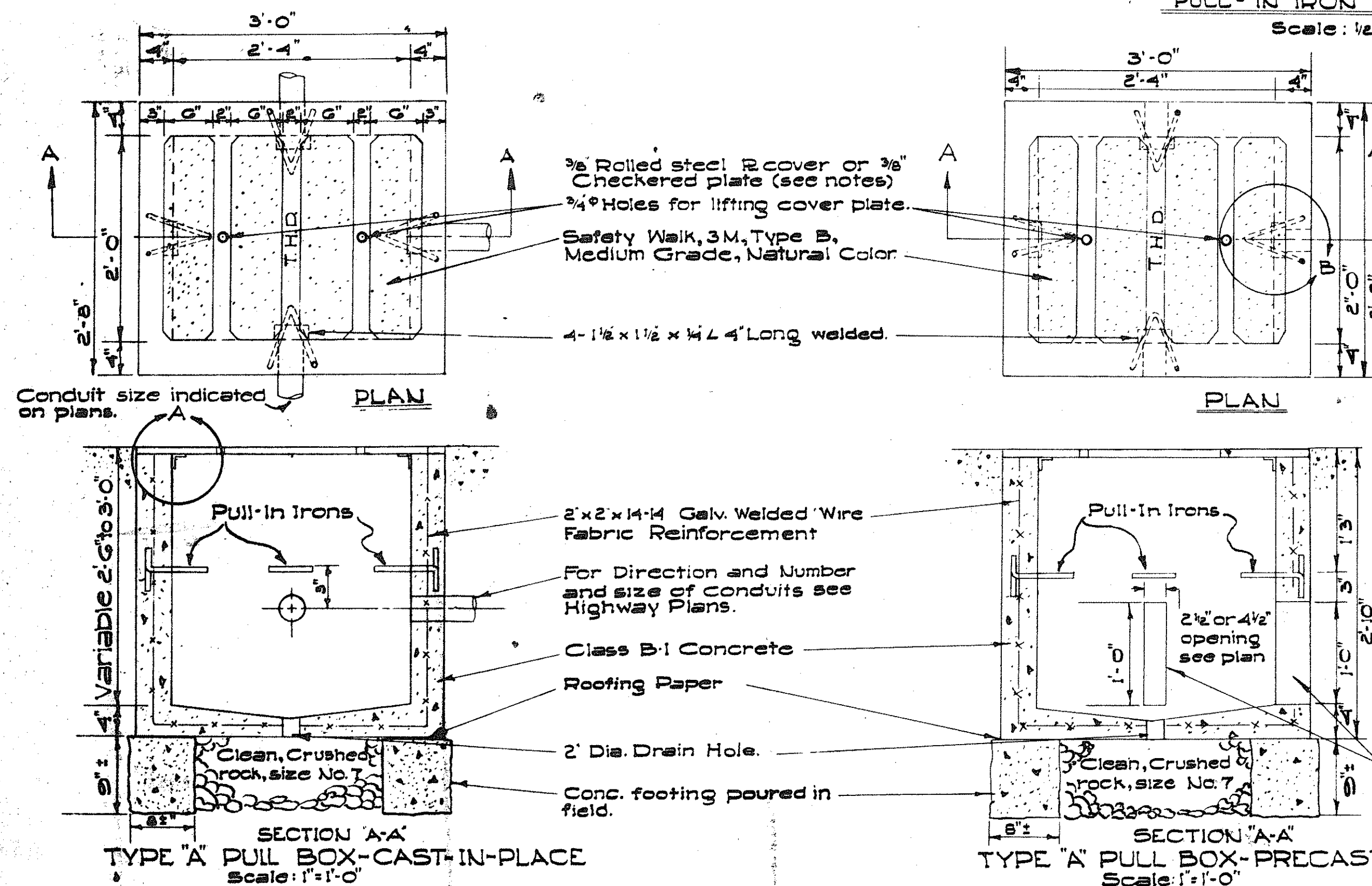
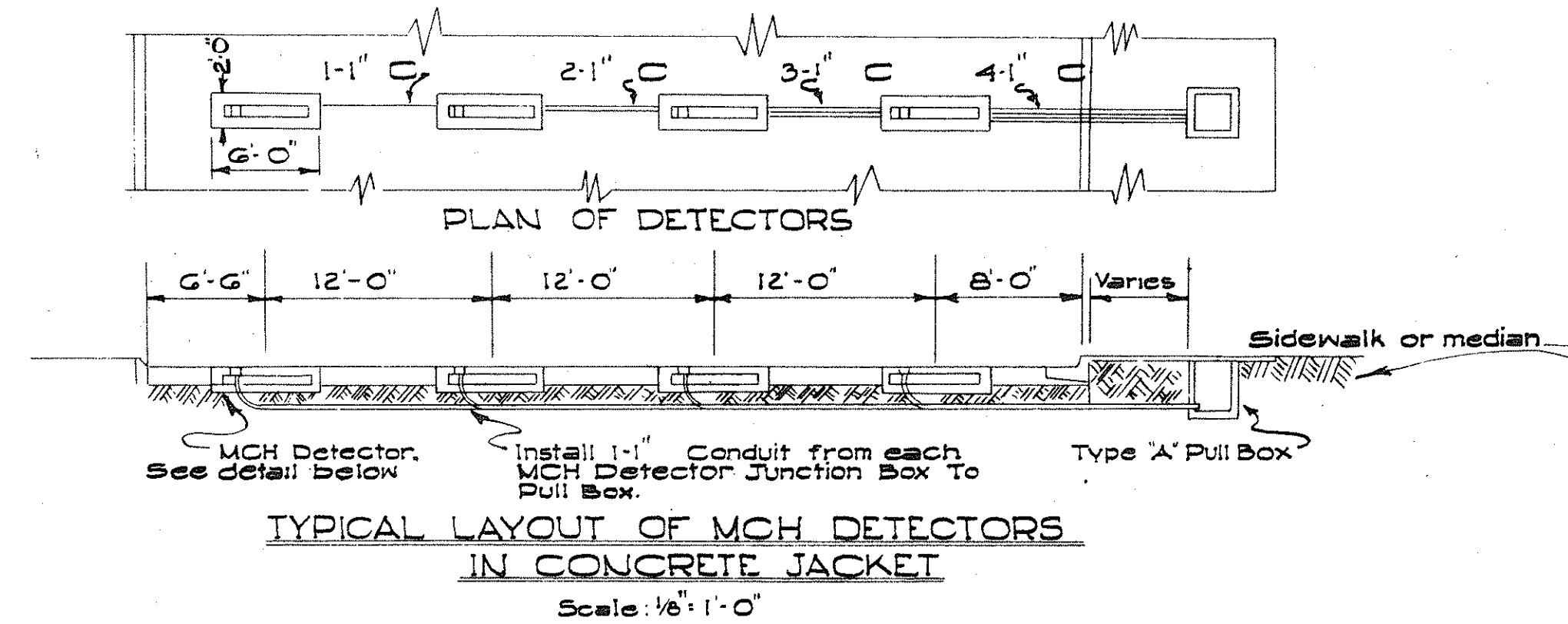
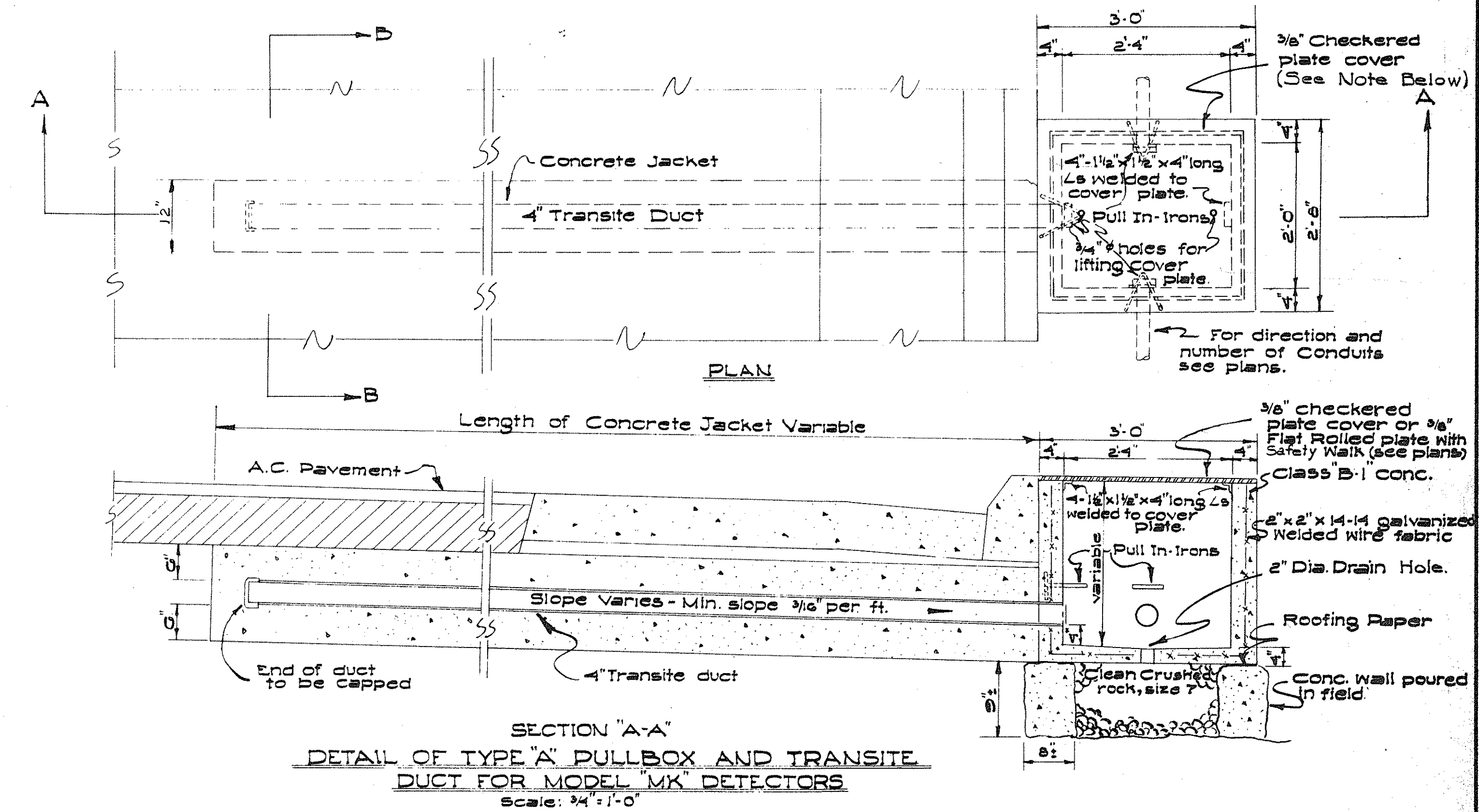
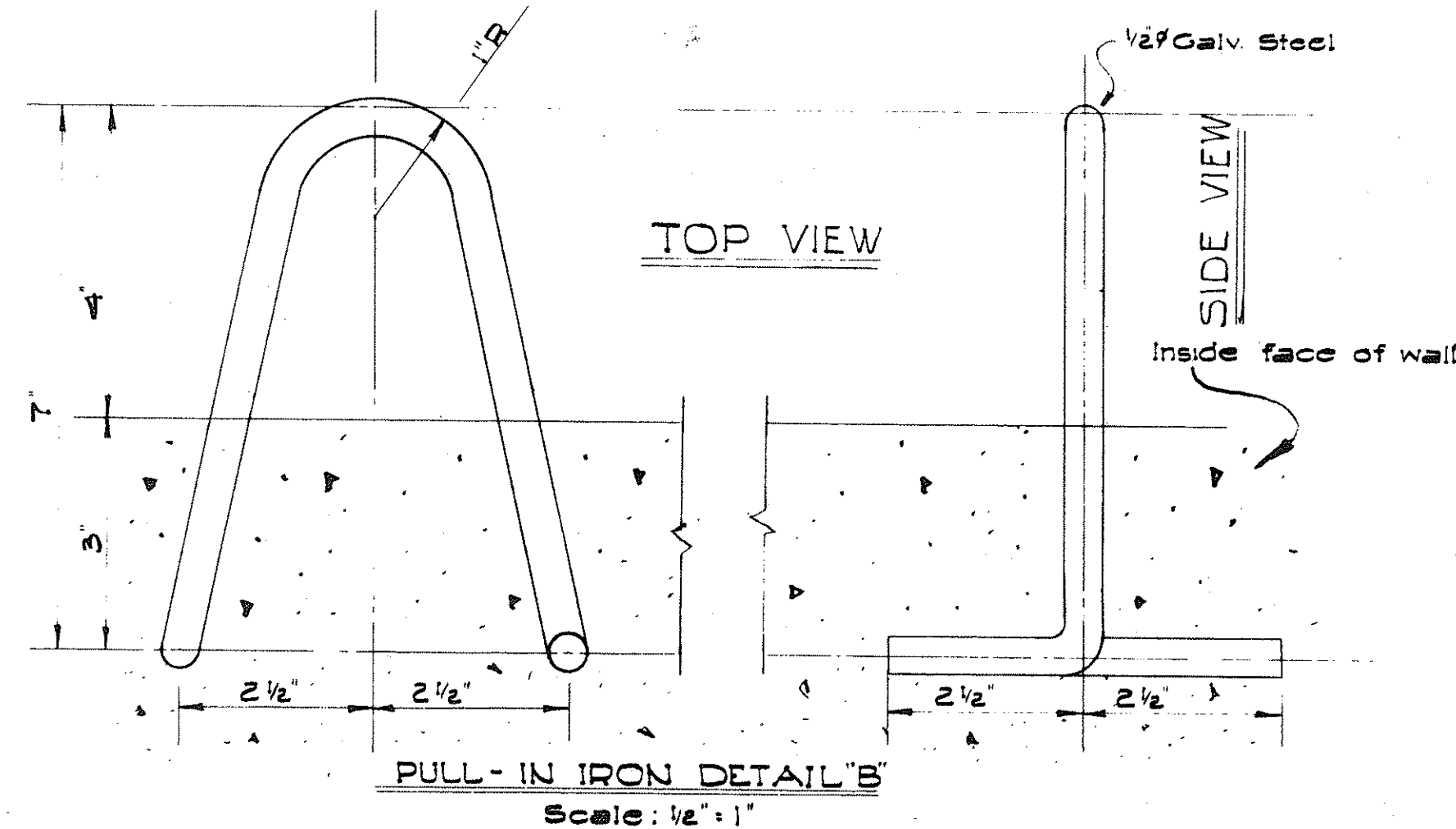
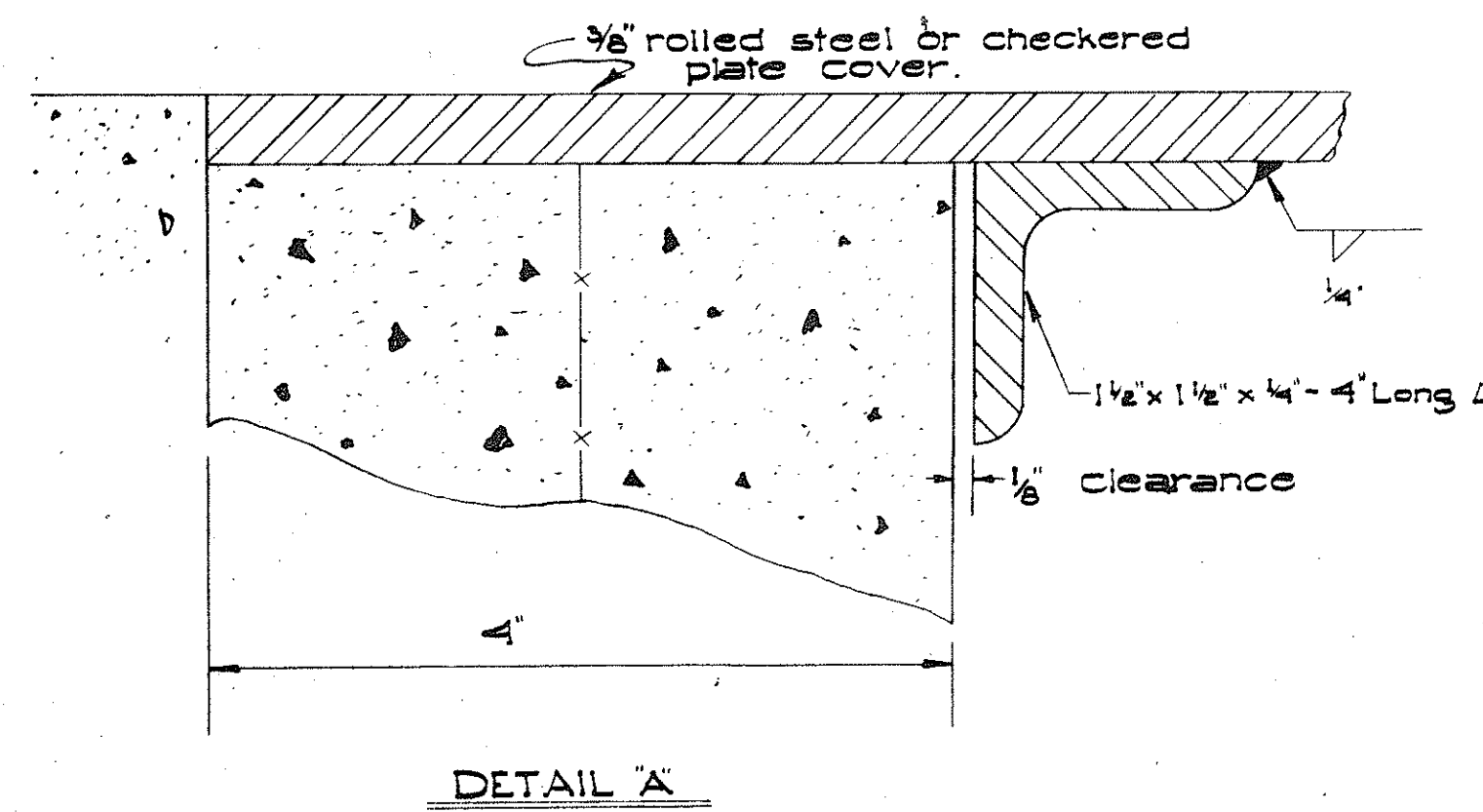
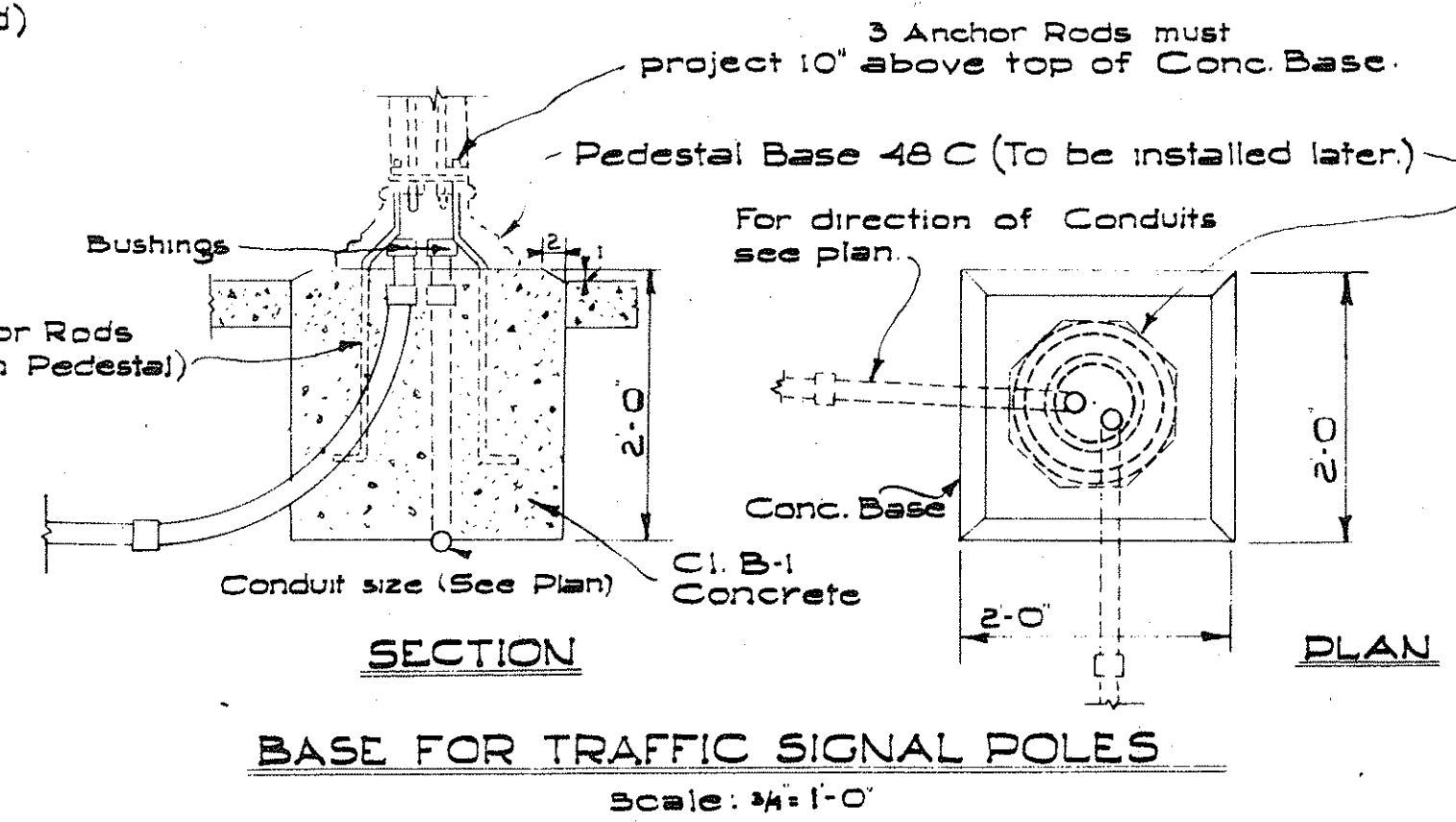
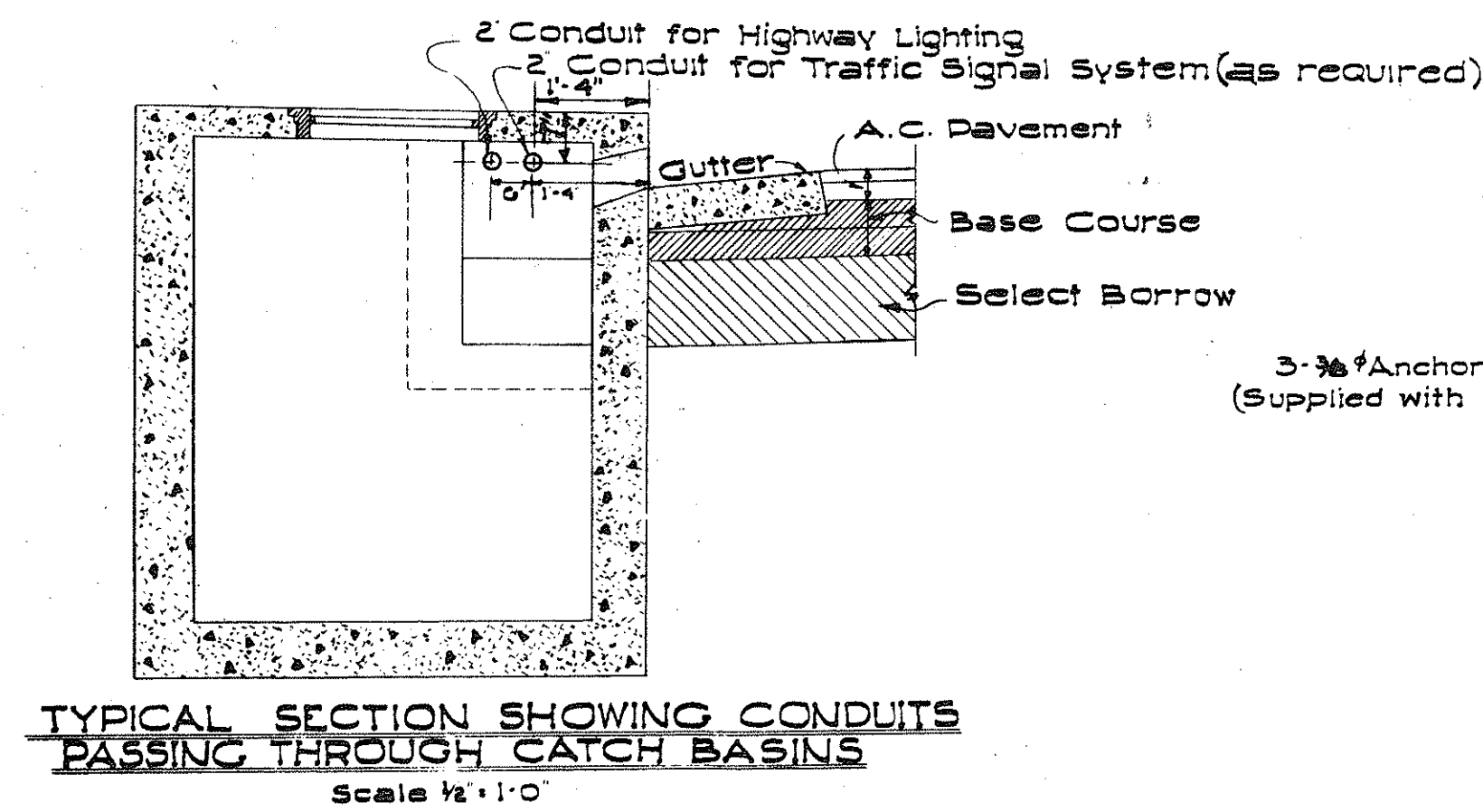
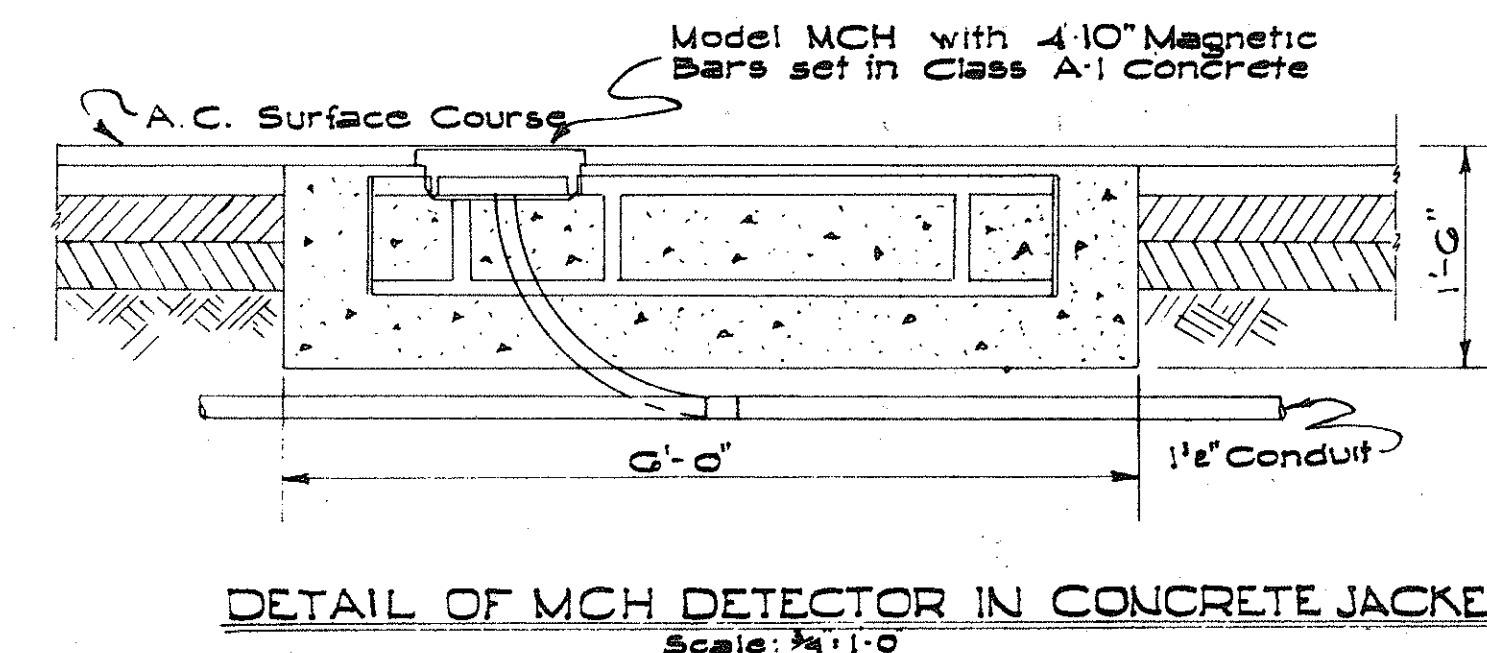


NOTE: Galv. 2 Conduits shall be supported by Band Hangers bolted to the top slab of Catch Basins. Band Hangers shall be No. 200-G Crane Catalogue No. 45 or equal. Pipe Hangers and bolts shall be incidental to item No. 400 Class A-1 Concrete other than in Bridges.



Note:  
1. 3/8" Rolled steel Plate Cover with Safety Walk 3M, Type B, 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 sidewalk areas where pedestrians are 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.



Note: Class A-1 Concrete shall be used for Concrete Block.

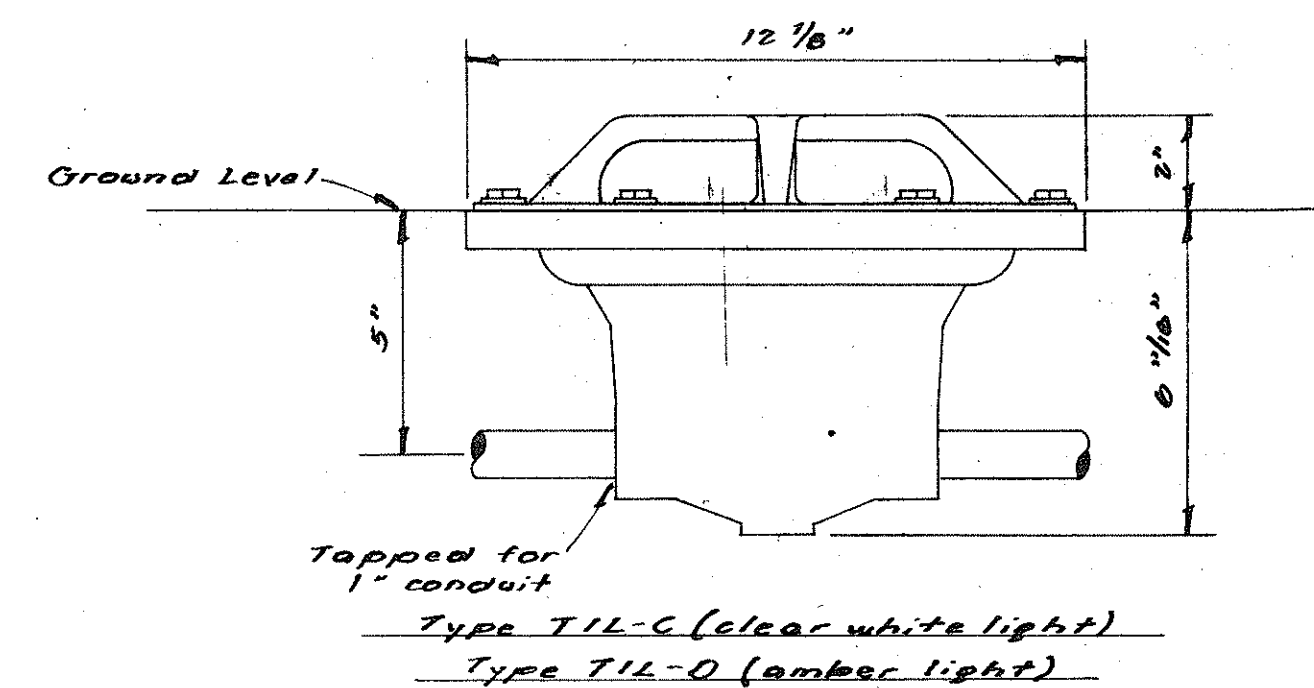
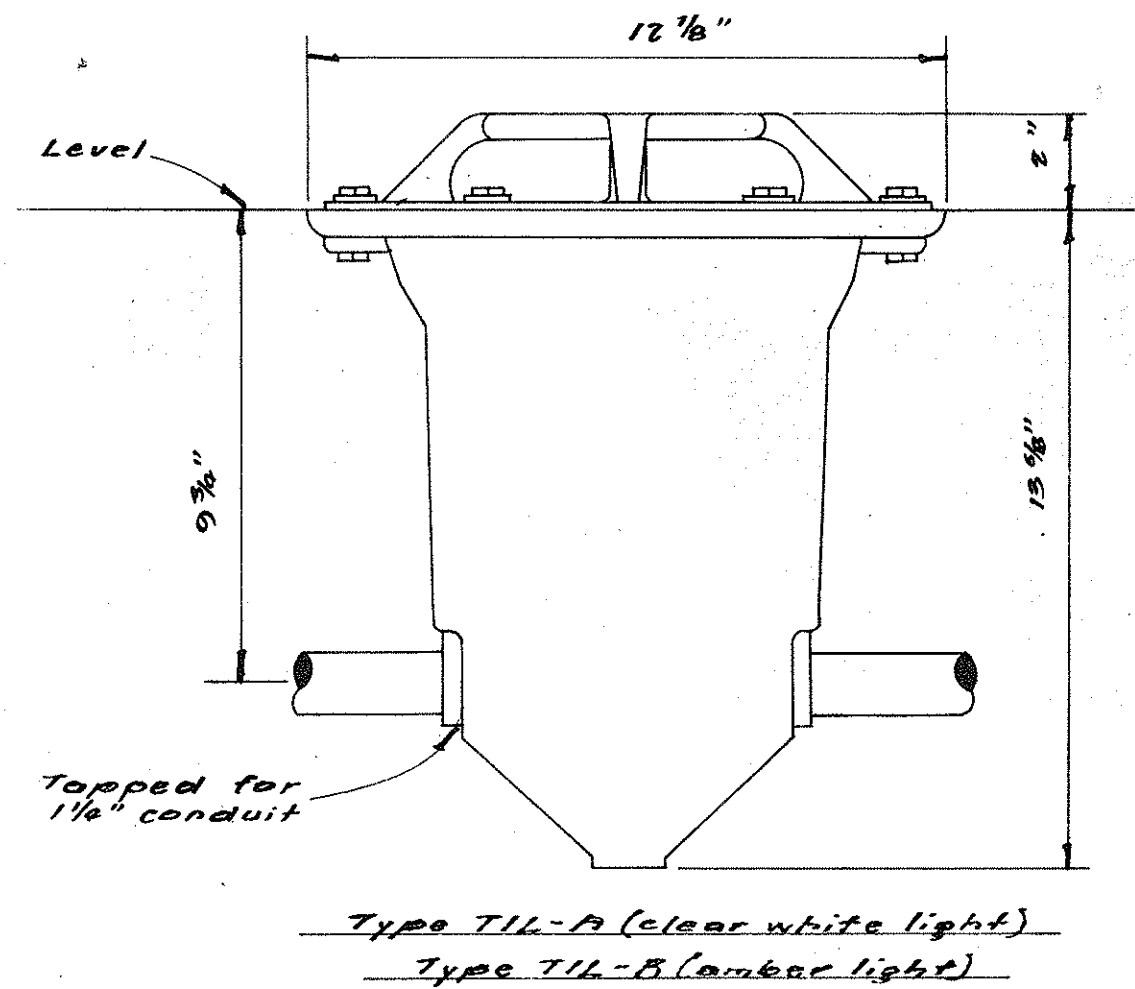
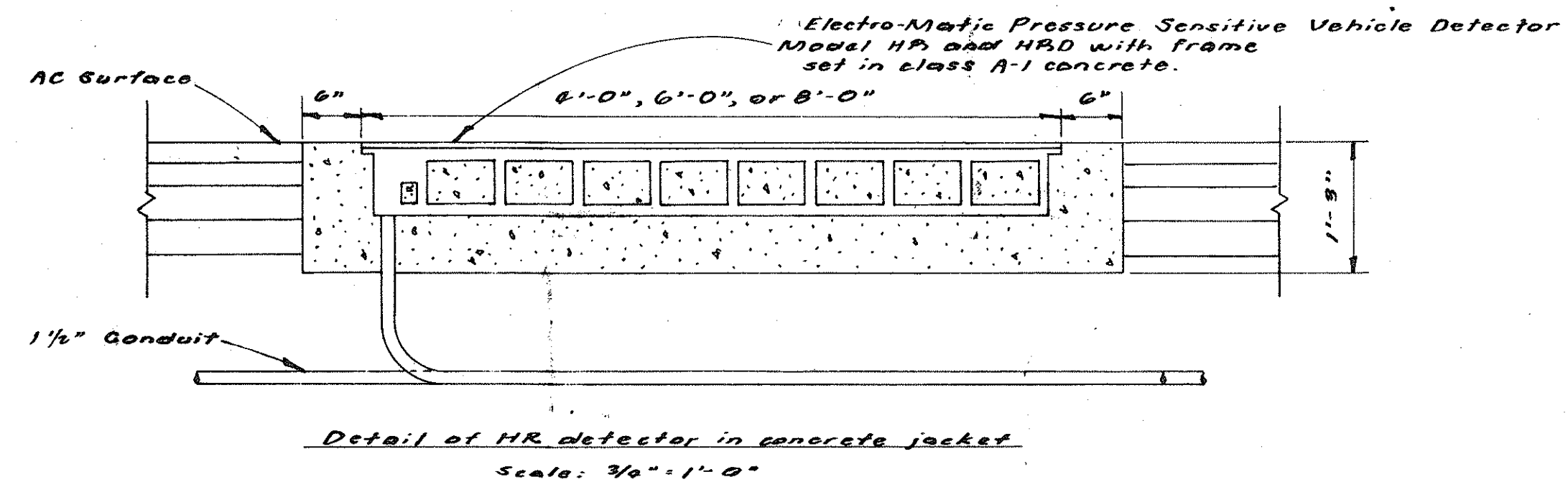
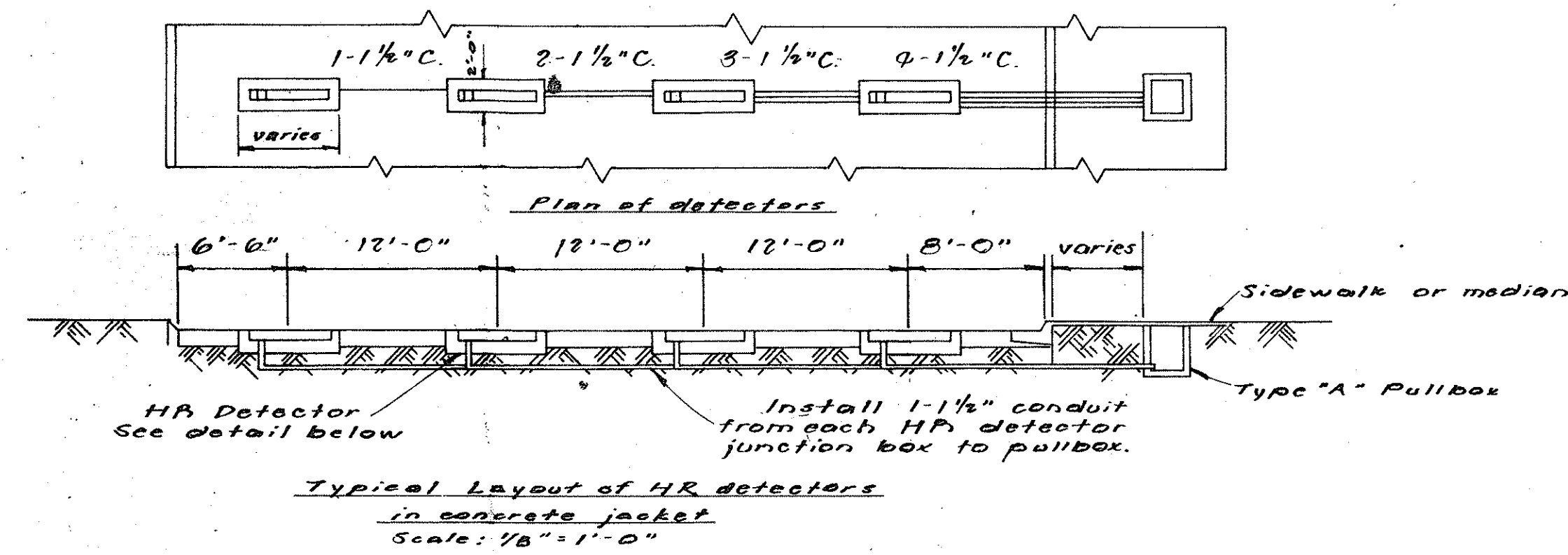
APPROVED \_\_\_\_\_ DATE Aug. 26, 1957  
STATE HIGHWAY ENGINEER

DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
STATE OF HAWAII  
**STANDARD DETAILS**  
**TRAFFIC SIGNAL SYSTEM**  
**BASE, PULLBOX,**  
**MAGNETIC DETECTORS**

SHEET No. 1 OF 6 SHEETS

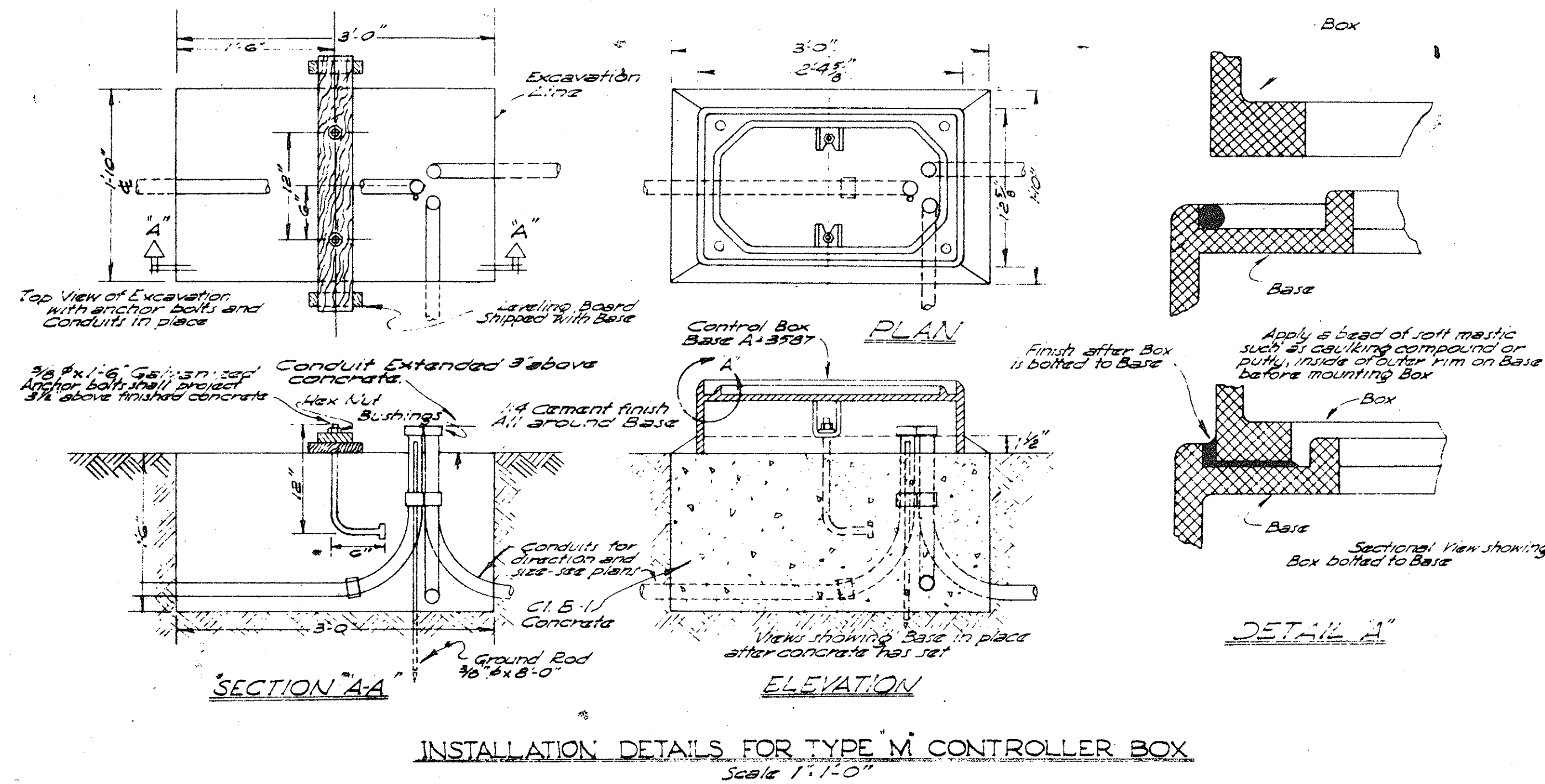
2/17/50

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
|                     |       |                    |             |           |              |

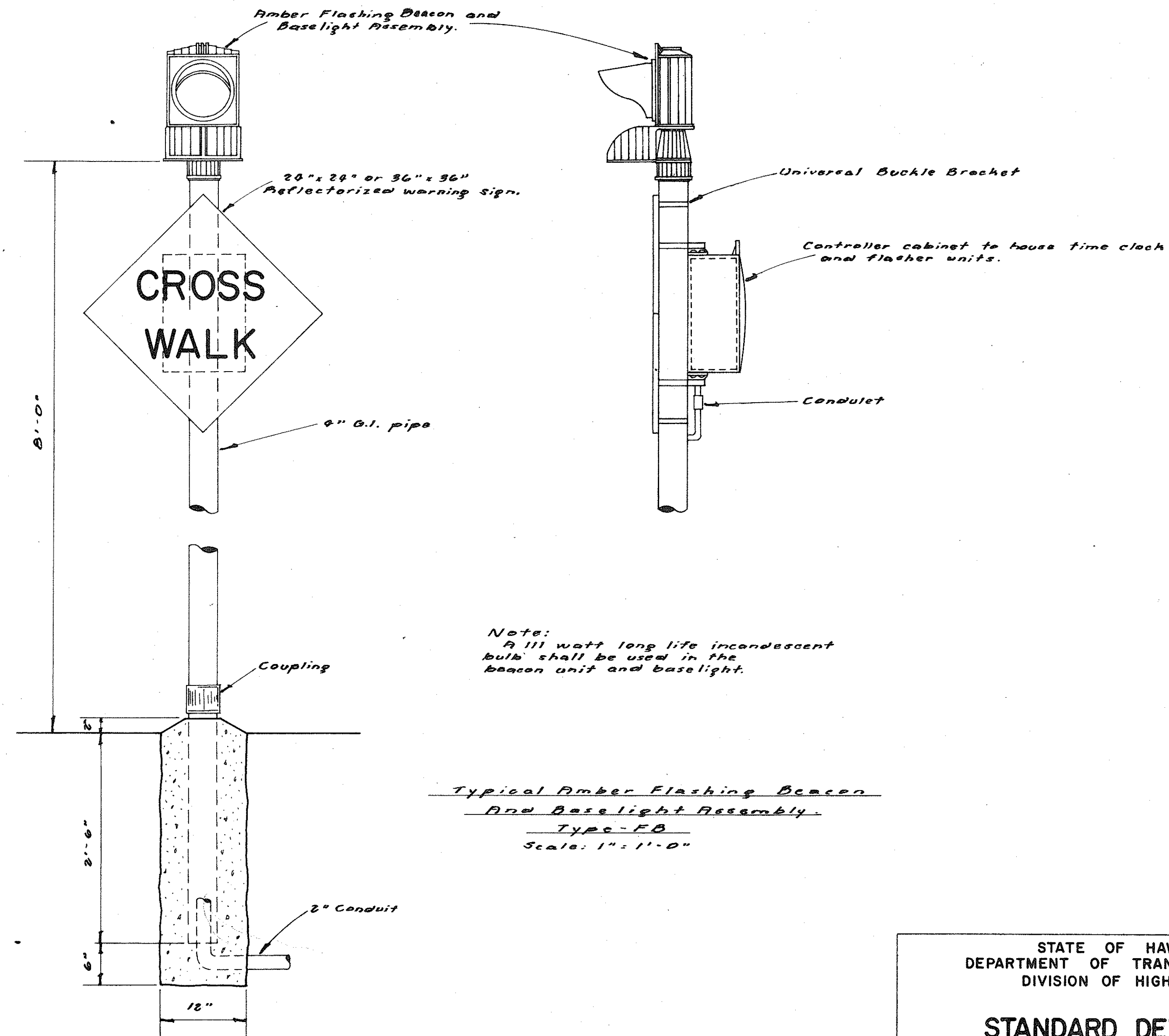


Note:  
Type TIL-A/B unit to be furnished with one standard 1000 watt bulb.  
Type TIL-C/D unit to be furnished with one 1000 lumen 6.6 ampere zeroes lamp.

Typical Traffic Island Light Unit  
Scale: 3/8" = 1'-0"



NOTE: These details traced from drawings (BT-3516) by Automatic Signal Division, Eastern Industries, Inc. Norwalk, Conn. For direction of entering conduits see Layout Plan



|                   |      |
|-------------------|------|
| SURVEY PLOTTED BY | DATE |
| DESIGNED BY       |      |
| DRAWN BY          |      |
| CHECKED BY        |      |
| NOTE BOOK         |      |
| No.               |      |

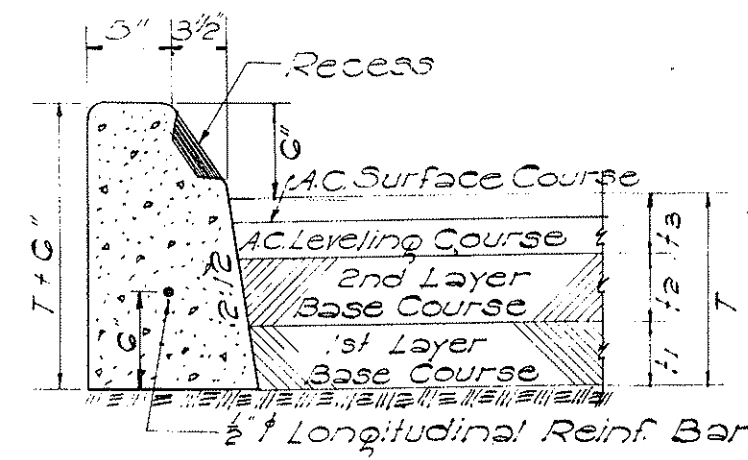
Approved ..... Date.....  
Director of Transportation

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

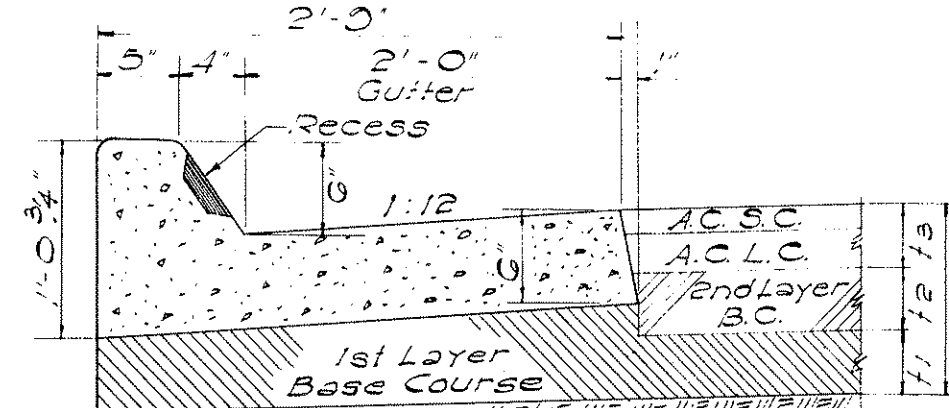
**STANDARD DETAILS**  
TRAFFIC SIGNAL SYSTEM

Scale: as noted

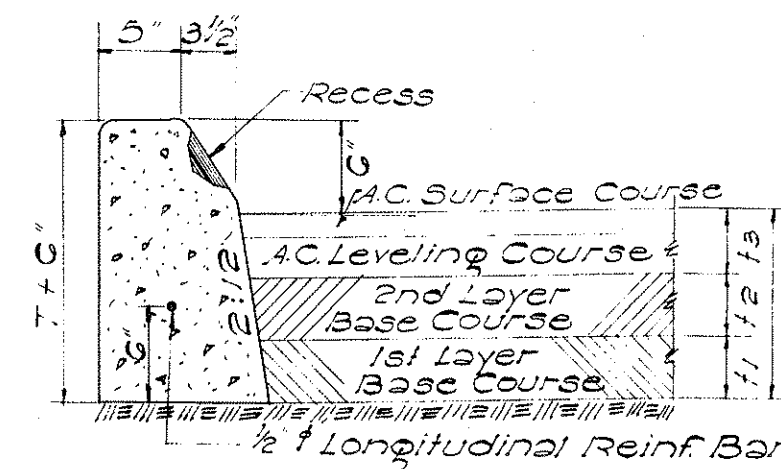
AUG. 1957



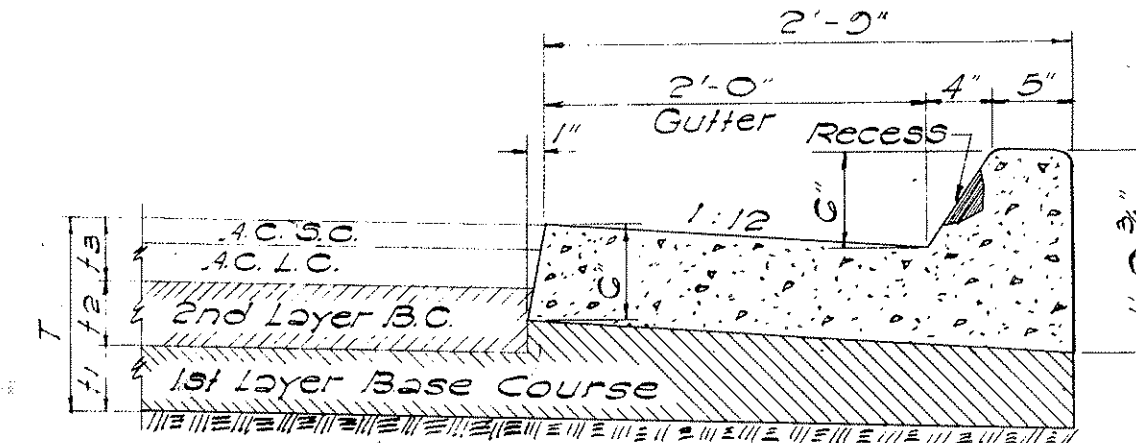
TYPE "A" & "B" CURB  
SCALE: 1" = 1'-0"



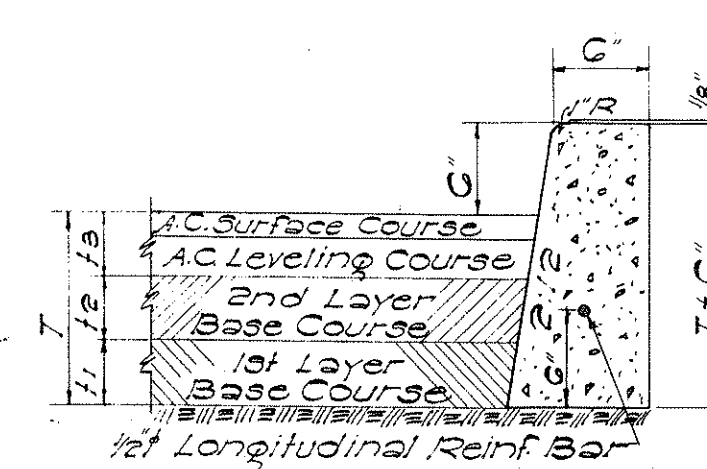
TYPE "AG" & "BG" CURB & GUTTER  
SCALE: 1" = 1'-0"



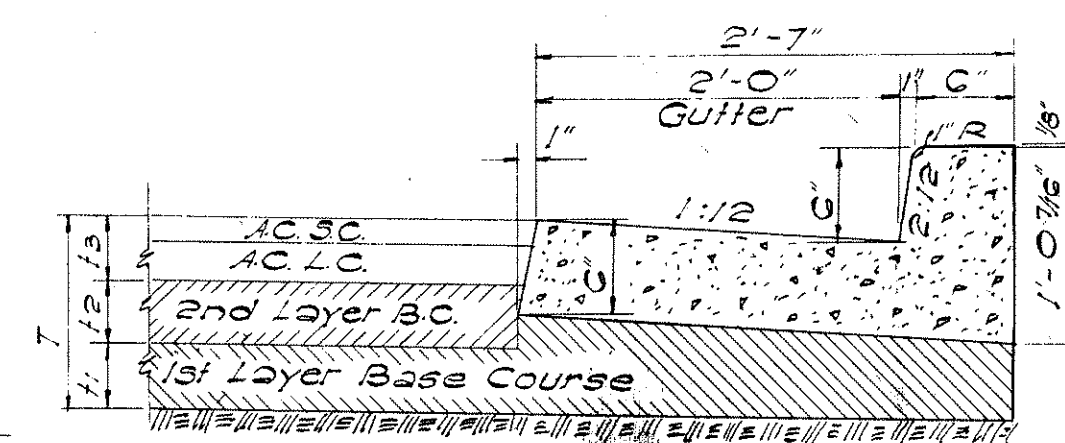
TYPE "C" CURB  
SCALE: 1" = 1'-0"



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

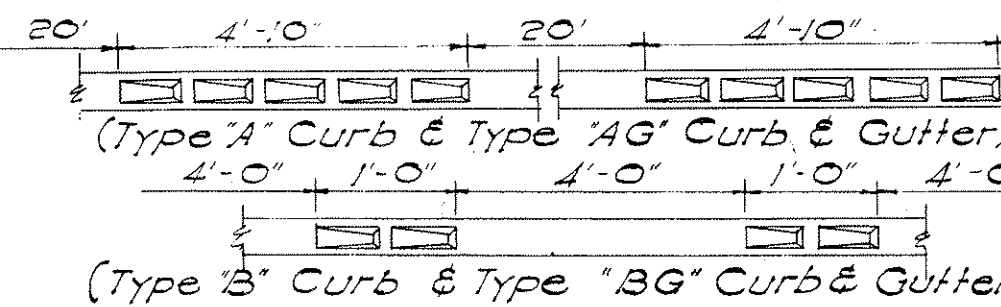


TYPE "D" CURB  
SCALE: 1" = 1'-0"

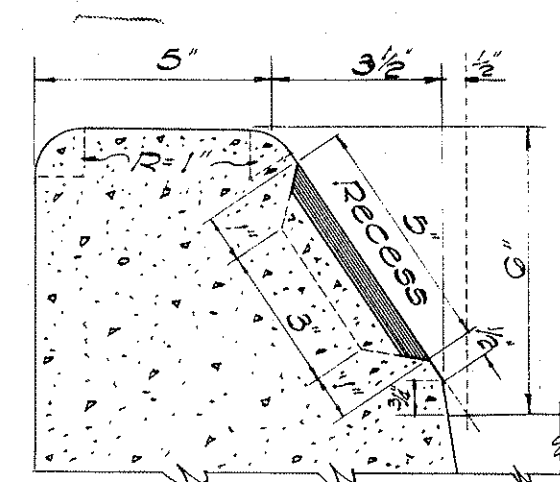


TYPE "DG" CURB & GUTTER  
SCALE: 1" = 1'-0"

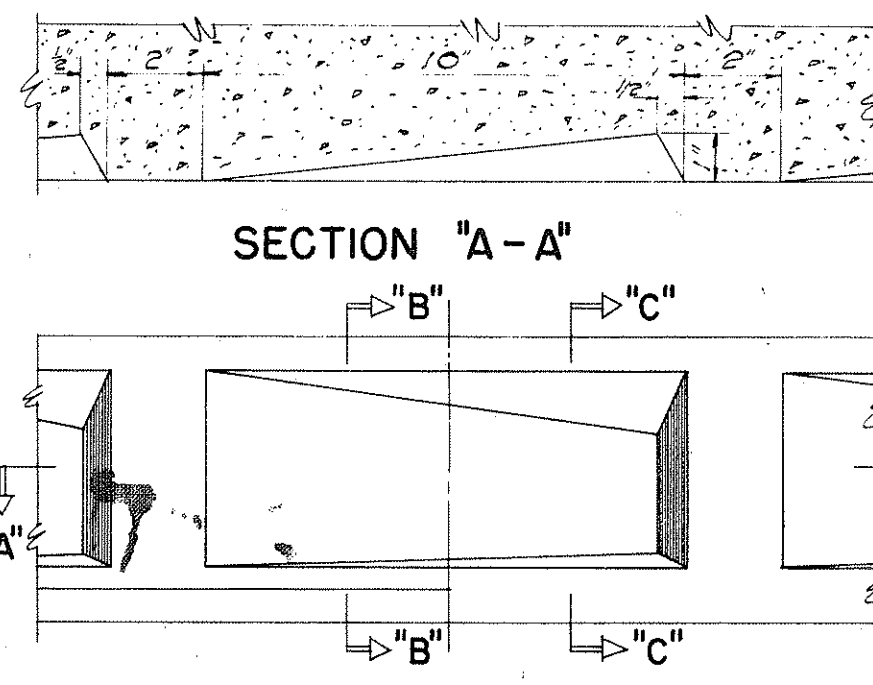
General Note Covering All Types of Curbs:  
Occasionally curb rests on first layer of base course. See typical sections.



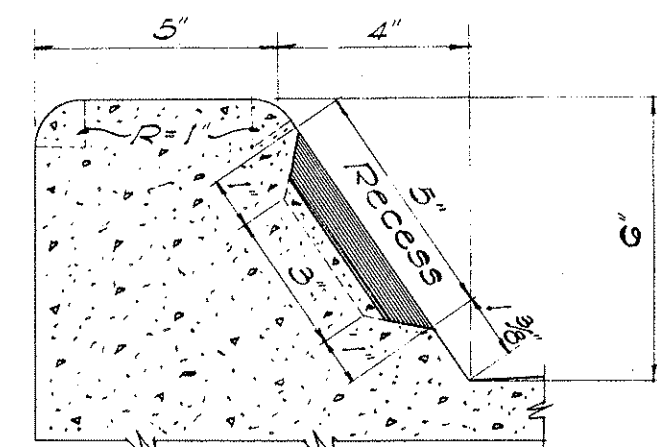
TYPE AND SPACING OF RECESSES



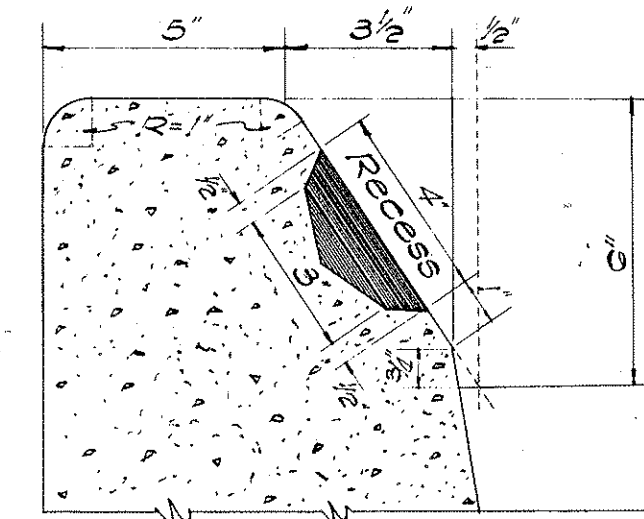
SECTION "B-B"  
TYPE "A" & "B" CURB



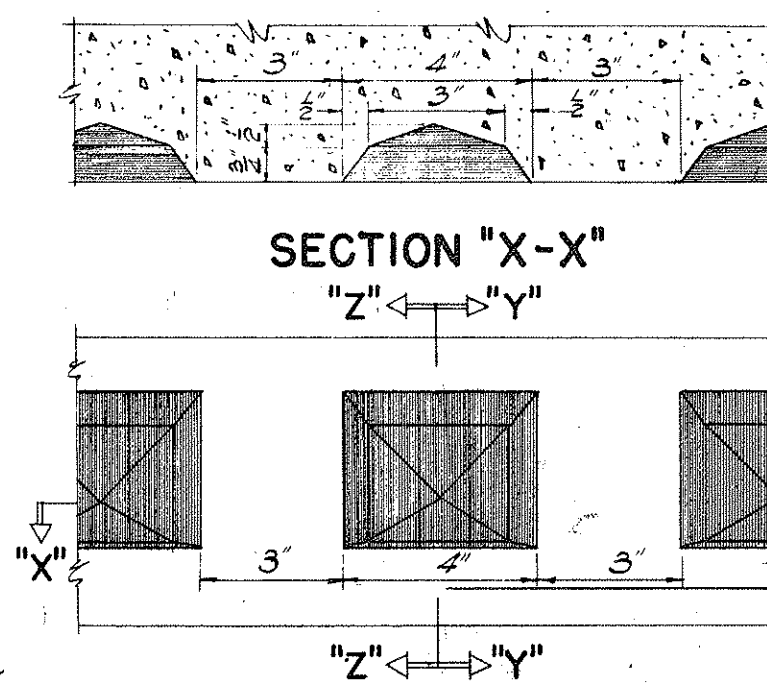
ELEVATION  
SCALE: 3" = 1'-0"



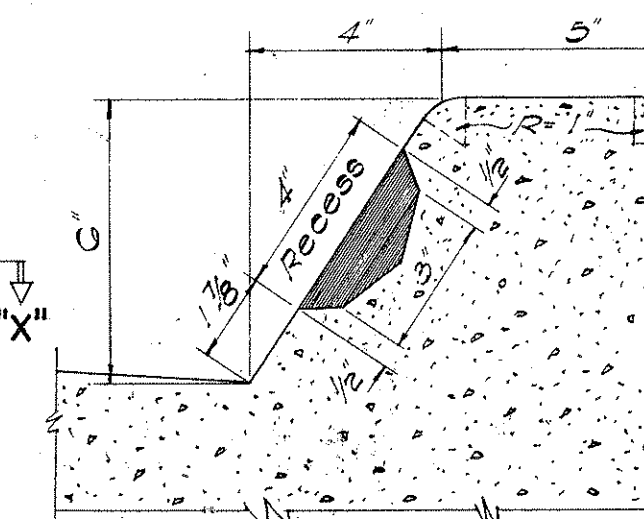
SECTION "C-C"  
TYPE "AG" & "BG" CURB



SECTION "Y-Y"  
TYPE "C" CURB



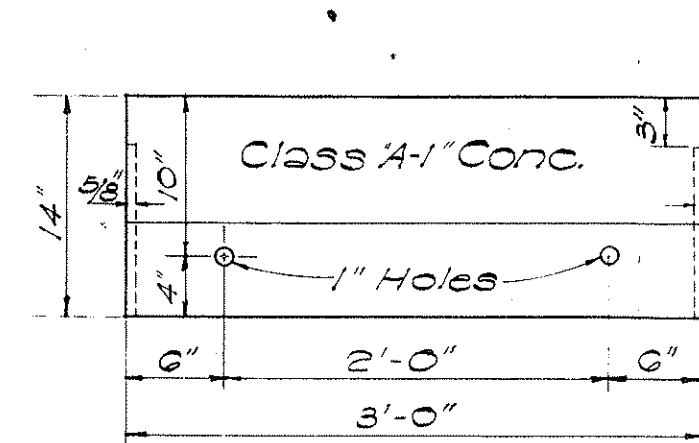
ELEVATION  
SCALE: 3" = 1'-0"



SECTION "Z-Z"  
TYPE "CG" CURB

- NOTES:
- 1) Types "AG", "BG", "CG", "DG" and "EG" 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.

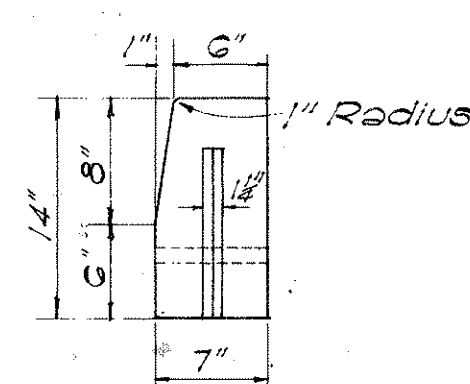
## DETAILS OF CAST-IN-PLACE CONC. CURBS AND GUTTERS



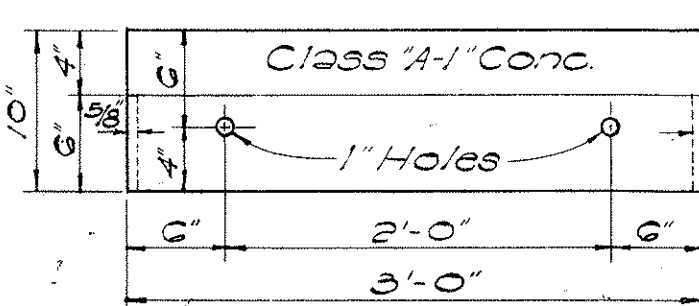
FRONT ELEV.

PRECAST CONC. CURB

SCALE: 1" = 1'-0"



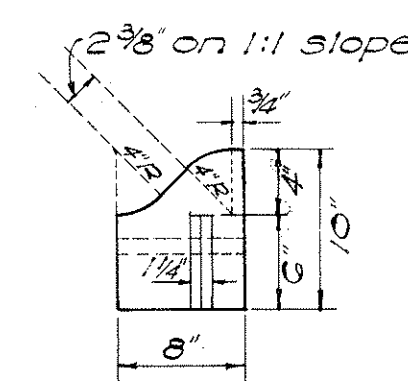
END ELEV.



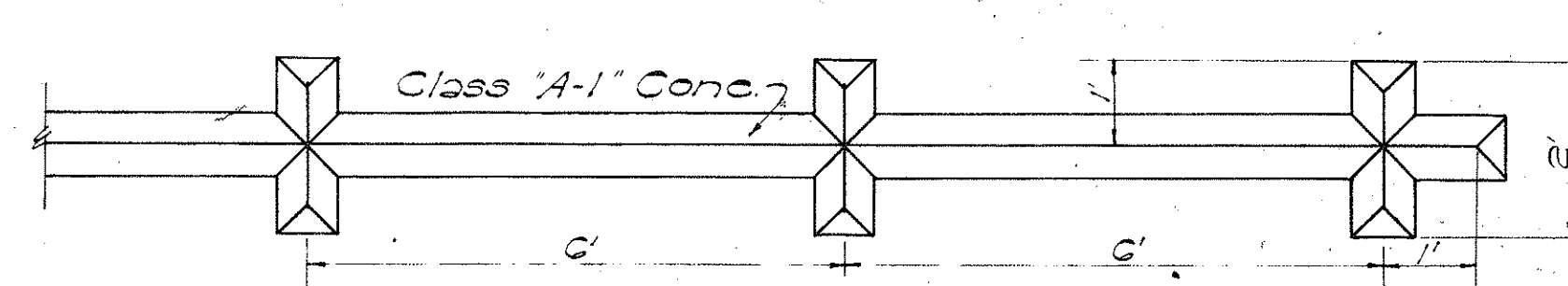
FRONT ELEV.

PRECAST CONC. ROLL CURB

SCALE: 1" = 1'-0"

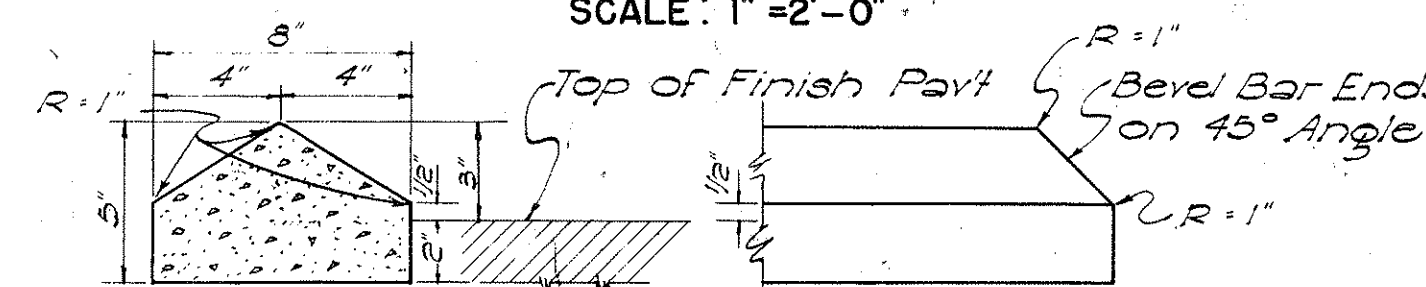


END ELEV.



PLAN

SCALE: 1" = 2'-0"



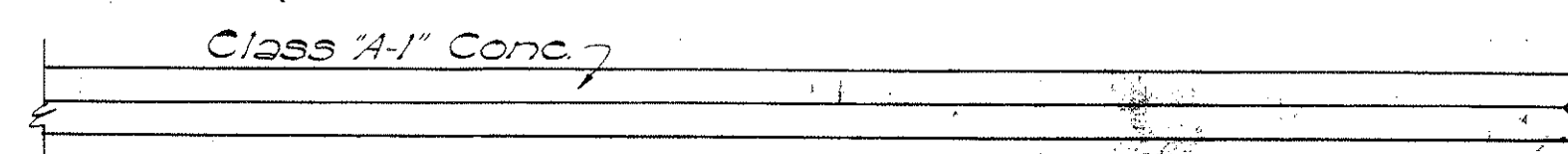
SECTION

ELEVATION

RAISED TRAFFIC BARS

SCALE: 1" = 6"

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

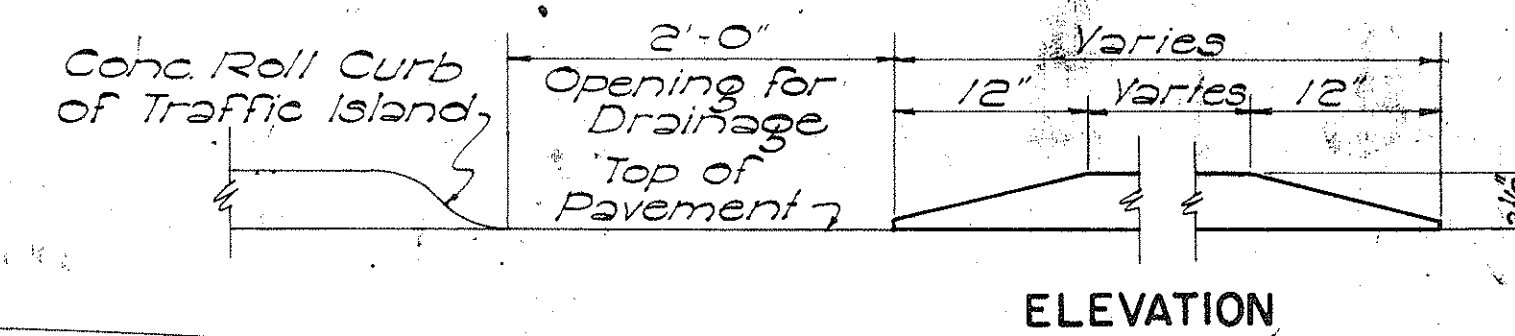


PLAN

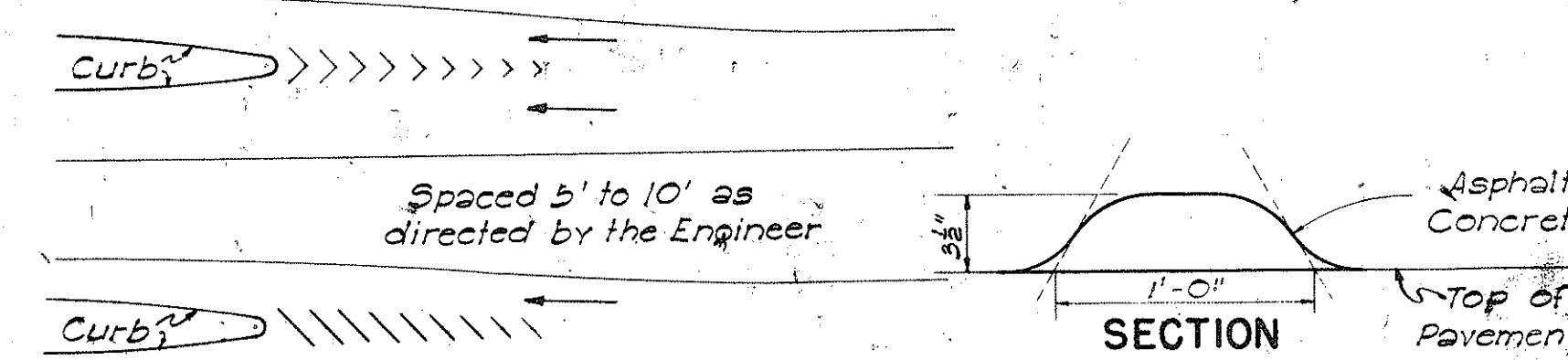
RAISED JIGGLE BARS

SCALE: 1" = 2'-0"

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



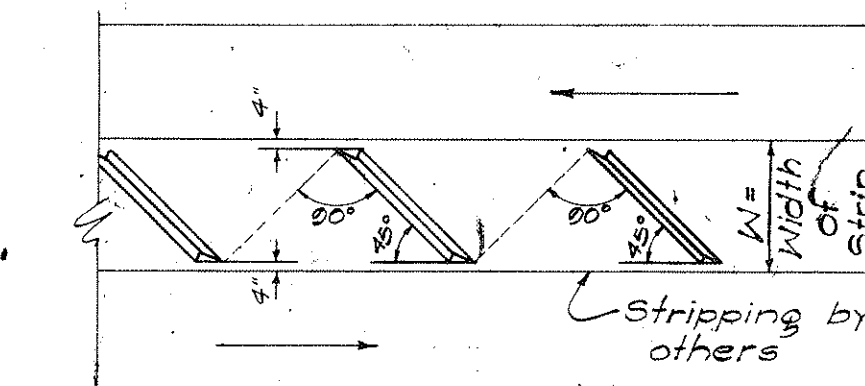
ELEVATION



SECTION

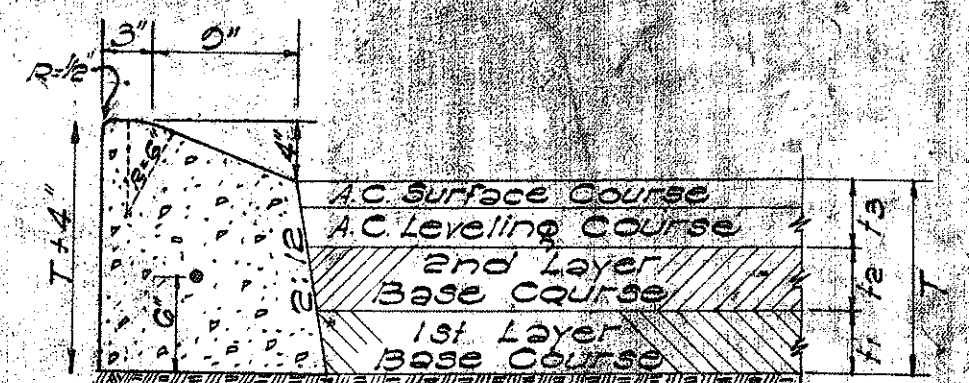
A.C. TRAFFIC ROLL

NOT TO SCALE



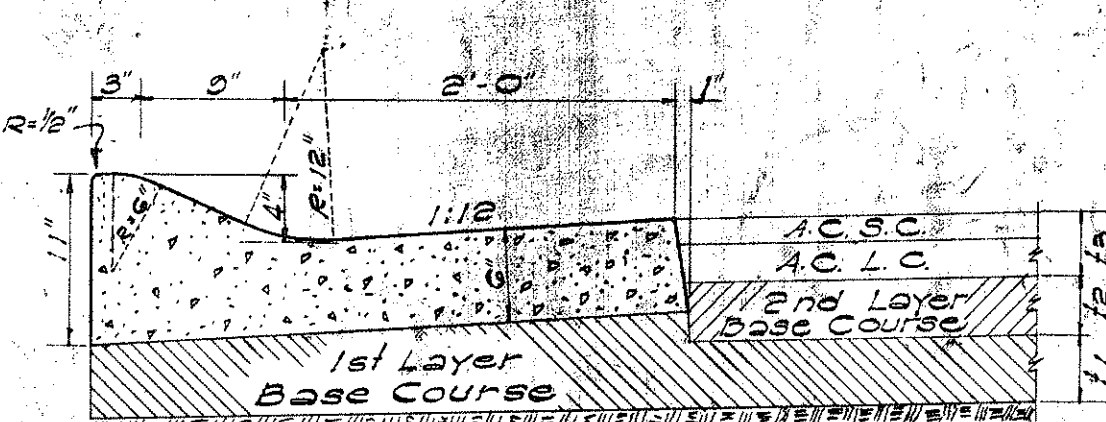
AT CURBED ISLAND  
MEDIAN STRIP  
LAYOUT OF JIGGLE BARS

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"

DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
STATE OF HAWAII

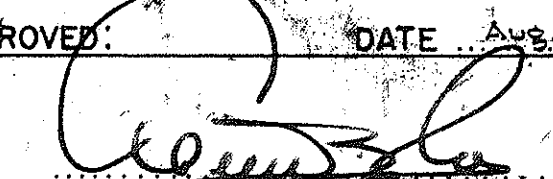
STANDARD DETAILS

CONCRETE CURBS,

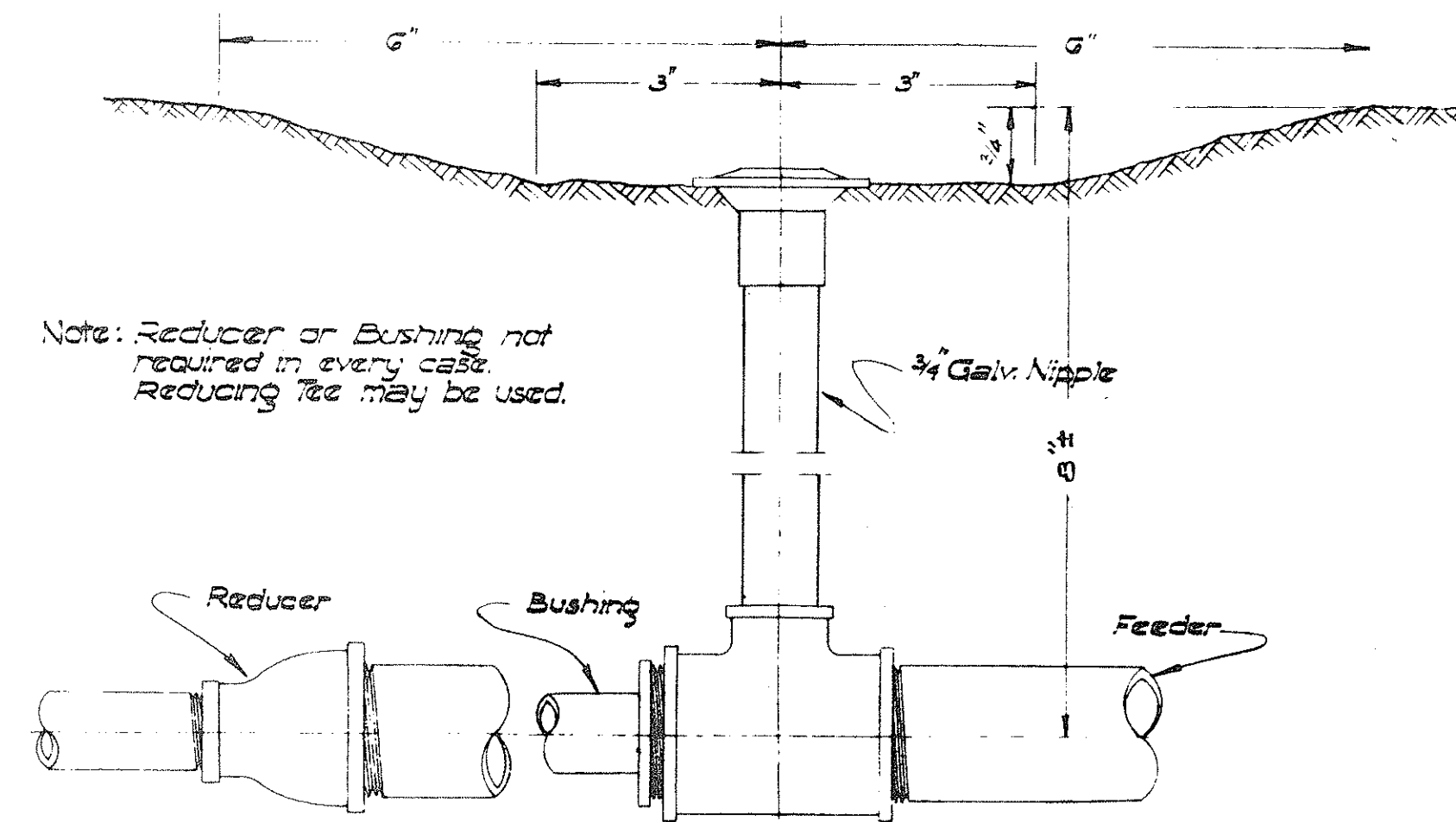
CONCRETE CURBS & GUTTERS

SCALES AS NOTED

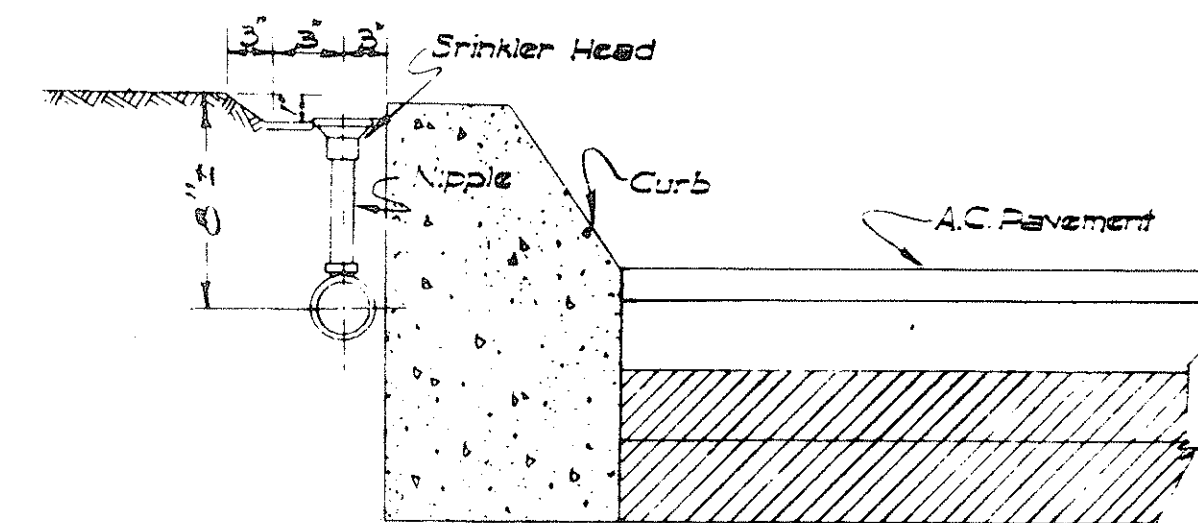
SHEET No 3 OF 6 SHEETS

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

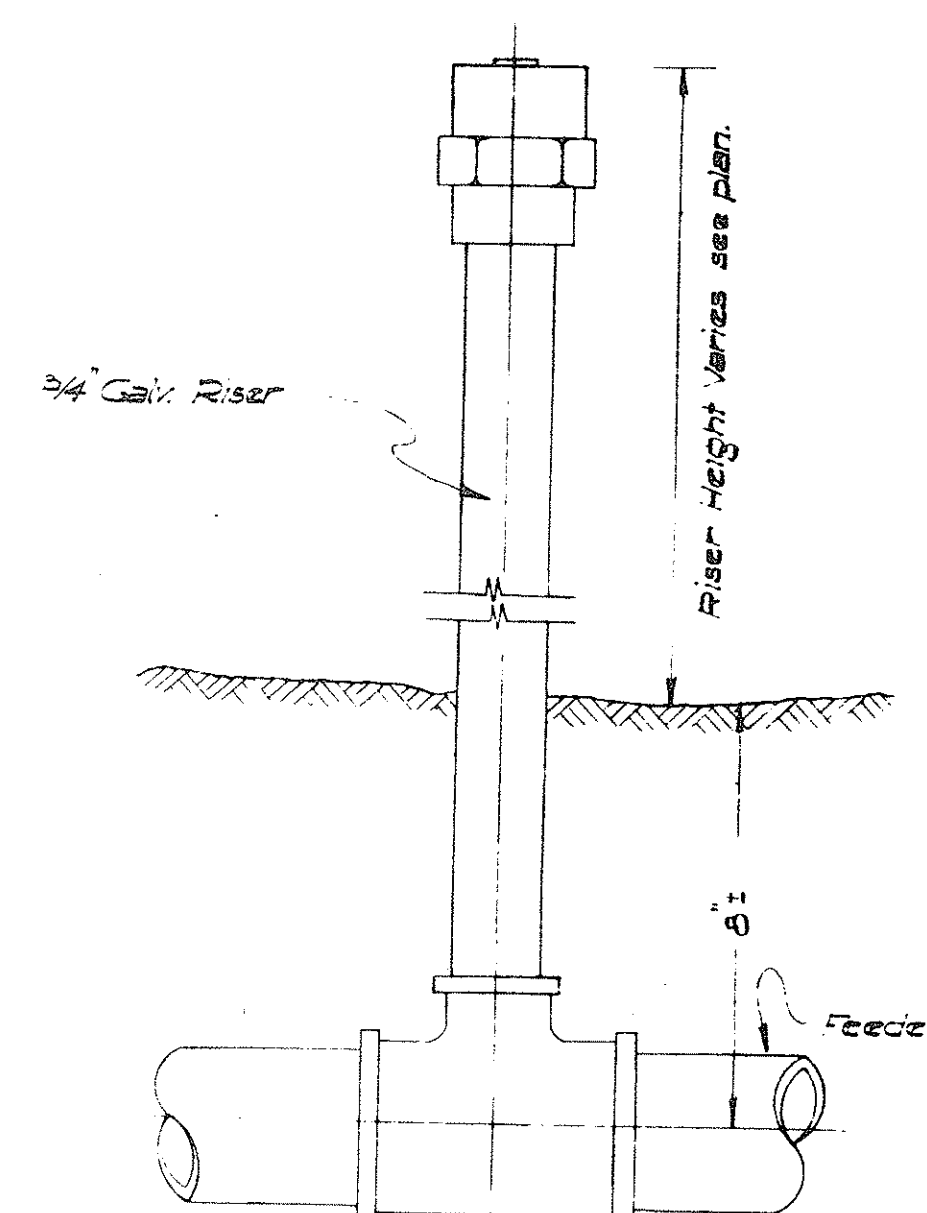




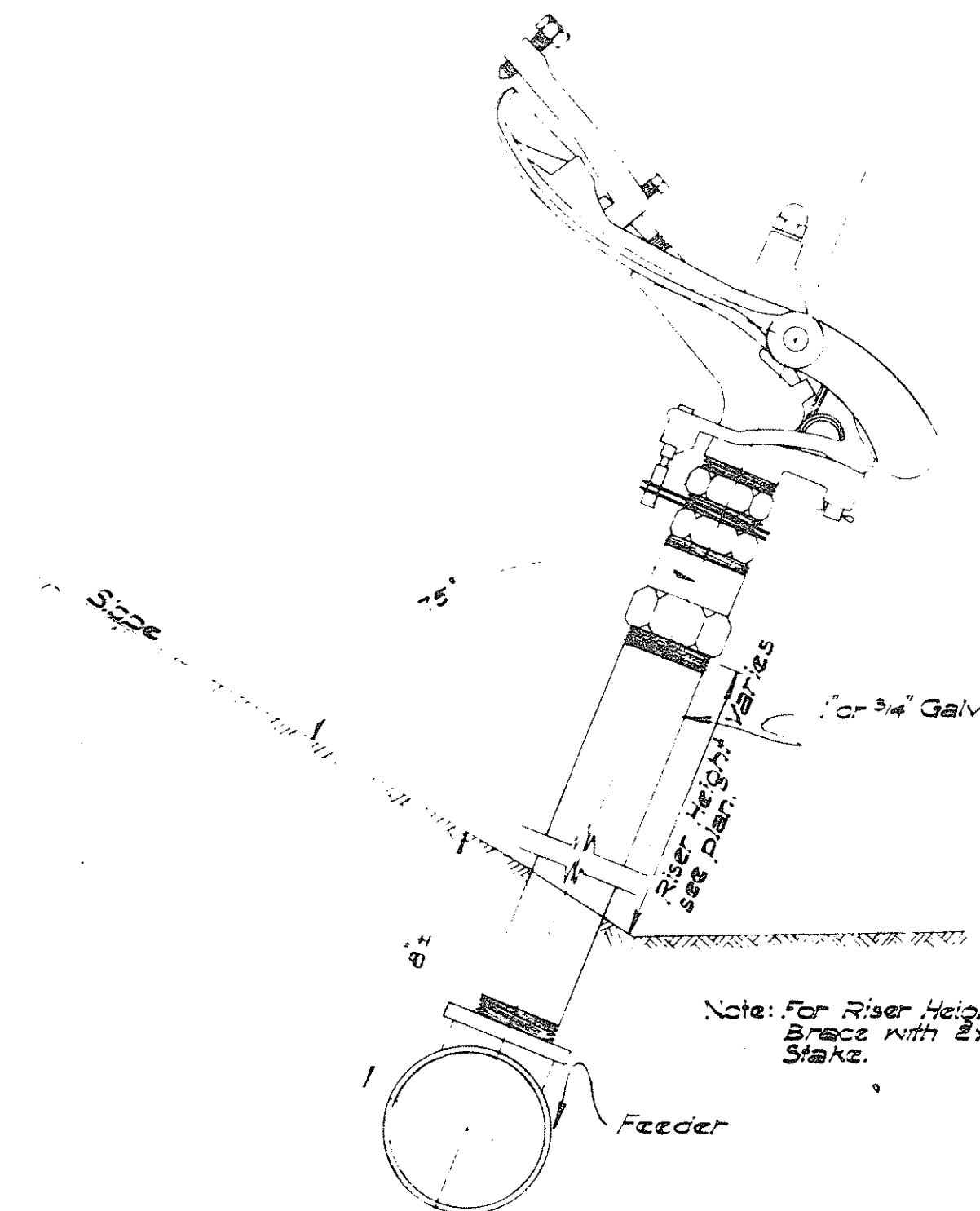
CONNECTION OF SPRINKLER HEAD TO FEEDER PIPE  
Not to Scale



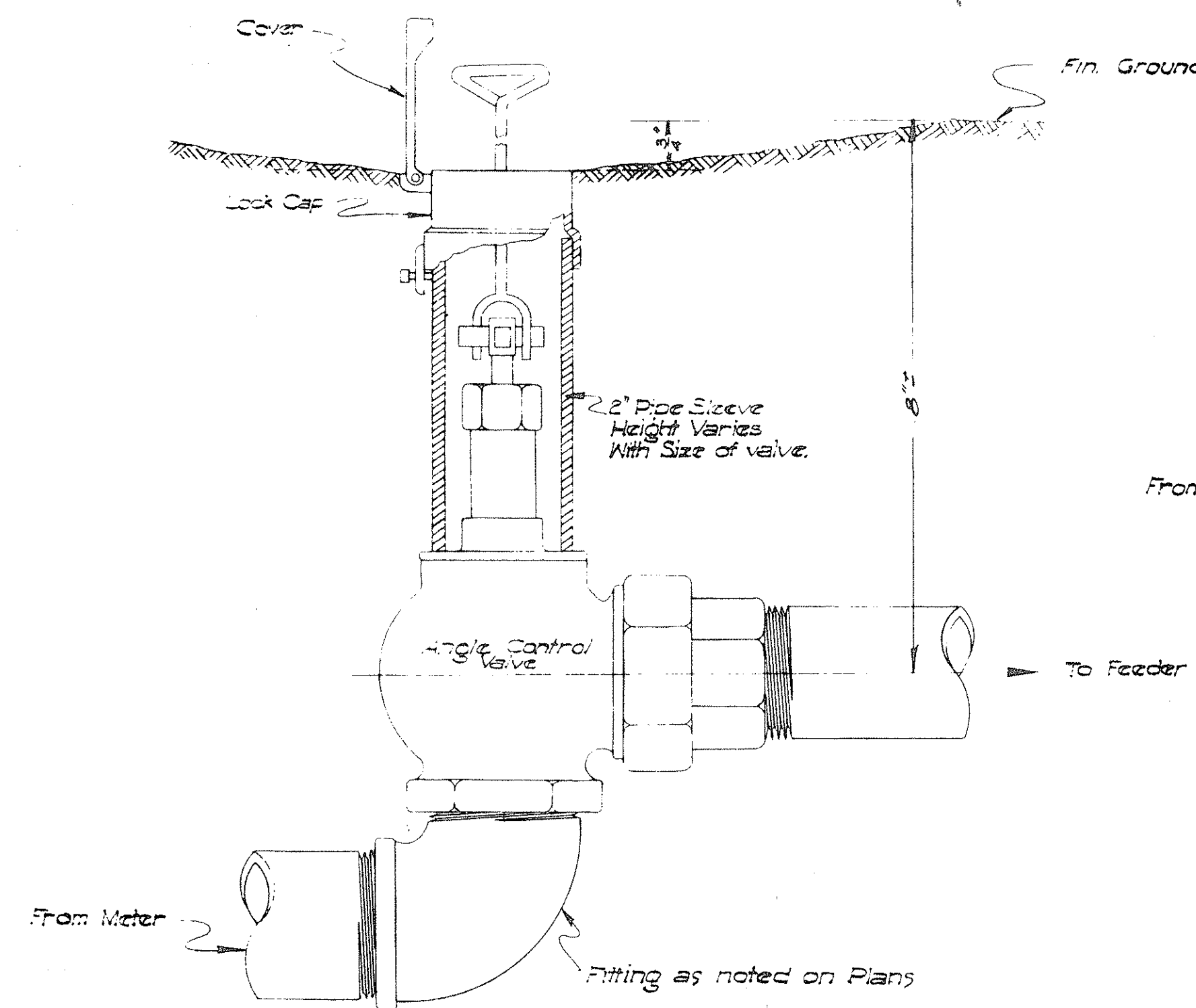
TYPICAL DETAIL OF SPRINKLER AT CONC. CURB  
Not to Scale



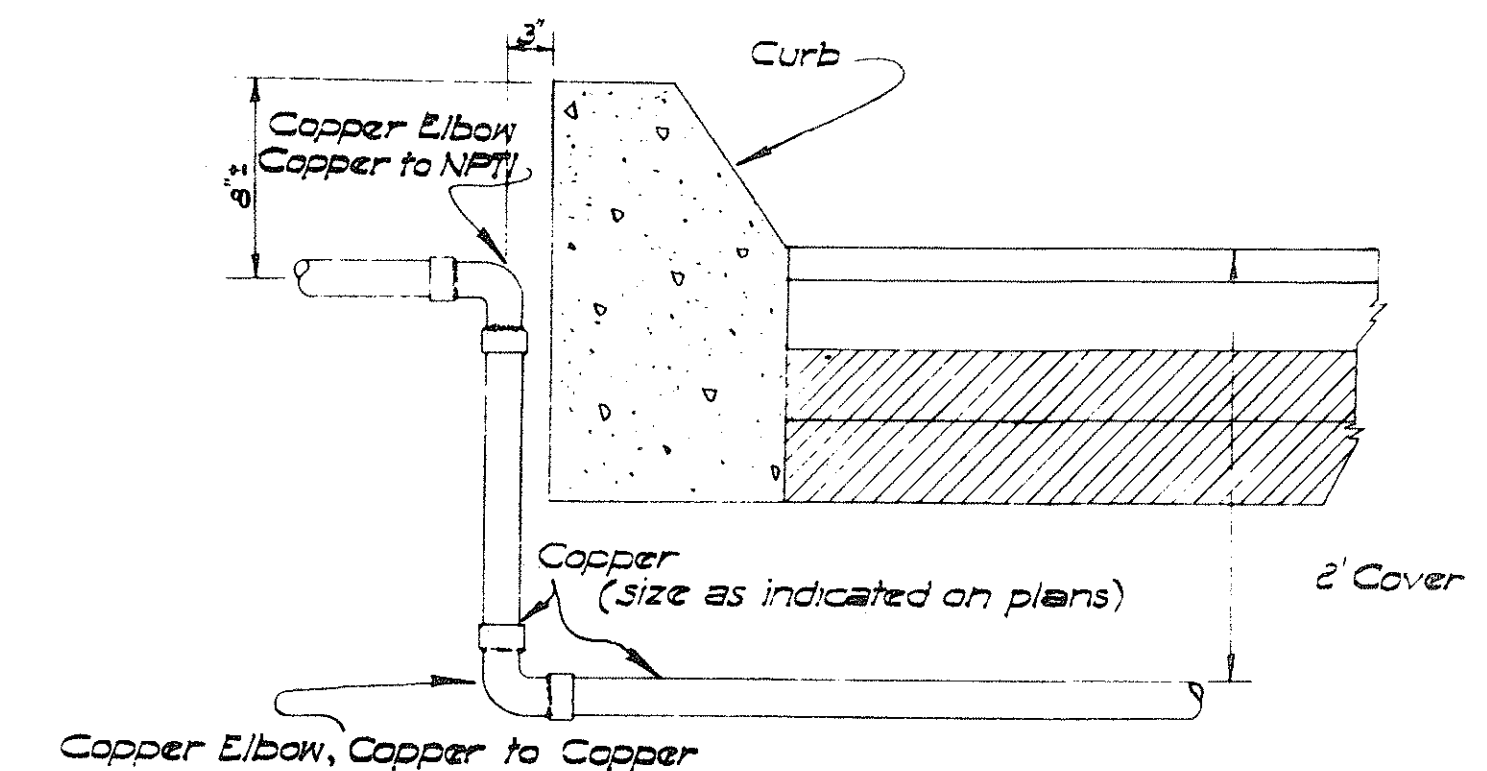
DETAIL OF SHRUBBERY HEAD  
Not to Scale



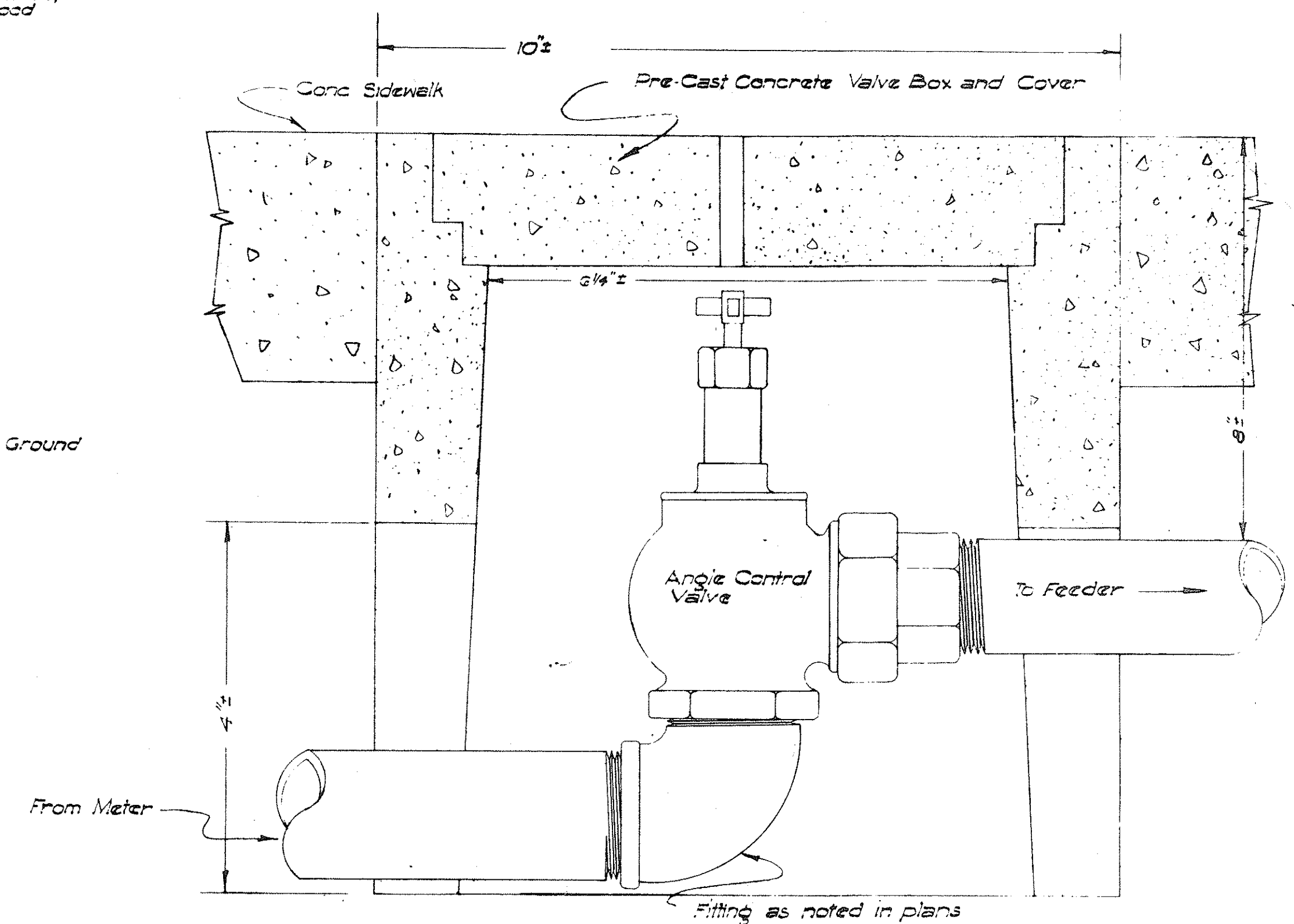
INSTALLATION OF JET SPRINKLER ON SLOPE  
Not to Scale



ANGLE CONTROL VALVE HOUSING & CAP  
Not to Scale



TYPICAL DETAIL OF ROADWAY CROSSING  
Not to Scale



ANGLE CONTROL VALVE IN SIDEWALK AREA  
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. 5 OF 6 SHEETS

C-72-01-61

(11)

Revised 2/17/52  
4/6/59  
4/28/59  
7/30/59  
12/22/59

Notes: 1. This sign shall be 3' x 3' galv. steel pipe for signs larger than 24" in any dimension and 2' x 2' galv. steel pipe for signs not over 24" in any dimension. Two (2) 5/8" bolt holes drilled at location shown.

Two (2) 5/8" x 1/2" or 5/8" x 3/4" galvanized carriage bolts with nuts, two (2) 3/4" iron washers and two (2) 3/4" x 1/2" stainless steel with neoprene rubber gasket attached washers. SPEED LIMIT shall be provided with each sign installation.

STOP SIGN  
RURAL DISTRICT

SIGN  
BUSINESS OR RESIDENCE DISTRICT

PARKING SIGN  
BUSINESS OR RESIDENCE DISTRICT

WARNING SIGN  
RURAL DISTRICT

WARNING SIGN WITH ADVISORY SPEED SIGN  
RURAL DISTRICT

NO STOPPING OR STANDING  
R-21  
12 x 18

MERGING TRAFFIC  
W-36  
24 x 24

TURN AHEAD  
R-9-B  
12 x 18

TURN AHEAD  
R-9  
18 x 24

MOVE ONLY IN DIRECTION OF GREEN ARROW  
R-107-B (R)  
24 x 30

YIELD RIGHT OF WAY  
R-139  
36" Equilateral Triangle

NOTE: THIS MARKER SHALL BE INSTALLED OPPOSITE AND AT THE SAME HEIGHT AS MARKER W-42

Black letter and crosshatch on "X" shall be on yellow background. 5/8" bolt holes drilled at 4" center.

Black letters and figures on Highway Yellow background (reflectORIZED)

W-32  
30" Diameter  
Scale: 1" = 1'-0"

NOTE: This sign shall be placed from 300 to 500 feet from R intersection in rural areas and a minimum distance of 100 feet from R intersection in residence or business districts.

RAIL CROSSING ROAD  
W-33  
Scale: 1/2" = 1'-0"

PLAN  
SIDE VIEW  
FRONT VIEW

ADJUSTABLE BAND BRACKET FOR SUPPORTING TRAFFIC SIGNS ON MONOTUBE LIGHTING STANDARDS  
Scale: 3/4" = 1'-0"

This product to be 20' high in all cases to 48" of Calphalon Corp. or equal.

FAP 30(7)  
FAP 20(II)  
FAP 20-A  
FAP 20(III)  
FAP 25-A  
FAP 25-B  
FAP 25(8)

NOTE: Federal Aid Markers shall 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 would be followed on each successive improvement until all markers for letter designated sections are eventually eliminated.

PLAN OF TOP  
R-41-T  
24 x 24

END SCHOOL ZONE

STANDARD C & C STREET SURVEY MONUMENT

DETAIL OF SIGN POST FITTING FOR C & C STREET SIGNS

FEDERAL AID MARKER  
Scale: 1 1/2" = 1'-0"

DETAIL SHOWING ANGLE OF TRAFFIC SIGNS AND CURB LINE  
Scale: 1" = 1'-0"

ARRANGEMENT OF MARKERS

One F.A.P. Marker and one plate shall be placed at the beginning and end of each isolated F.A. Project. Where two F.A. Projects adjoin, a single marker and two Number plates shall be placed, each Number plate pointing in the direction of the project to which it refers.

Post in place, complete with one F.A.P. Marker plate and its respective Number plate will be paid for as one item. Each additional Number plate will be paid for separately.

Markers and Number plates shall be 1/2" x 1/2" galvanized iron with 3/8" holes for fastening as shown on sketch. Markers and Number plates shall be given one coat of best chrome primer and two coats of White Marine Enamel. Before painting they shall be given a wash of 8 ounces of Copper Sulphate in one gallon of water. The lettering shall be of two coats of Black Marine Enamel.

Markers and plates shall be fastened with 1/4" galvanized bolts and washers in addition to stainless steel washers with neoprene rubber gaskets attached on front face of each plate.

All letters and figures shall be of size and design shown and shall conform with Standard Alphabet 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.

ELEVATION W-41 SECTION REFLECTOR MARKER

Note: W-44: 3-3" yellow reflectors mounted on plate.  
W-45: 2-3" clear reflectors mounted on plate.

Note: The Reflective Marker Unit shall include 3-3" Stimsonite amber reflex reflectors or 2-3" Stimsonite clear reflex reflectors, housed in a heavy duty 5082-434 aluminum alloy, .060 gauge unit with a separate back plate attached with 4 vandal-resistant nuts. The housing shall be provided with a protective anodized coating.

APPROVED: [Signature] DATE: 2/16/60  
DIRECTOR

NOTE: Sign Posts shall be 3' x 3' galv. steel pipe for signs larger than 24" in any dimension and 2' x 2' galv. steel pipe for signs not over 24" in any dimension. Two (2) 5/8" bolt holes drilled at location shown.

Two (2) 5/8" x 1/2" or 5/8" x 3/4" galvanized carriage bolts with nuts, two (2) 3/4" iron washers and two (2) 3/4" x 1/2" stainless steel with neoprene rubber gasket attached washers. SPEED LIMIT shall be provided with each sign installation.

STOP SIGN  
RURAL DISTRICT

SIGN  
BUSINESS OR RESIDENCE DISTRICT

PARKING SIGN  
BUSINESS OR RESIDENCE DISTRICT

WARNING SIGN  
RURAL DISTRICT

WARNING SIGN WITH ADVISORY SPEED SIGN  
RURAL DISTRICT

NO STOPPING OR STANDING  
R-21  
12 x 18

MERGING TRAFFIC  
W-36  
24 x 24

TURN AHEAD  
R-9-B  
12 x 18

TURN AHEAD  
R-9  
18 x 24

MOVE ONLY IN DIRECTION OF GREEN ARROW  
R-107-B (R)  
24 x 30

YIELD RIGHT OF WAY  
R-139  
36" Equilateral Triangle

NOTE: THIS MARKER SHALL BE INSTALLED OPPOSITE AND AT THE SAME HEIGHT AS MARKER W-42

Black letter and crosshatch on "X" shall be on yellow background. 5/8" bolt holes drilled at 4" center.

Black letters and figures on Highway Yellow background (reflectORIZED)

W-32  
30" Diameter  
Scale: 1" = 1'-0"

NOTE: This sign shall be placed from 300 to 500 feet from R intersection in rural areas and a minimum distance of 100 feet from R intersection in residence or business districts.

RAIL CROSSING ROAD  
W-33  
Scale: 1/2" = 1'-0"

PLAN  
SIDE VIEW  
FRONT VIEW

ADJUSTABLE BAND BRACKET FOR SUPPORTING TRAFFIC SIGNS ON MONOTUBE LIGHTING STANDARDS  
Scale: 3/4" = 1'-0"

This product to be 20' high in all cases to 48" of Calphalon Corp. or equal.

FAP 30(7)  
FAP 20(II)  
FAP 20-A  
FAP 20(III)  
FAP 25-A  
FAP 25-B  
FAP 25(8)

NOTE: Federal Aid Markers shall 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.

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PLAN OF TOP  
R-41-T  
24 x 24

END SCHOOL ZONE

STANDARD C & C STREET SURVEY MONUMENT

DETAIL OF SIGN POST FITTING FOR C & C STREET SIGNS

FEDERAL AID MARKER  
Scale: 1 1/2" = 1'-0"

DETAIL SHOWING ANGLE OF TRAFFIC SIGNS AND CURB LINE  
Scale: 1" = 1'-0"

ARRANGEMENT OF MARKERS

One F.A.P. Marker and one plate shall be placed at the beginning and end of each isolated F.A. Project. Where two F.A. Projects adjoin, a single marker and two Number plates shall be placed, each Number plate pointing in the direction of the project to which it refers.

Post in place, complete with one F.A.P. Marker plate and its respective Number plate will be paid for as one item. Each additional Number plate will be paid for separately.

Markers and Number plates shall be 1/2" x 1/2" galvanized iron with 3/8" holes for fastening as shown on sketch. Markers and Number plates shall be given one coat of best chrome primer and two coats of White Marine Enamel. Before painting they shall be given a wash of 8 ounces of Copper Sulphate in one gallon of water. The lettering shall be of two coats of Black Marine Enamel.

Markers and plates shall be fastened with 1/4" galvanized bolts and washers in addition to stainless steel washers with neoprene rubber gaskets attached on front face of each plate.

All letters and figures shall be of size and design shown and shall conform with Standard Alphabet 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.

ELEVATION W-41 SECTION REFLECTOR MARKER

Note: W-44: 3-3" yellow reflectors mounted on plate.  
W-45: 2-3" clear reflectors mounted on plate.

Note: The Reflective Marker Unit shall include 3-3" Stimsonite amber reflex reflectors or 2-3" Stimsonite clear reflex reflectors, housed in a heavy duty 5082-434 aluminum alloy, .060 gauge unit with a separate back plate attached with 4 vandal-resistant nuts. The housing shall be provided with a protective anodized coating.

APPROVED: [Signature] DATE: 2/16/60  
DIRECTOR

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