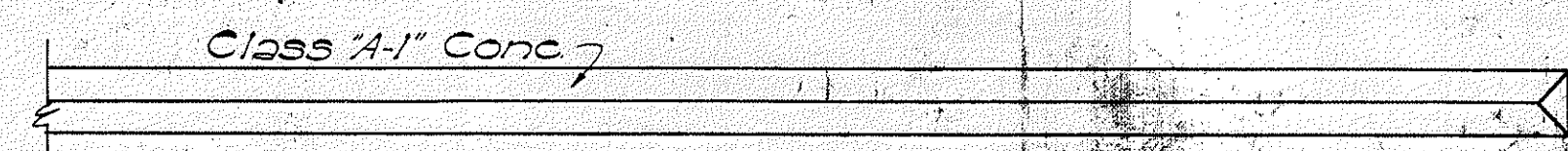
PLAN
SCALE: 1/2" = 1'-0"



SECTION
RAISED TRAFFIC BARS

SCALE: 2" = 1'-0"

NOTE:
Section and Elevation for Jiggle Bars are same as the Traffic Bars.

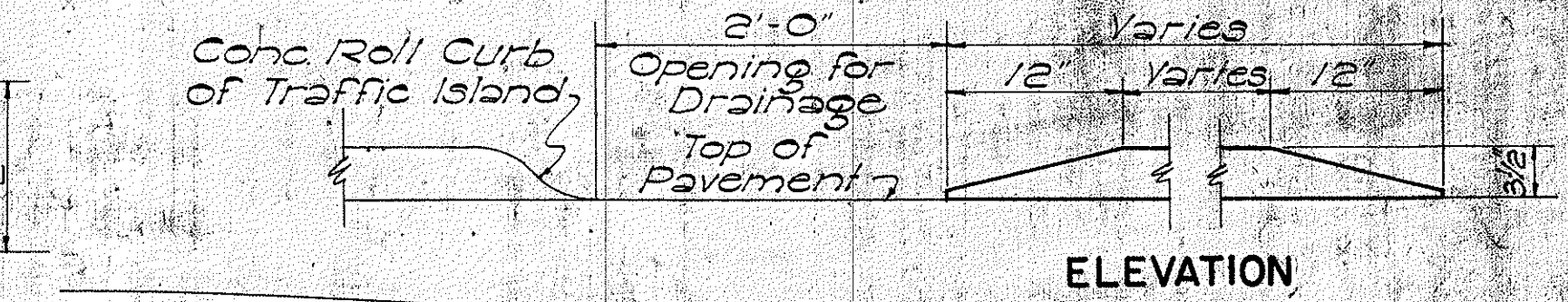


PLAN

RAISED JIGGLE BARS

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

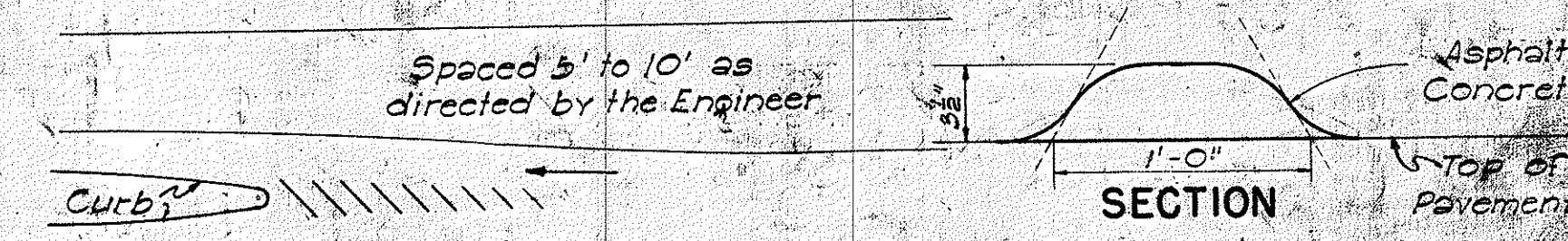
NOTE:
Paint all exposed surfaces of bars with beaded white traffic lacquer.



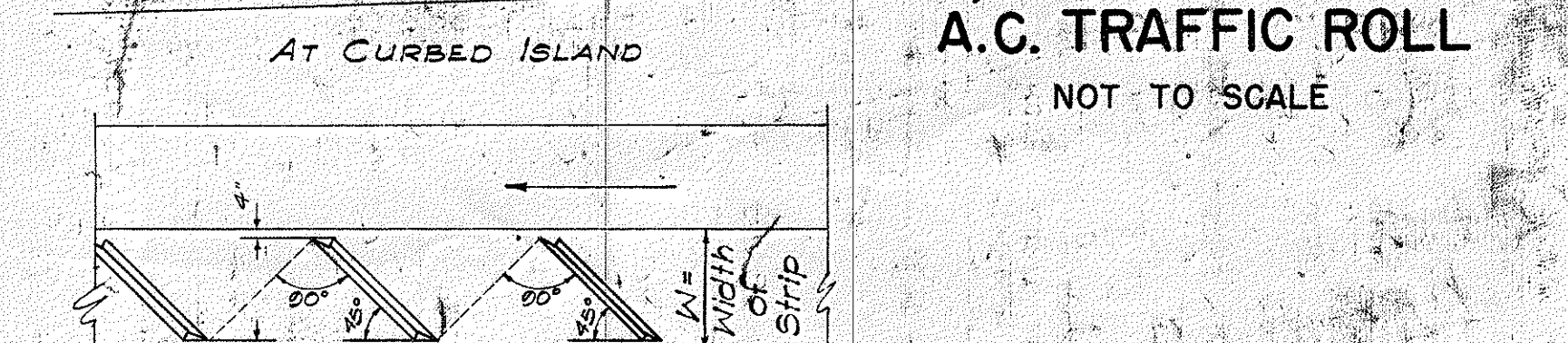
ELEVATION

A.C. TRAFFIC ROLL

NOT TO SCALE

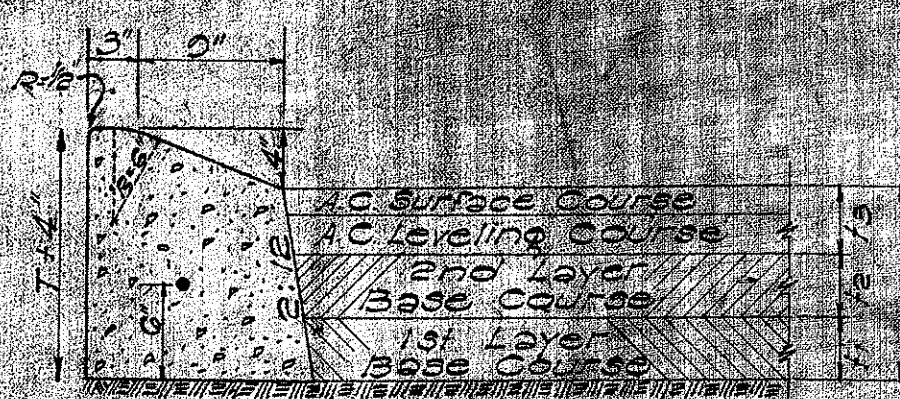


SECTION



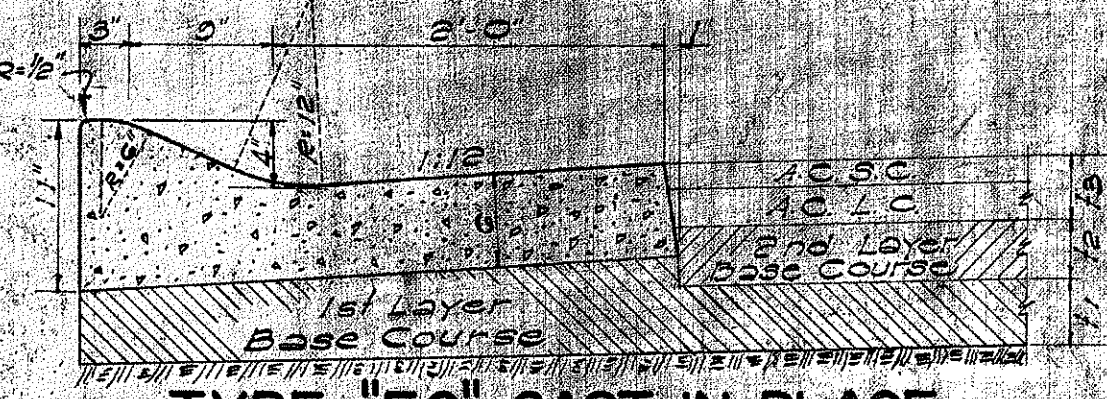
LAYOUT OF JIGGLE BARS

NOT TO SCALE



TYPE "E" CAST-IN-PLACE
CONCRETE CURB

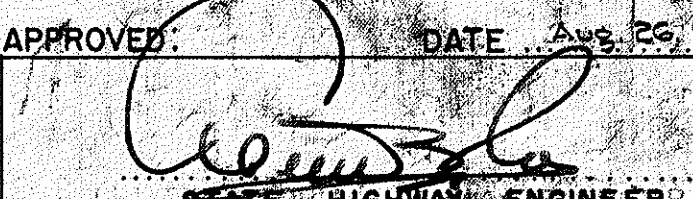
SCALE: 1" = 1'-0"



TYPE "EG" CAST-IN-PLACE
CONC. CURB & GUTTER

SCALE: 1" = 1'-0"

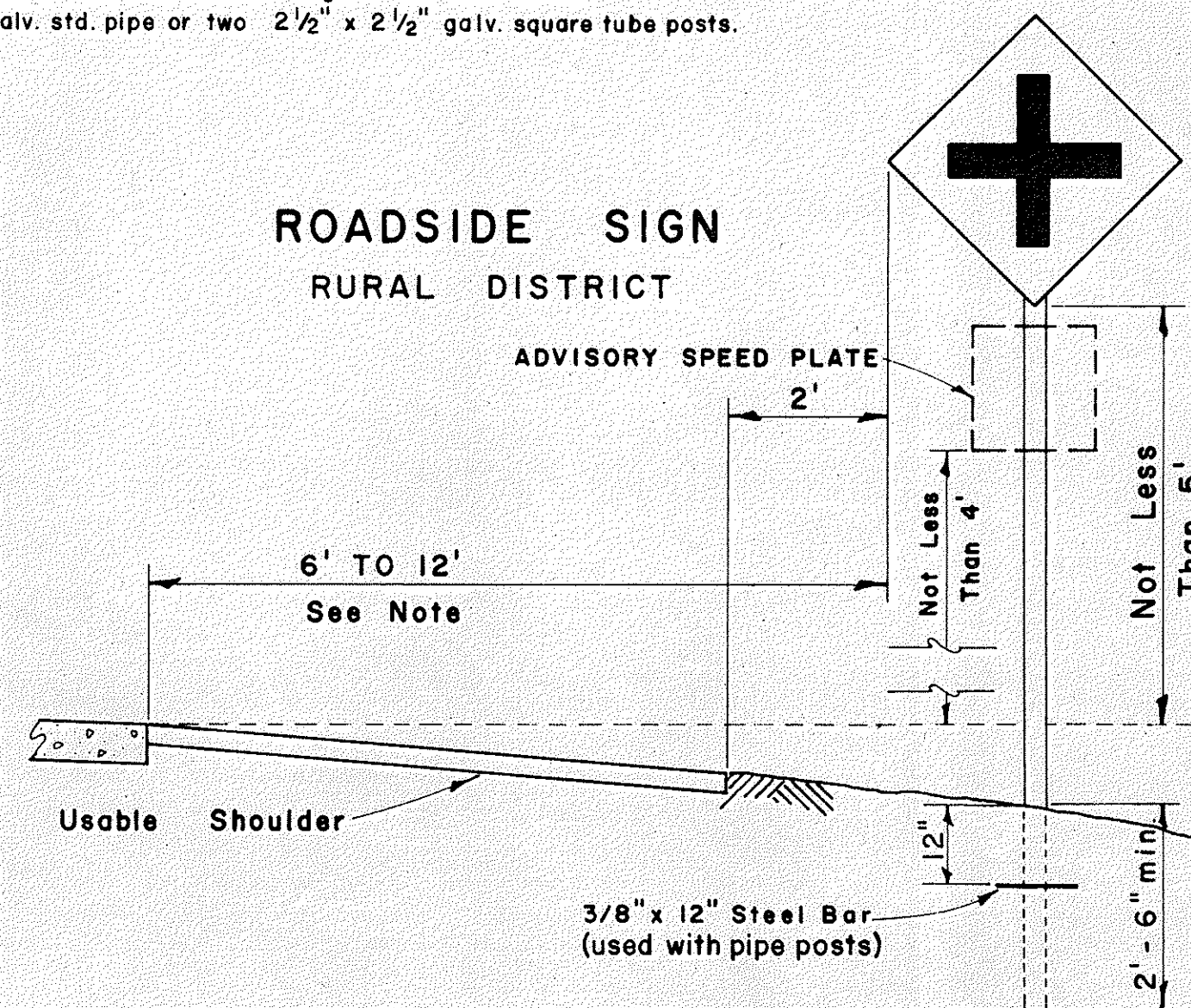
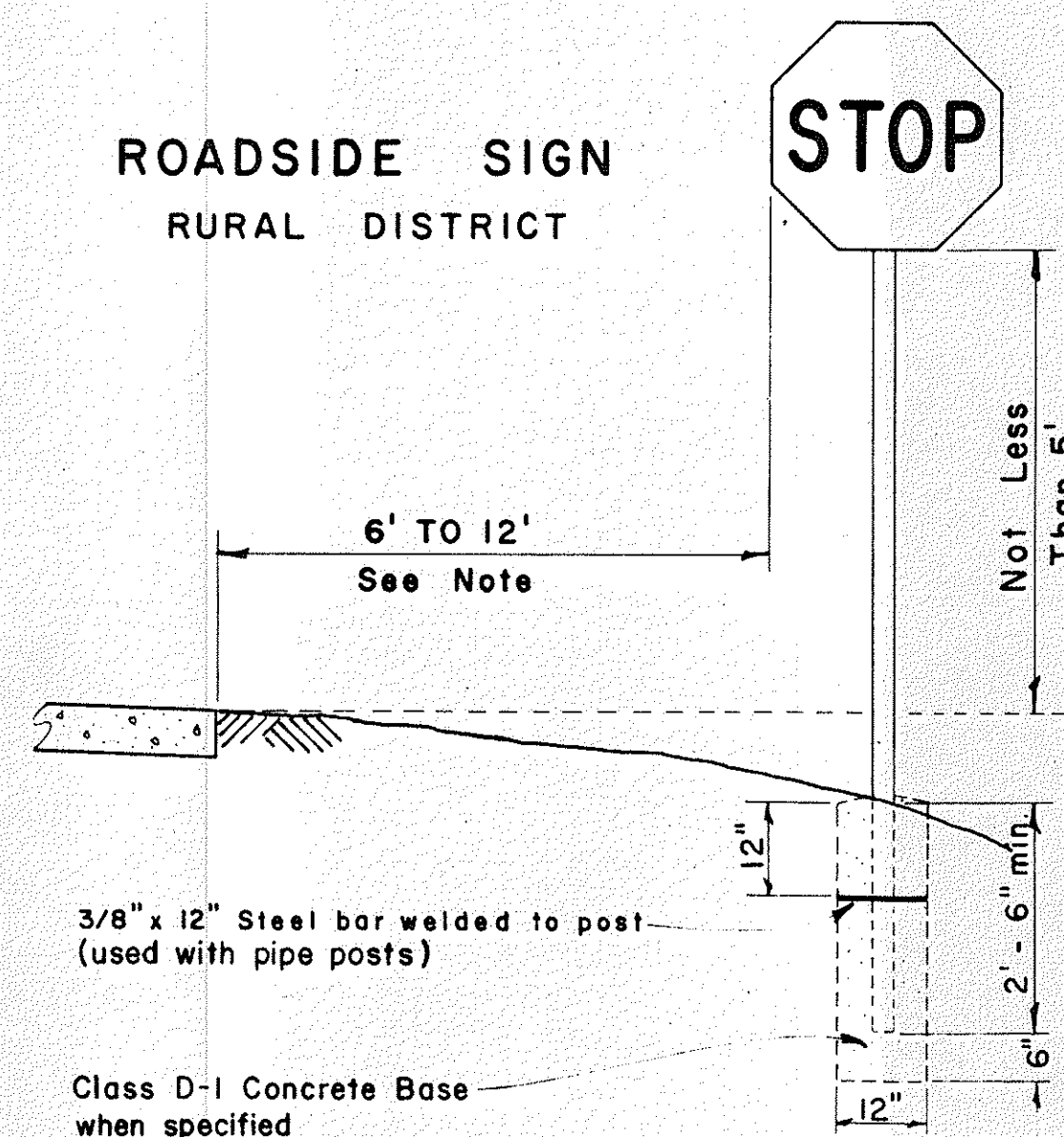
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
CONCRETE CURBS,
CONCRETE CURBS & GUTTERS
SCALES AS NOTED

APPROVED: 
DATE: AUG. 25, 1957
STATE HIGHWAY ENGINEER

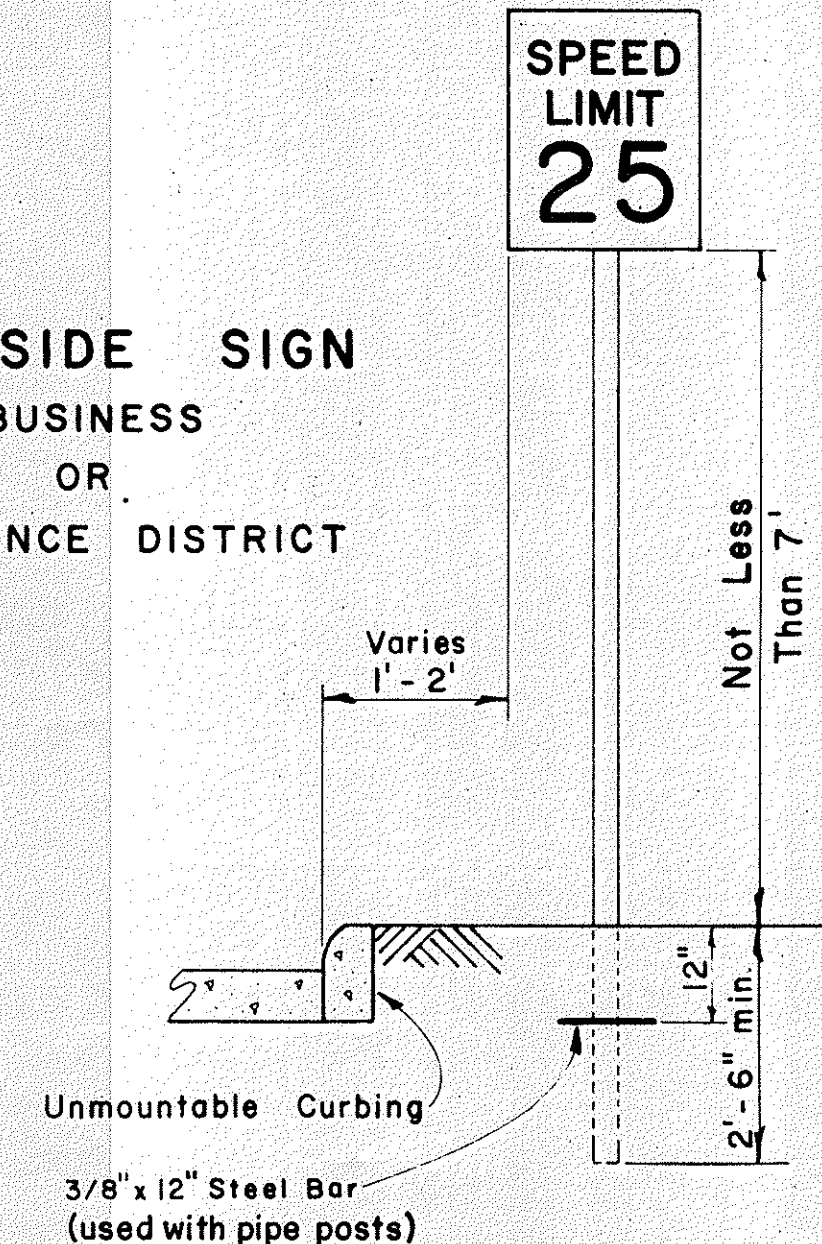
"E" and "EG" Curbs have been revised 7-26-57
"G" and "F" Gutters have been added 9-22-61

DESIGNED BY: L. C. STRO
CHECKED BY: L. C. STRO
DATE: 9-22-61

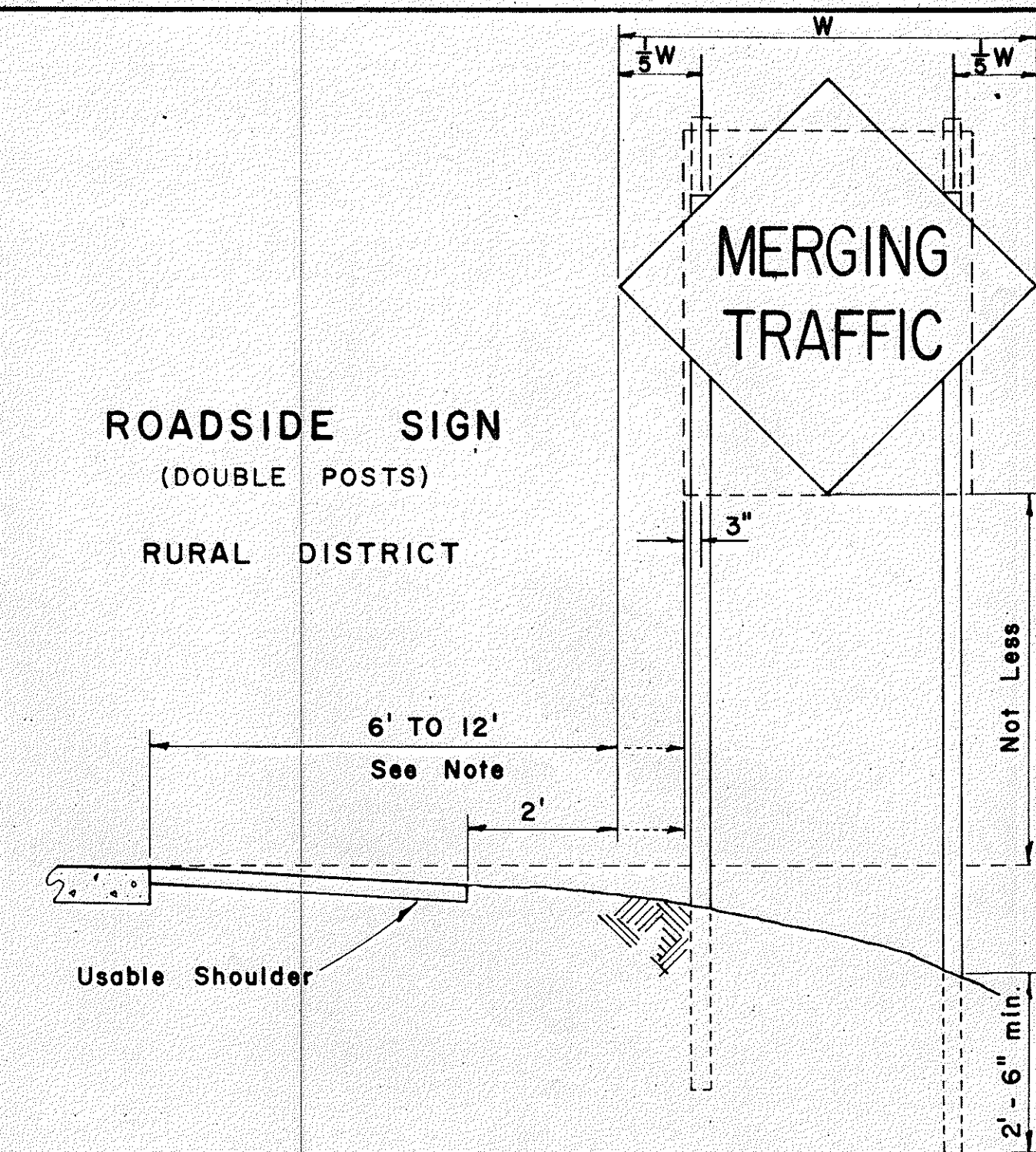
- NOTE:
1. All signs and road delineators shall be placed 2' outside the usable roadway shoulder or 1' outside unmountable curbing present and within the limits shown below.
 2. Except as noted below, sign posts shall be either 3" galv. std. pipe or 2 1/2" x 2 1/2" galv. square tube posts for signs larger 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. Galvanized std. pipes shall have two 7/8" dia. bolt holes or adjustable band brackets. The galv. square tube posts shall have 7/16" dia. bolt holes on 1" centers on two sides for the entire length of the post.
 4. Sign shall be attached to post with 7/16" galv. carriage bolts with nuts and 7/8" x 3/8" x .120 stainless-steel washers with neoprene rubber gasket.
 5. Clearance Markers (RM-4, RM-3) shall be installed with the inside edge of the marker in line with the inner edge of the obstruction.
 6. 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.



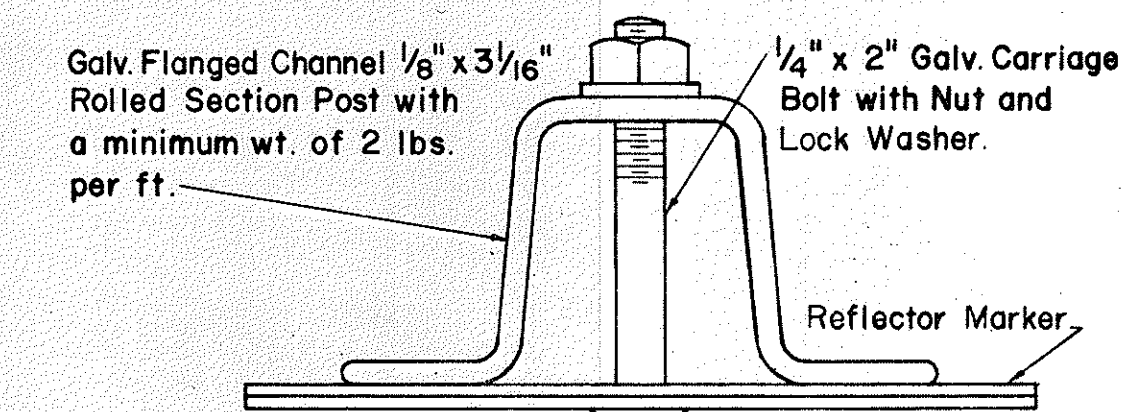
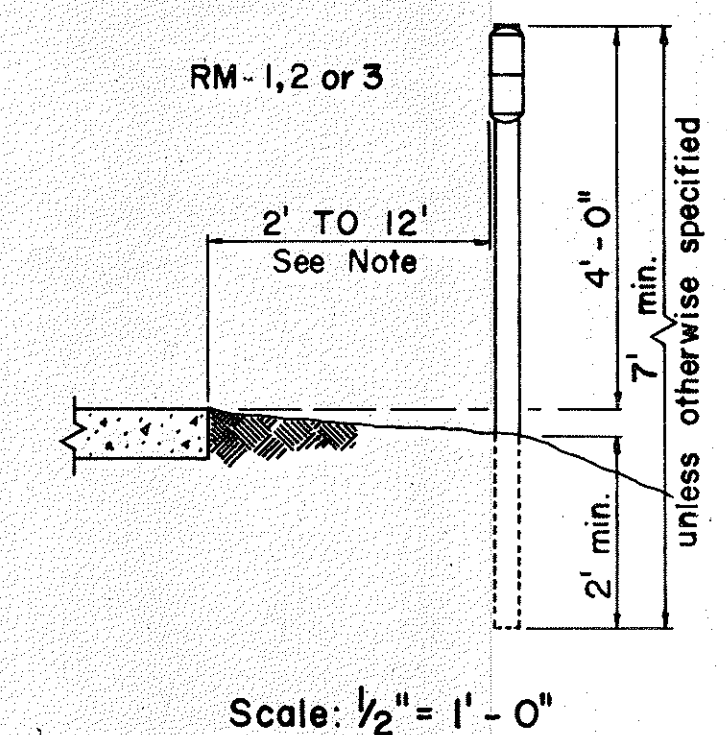
ROADSIDE SIGN
BUSINESS
OR
RESIDENCE DISTRICT



ROADSIDE SIGN
(DOUBLE POSTS)
RURAL DISTRICT

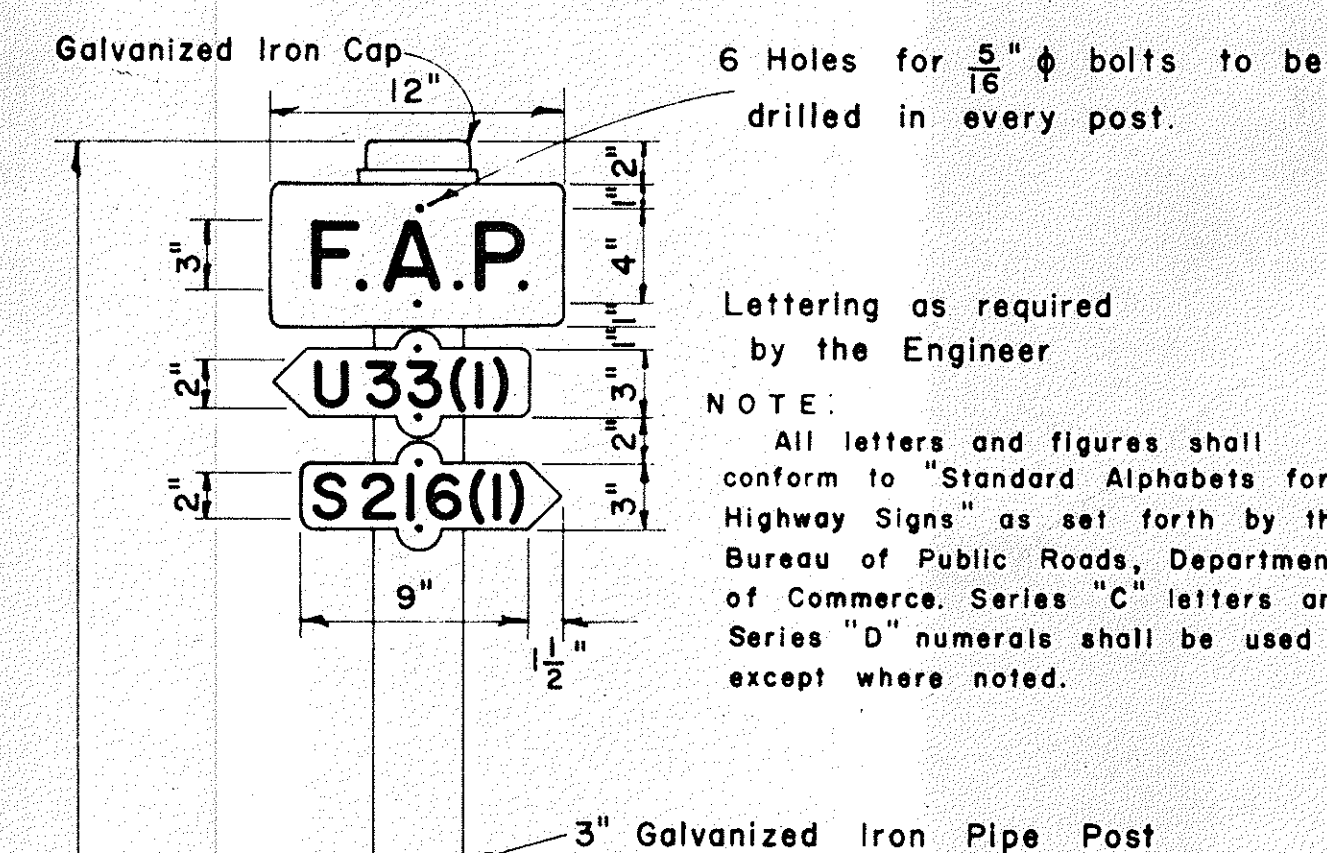


ROAD DELINEATOR



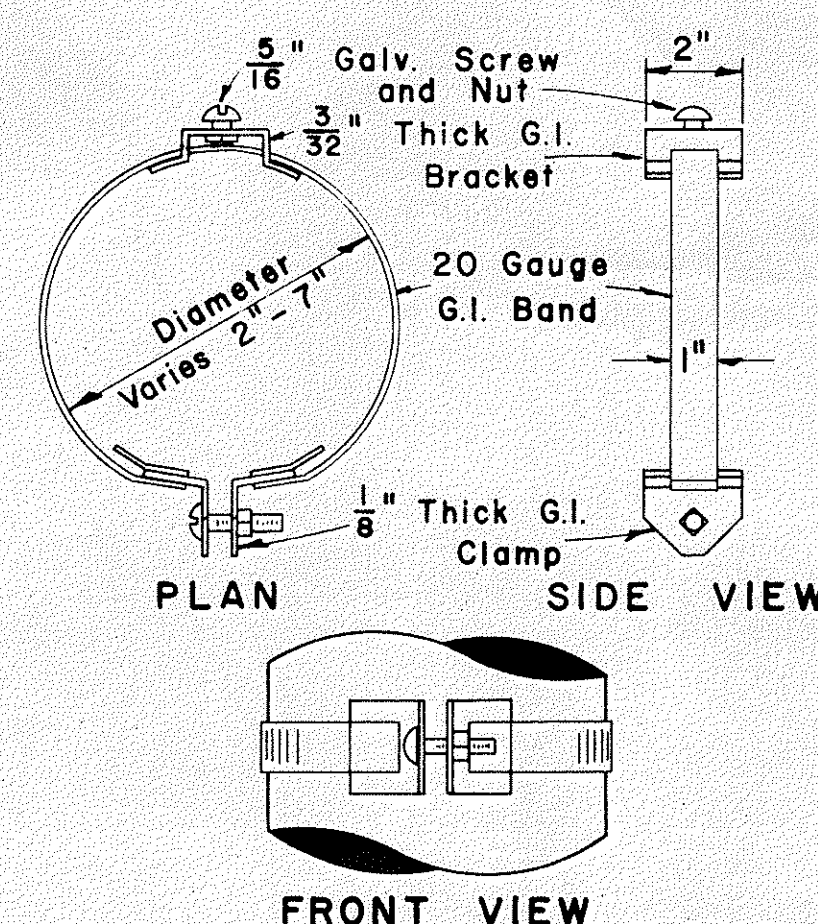
HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATIONS

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



Lettering as required by the Engineer

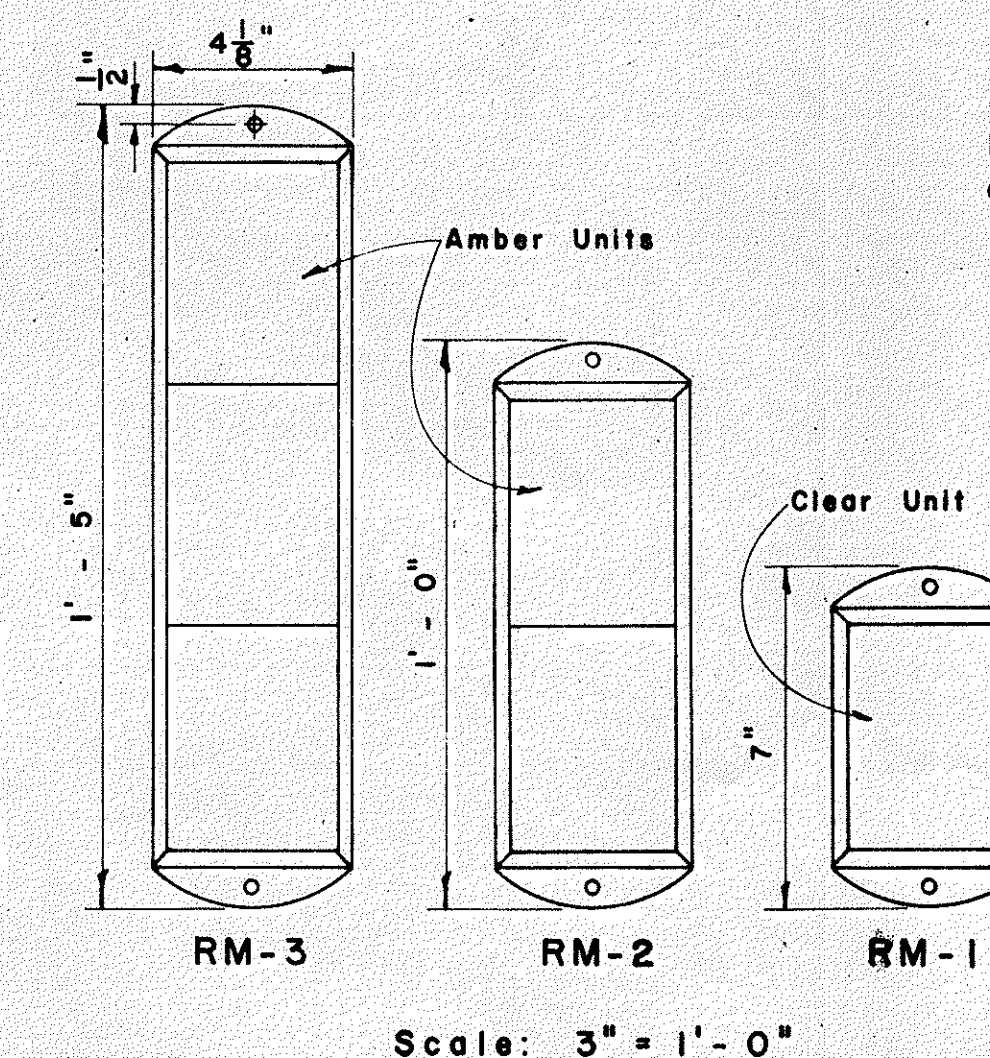
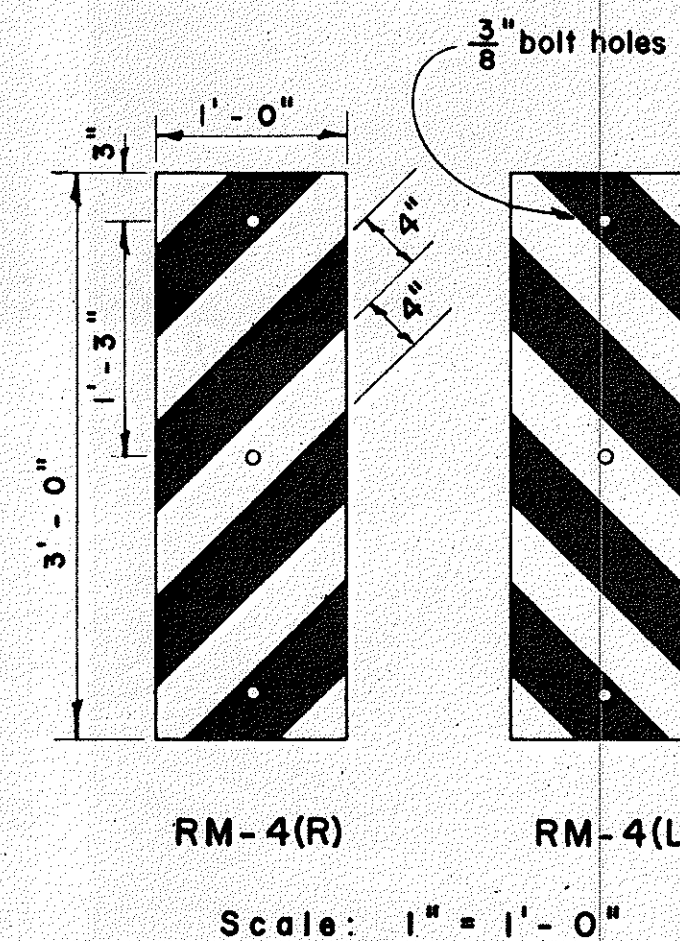
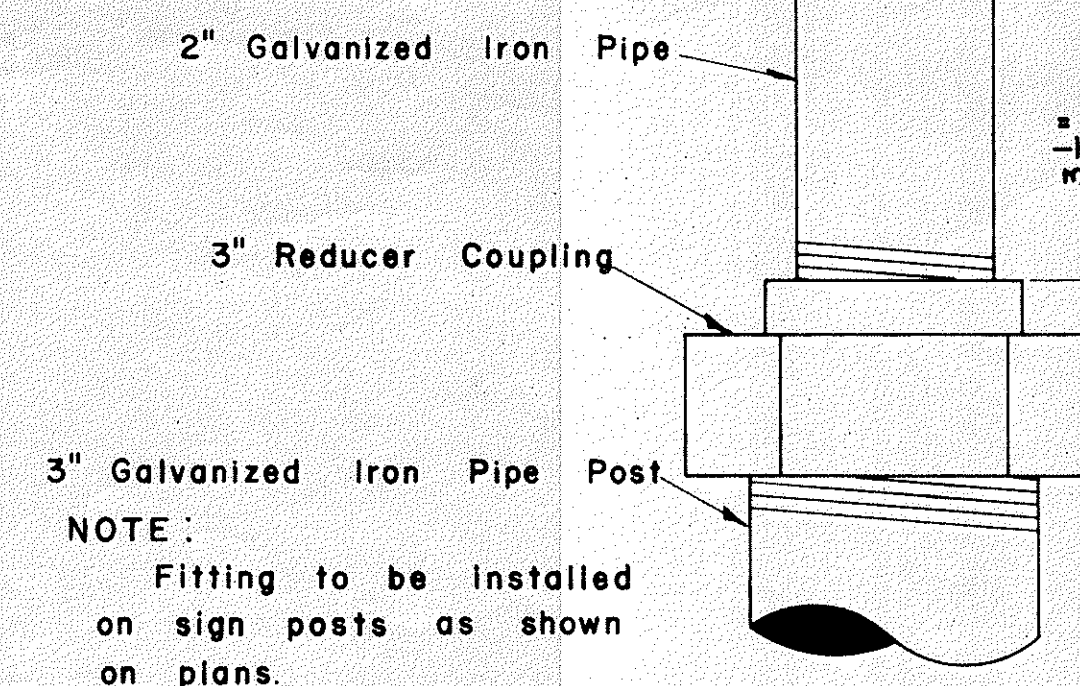
NOTE: All letters and figures shall conform to "Standard Alphabets for Highway Signs" as set forth by the Bureau of Public Roads, Department of Commerce. Series "C" letters and Series "D" numerals shall be used except where noted.



ADJUSTABLE BAND BRACKET FOR MOUNTING TRAFFIC SIGNS

DETAIL OF SIGN POST FITTING FOR CITY & COUNTY STREET NAME SIGNS

Scale: 1/2" = 1"

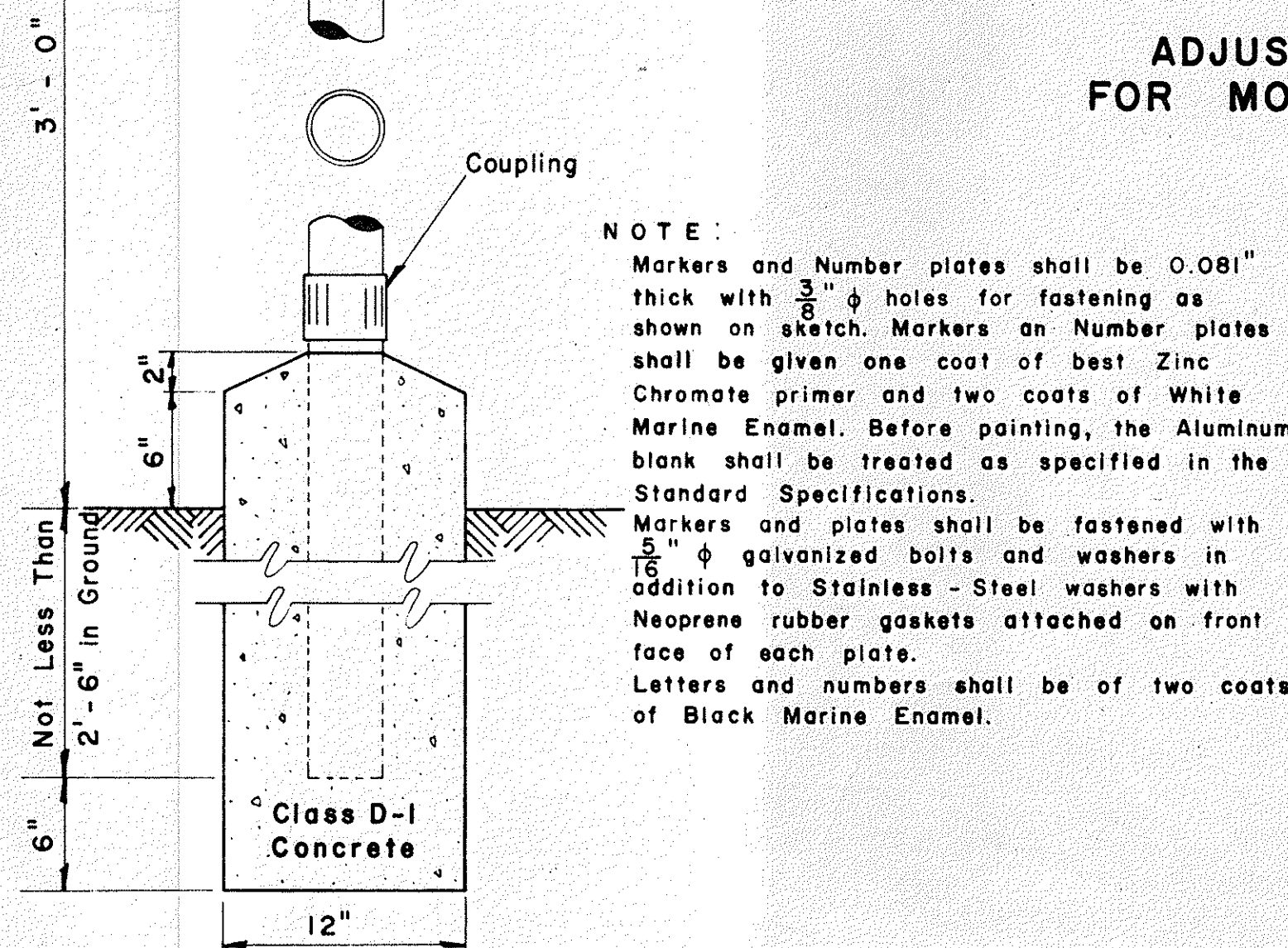


REFLECTOR MARKERS

Scale: As Shown

TYPICAL SECTION OF ROAD DELINEATOR Full Size

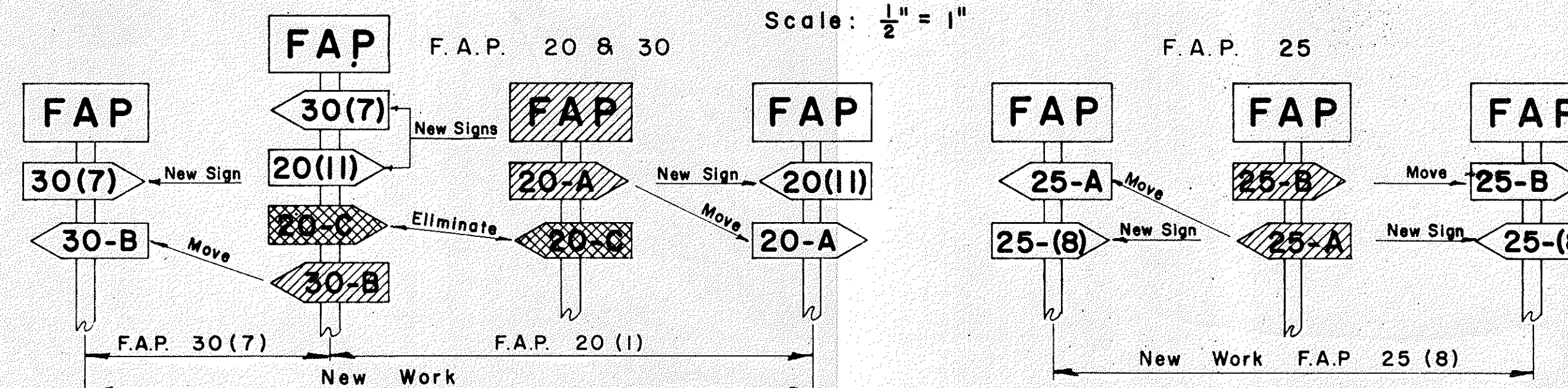
- NOTE:
1. Reflector Units for RM-1, 2, 3 shall be 4" x 5" in size and shall consist of reflective sheeting encapsulated in acrylic plastic.
 2. The upper 2 feet of the Galvanized Flanged Channel shall have a single row of 3/8" dia. holes centered in the web and spaced 1 inch on centers.
 3. The Galvanized Square Tube post shall have 7/16" dia. holes on 1" centers on two sides for the entire length of the post.



NOTE: Markers and Number plates shall be 0.081" thick with 3/8" holes for fastening as shown on sketch. Markers on Number plates shall be given one coat of best Zinc Chromate primer and two coats of White Marine Enamel. Before painting, the Aluminum blank shall be treated as specified in the Standard Specifications. Markers and plates shall be fastened with 5/16" galvanized bolts and washers in addition to Stainless-Steel washers with Neoprene rubber gaskets attached on front face of each plate. Letters and numbers shall be of two coats of Black Marine Enamel.

FEDERAL AID MARKER

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



NOTE: Federal Aid Markers should be placed at the termini of suffix designated sections. Intermediate letter designated markers of adjacent sections located within the limits of new improvements should be moved to the termini of the new work. The same procedure should be followed on each successive improvement until all markers for letter designated sections are eventually eliminated.

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

APPROVED: _____ DATE: 11/22/64
DIRECTOR OF TRANSPORTATION

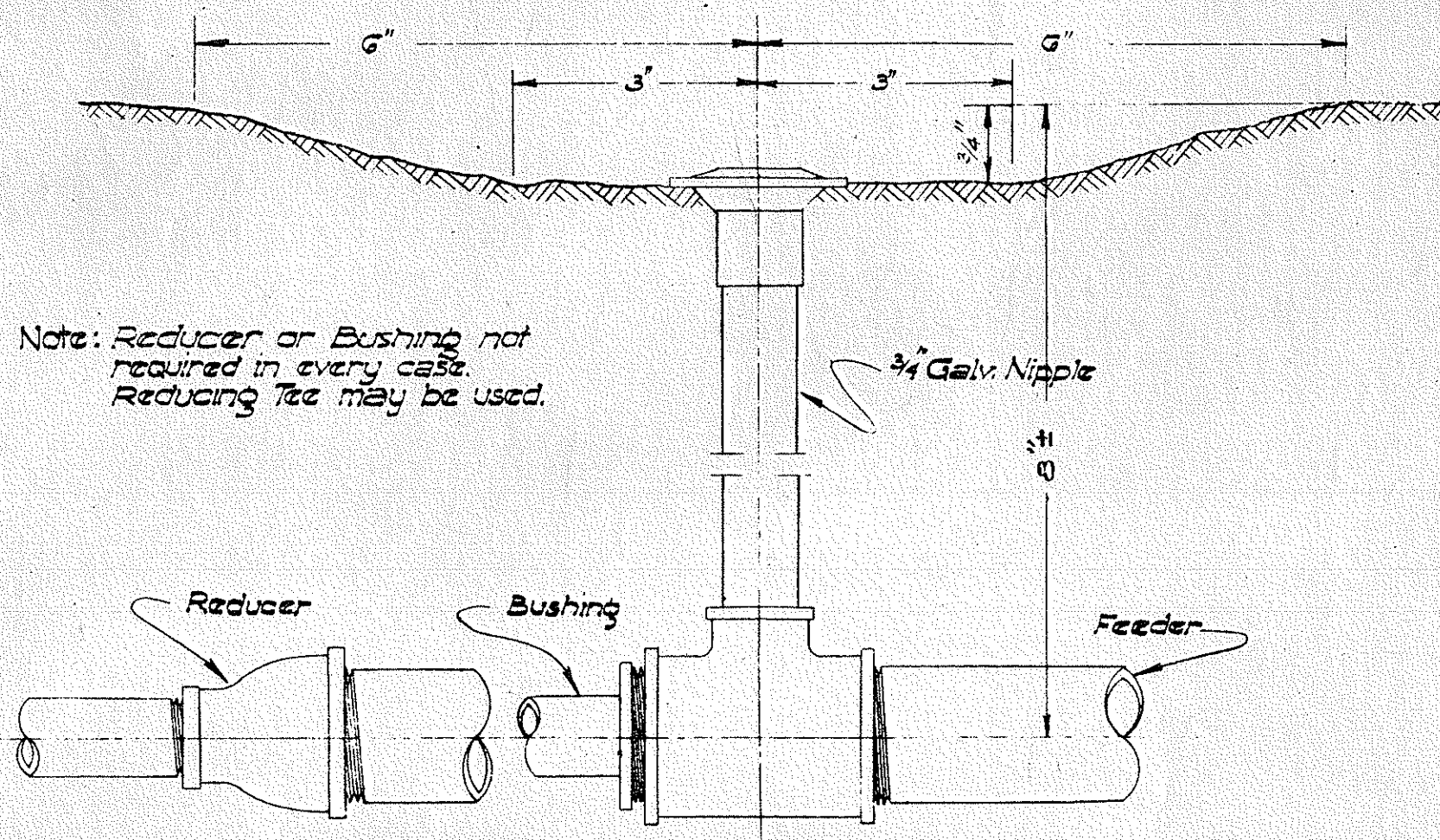
REVISED: FEBRUARY 25, 1964

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

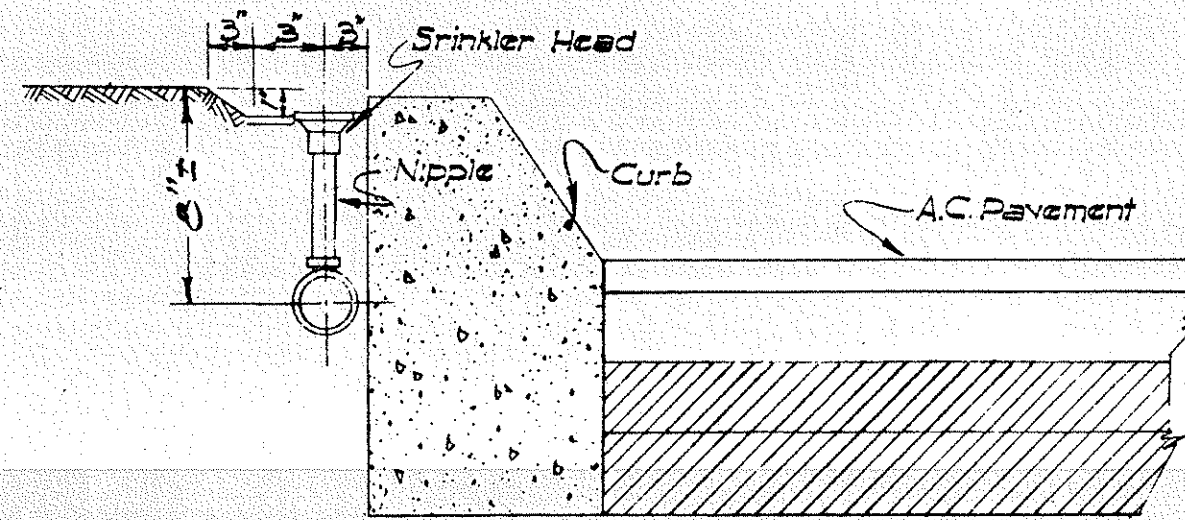
SHEET No. OF SHEETS

B-1092-01-65

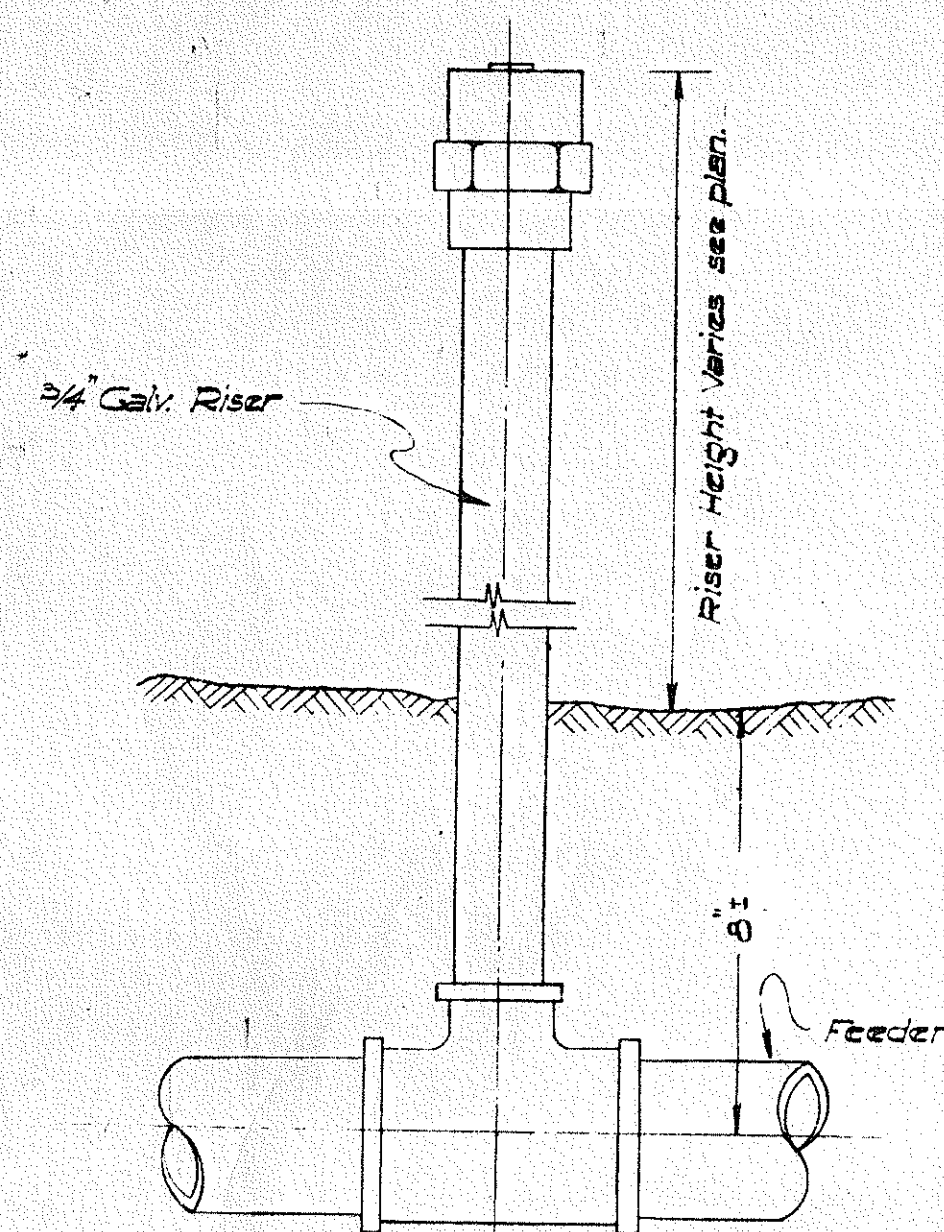
(13)



CONNECTION OF SPRINKLER HEAD TO FEEDER PIPE
Not to Scale

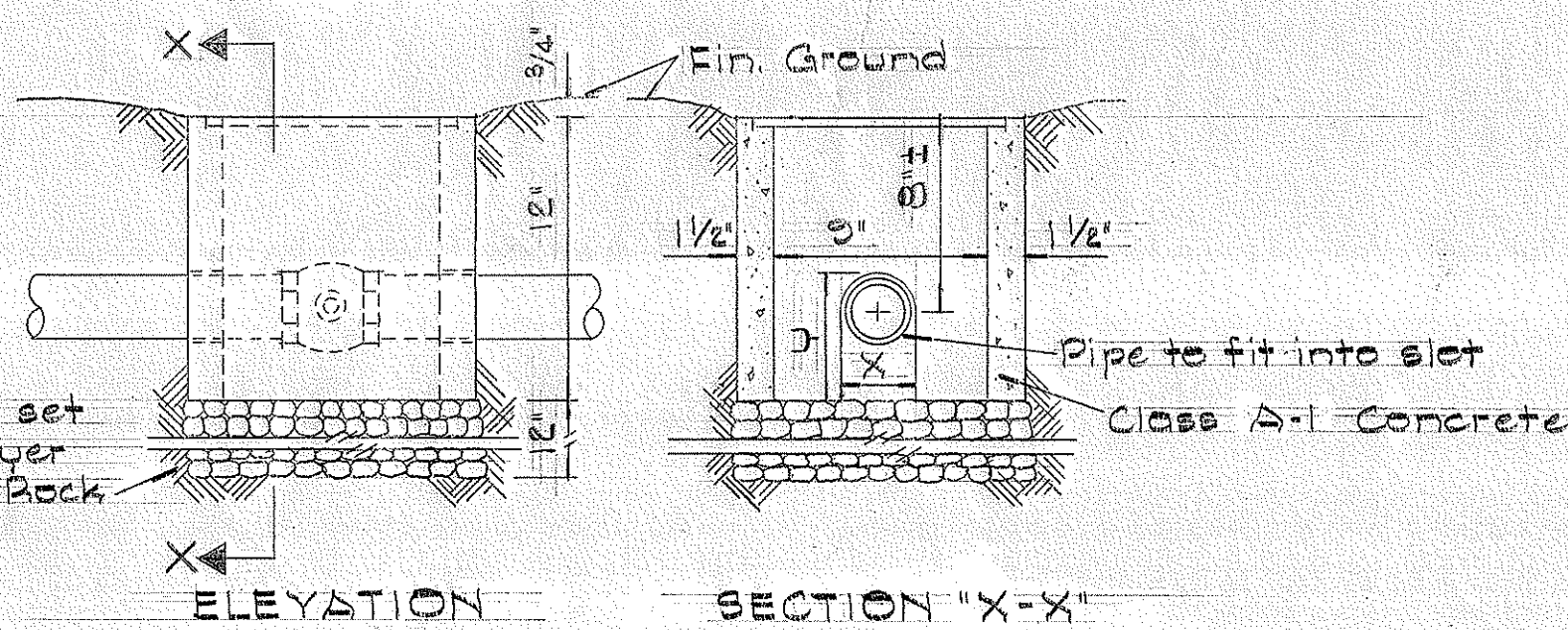
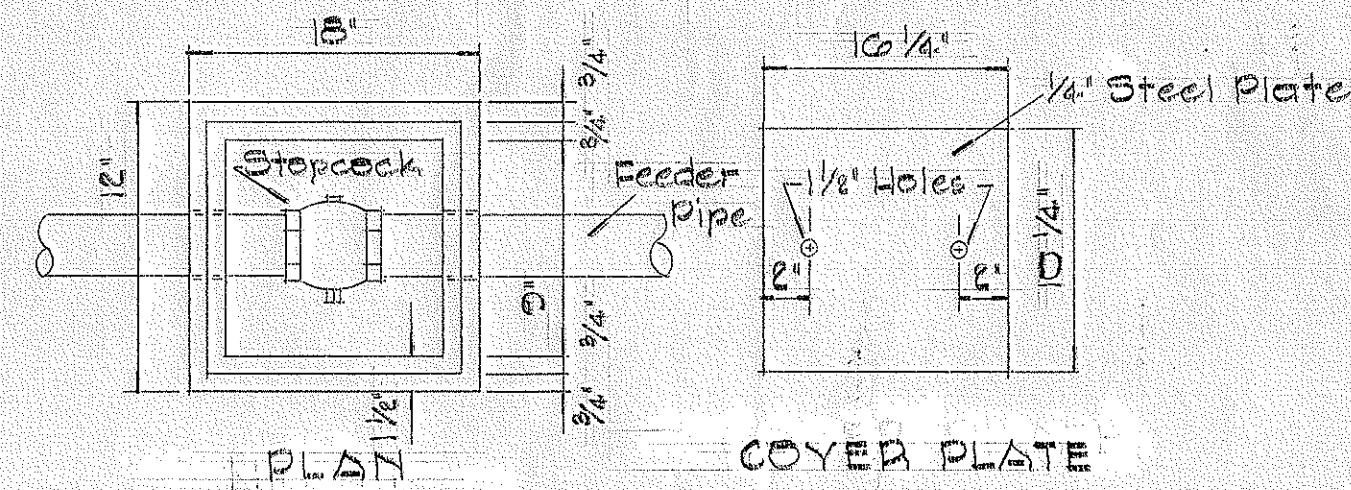


TYPICAL DETAIL OF SPRINKLER AT CONC. CURB
Not to Scale

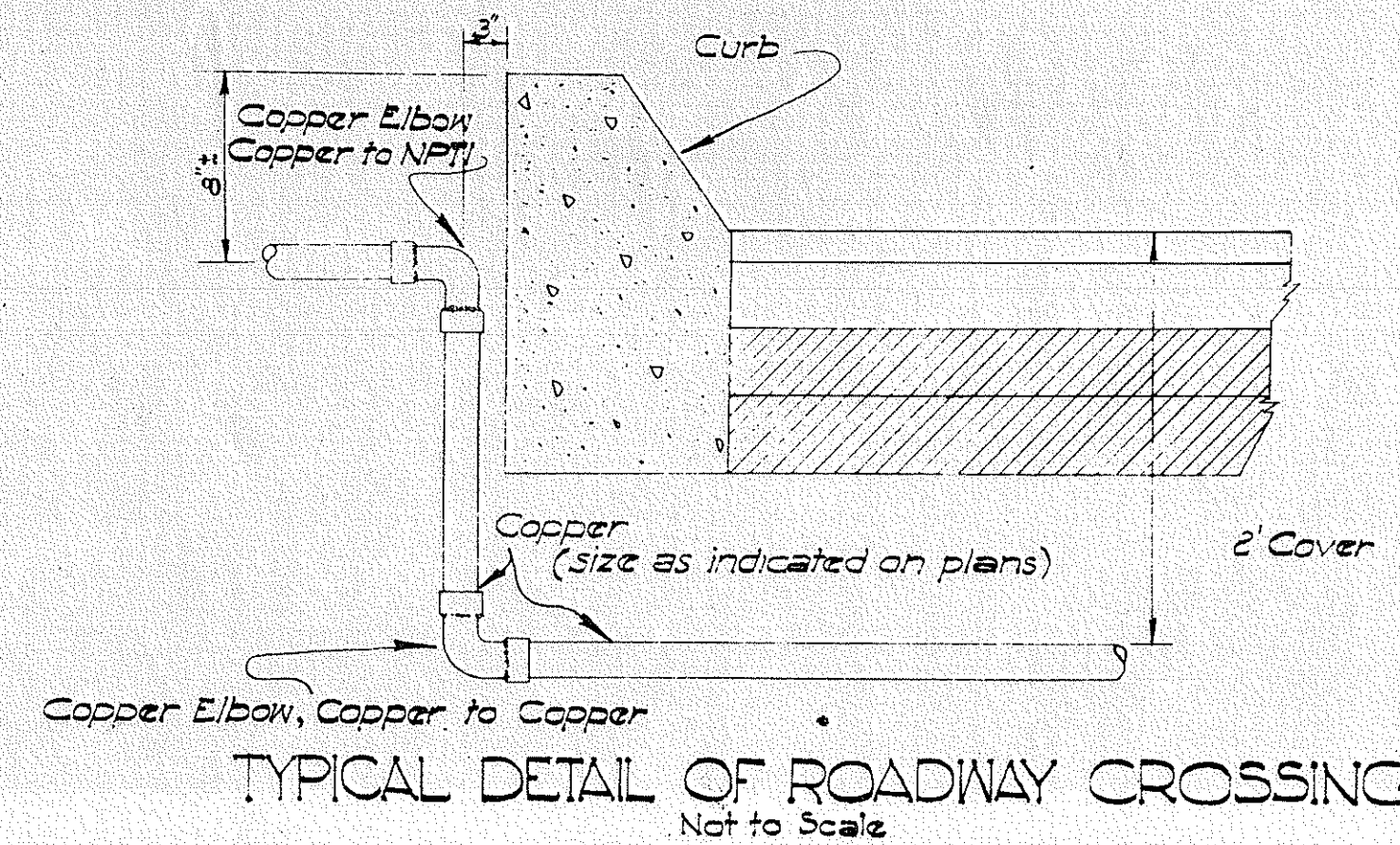


DETAIL OF SHRUBBERY HEAD
Not to Scale

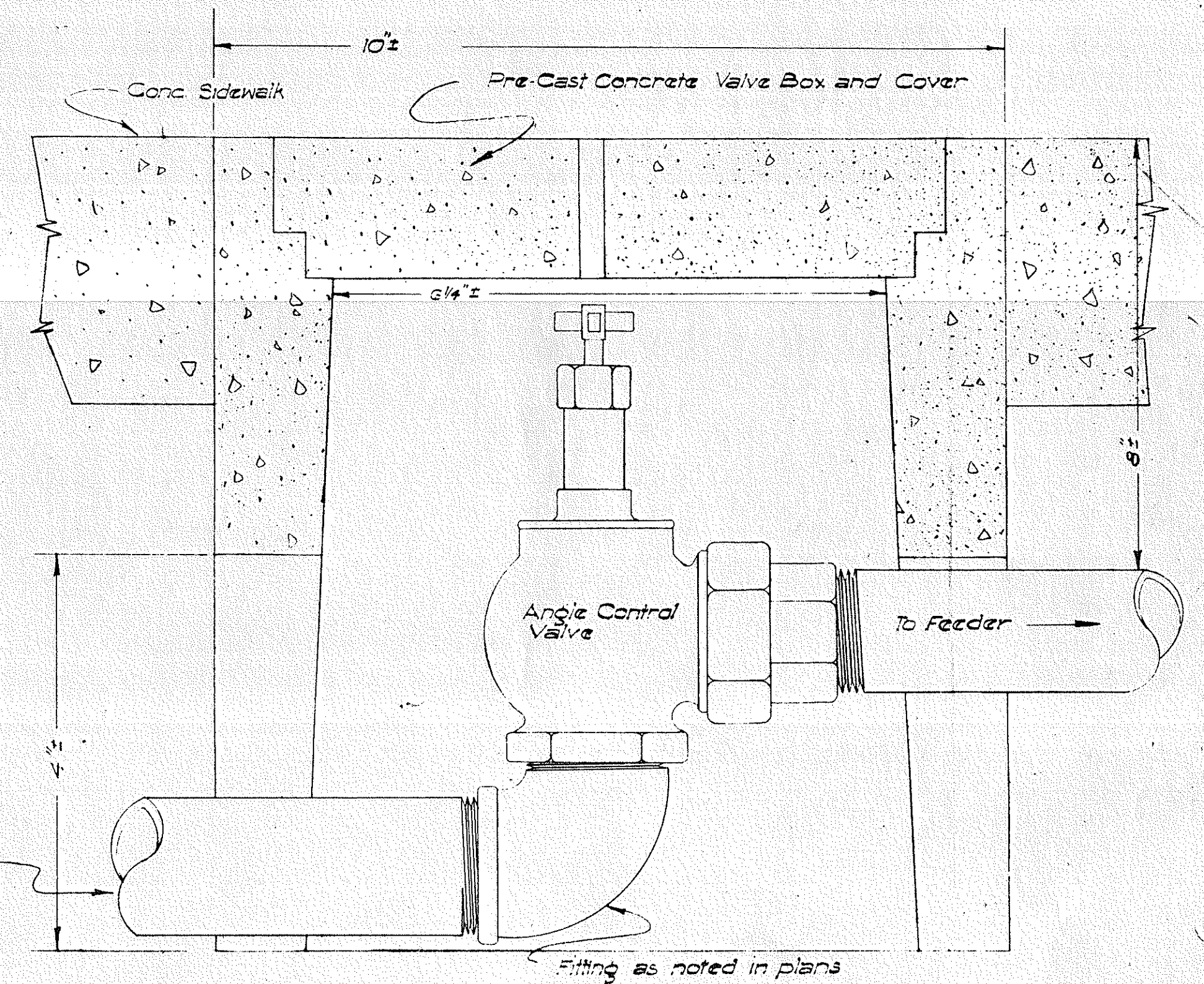
QUANT.	STOPCOCK	X	Y
3	3/4"	1 1/8"	4 5/8"
2	1 1/4"	1 3/4"	4 1/8"
1	1 1/2"	2"	6"
4	2"	2 3/8"	6 1/4"
4	2 1/2"	2 1/8"	6 1/8"



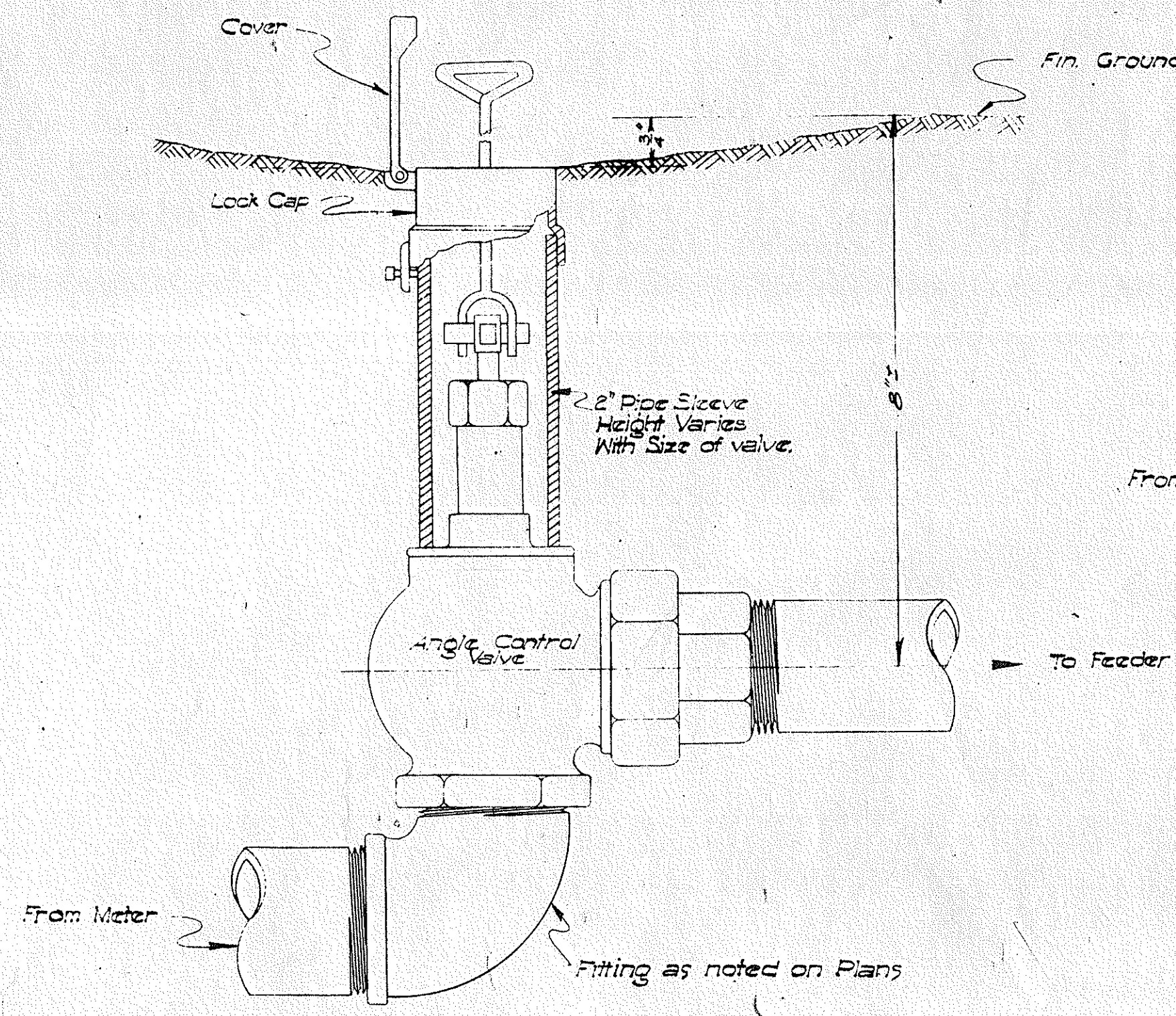
PRECAST CONCRETE BOX FOR STOPCOCKS
Not to Scale



TYPICAL DETAIL OF ROADWAY CROSSING
Not to Scale



ANGLE CONTROL VALVE IN SIDEWALK AREA
Not to Scale



ANGLE CONTROL VALVE HOUSING & CAP
Not to Scale

GENERAL NOTES

1. All copper pipes shall be connected with solder type fittings of bronze castings or wrought copper.
2. Pipes not noted "Copper" are to be Galvanized Iron Screw Pipes, and fittings not noted "Copper" are to be Galvanized Malleable Iron Fittings.
3. After complete installation of the sprinkler system, each sprinkler head shall be adjusted to the satisfaction of the Engineer.

APPROVED..... DATE Aug. 25, 1959

STATE HIGHWAY ENGINEER

DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STATE OF HAWAII

STANDARD DETAILS
SPRINKLER SYSTEM

Not to Scale

SHEET NO. OF SHEETS

B-1092-01-65

(14)