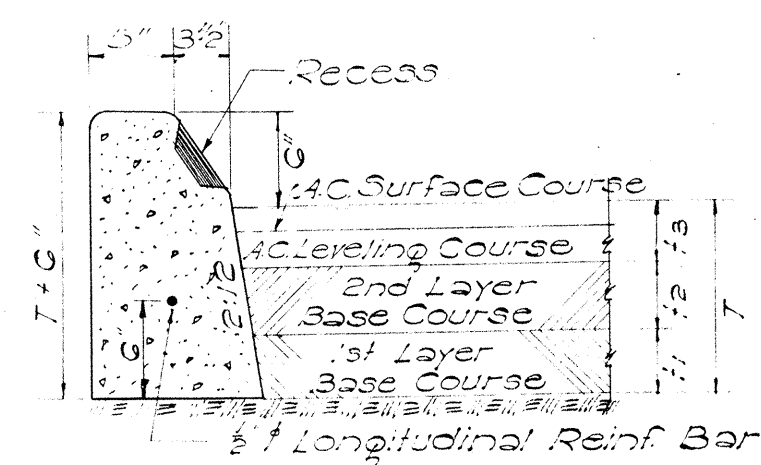


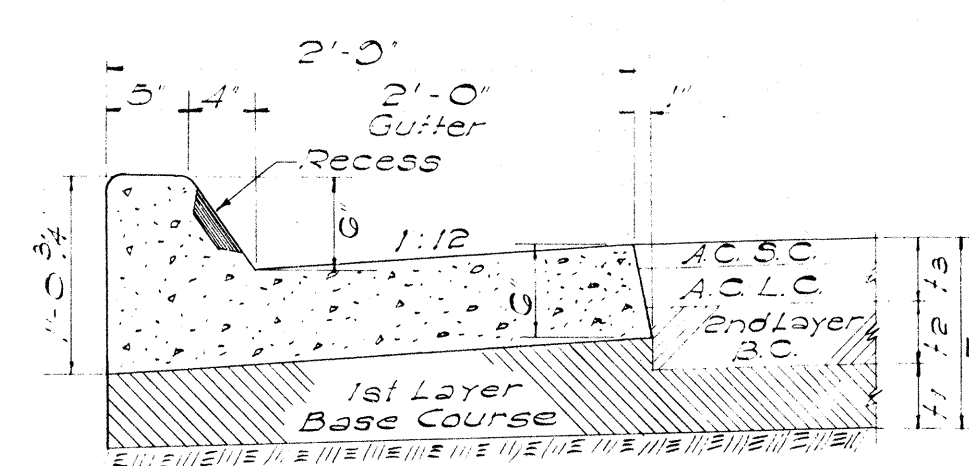
2/17/59

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

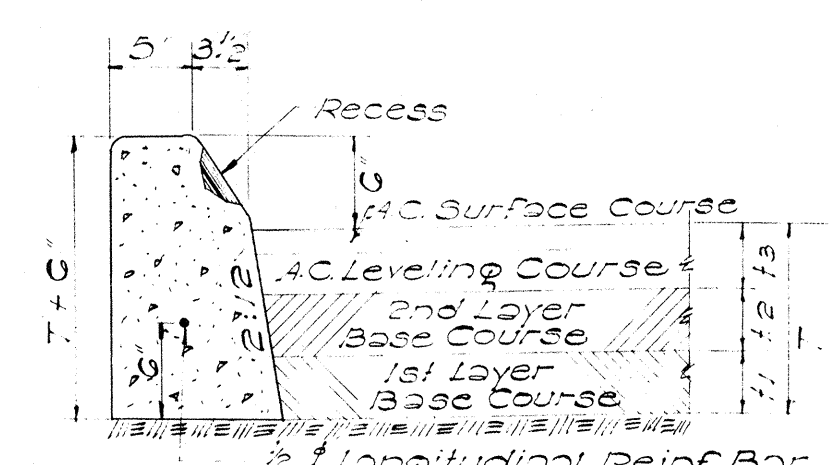
AUG. 1957



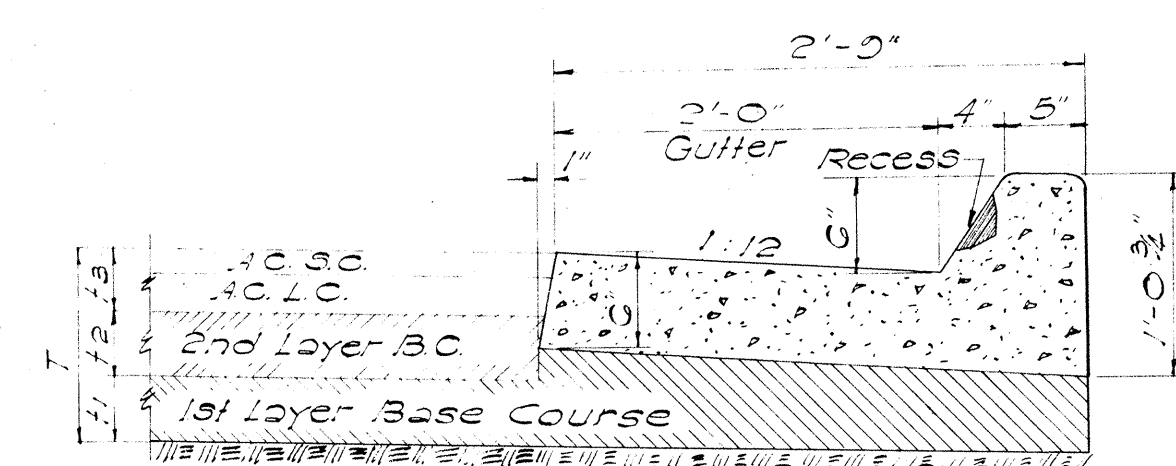
TYPE "A" & "B" CURB
SCALE: 1" = 1'-0"



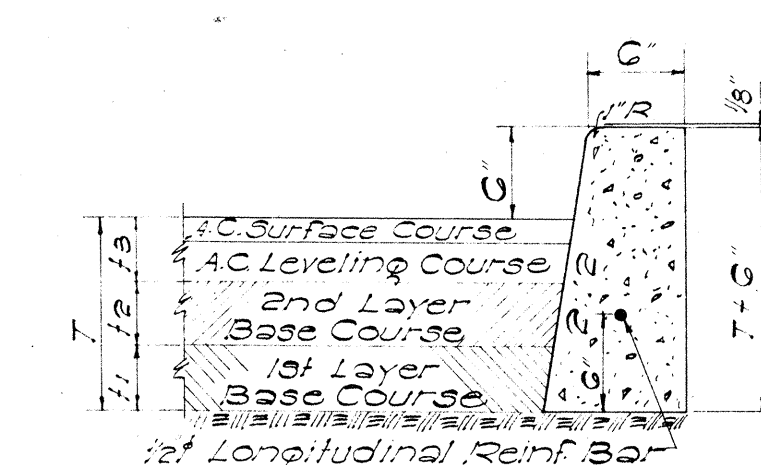
TYPE "AG" & "BG" CURB & GUTTER
SCALE: 1" = 1'-0"



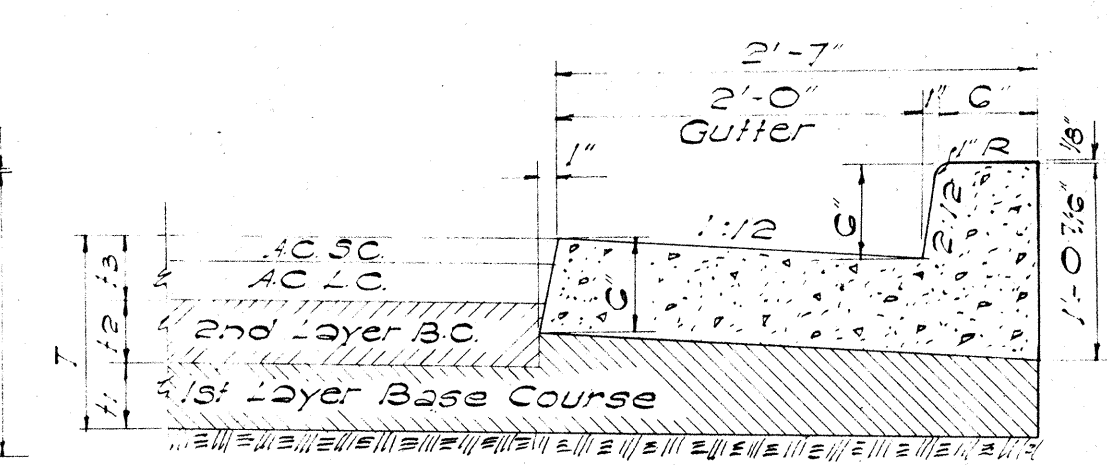
TYPE "C" CURB
SCALE: 1" = 1'-0"



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

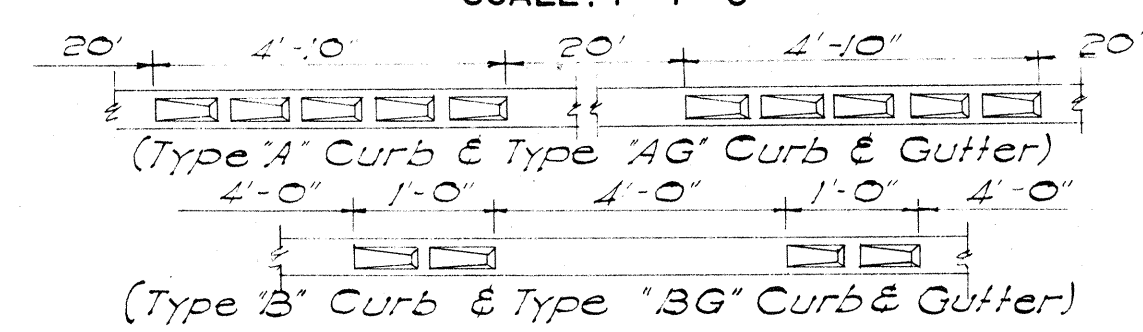


TYPE "D" CURB
SCALE: 1" = 1'-0"

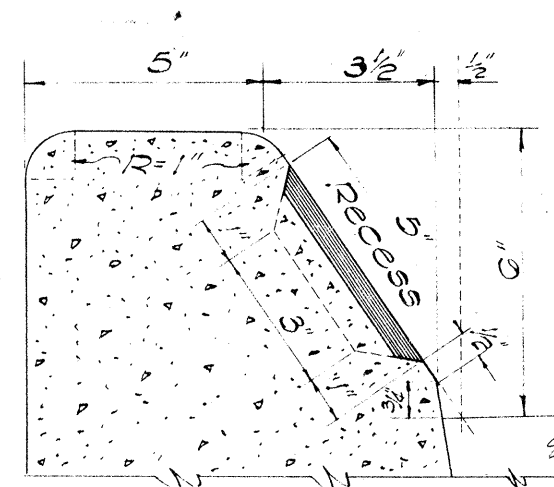


TYPE "DG" CURB & GUTTER
SCALE: 1" = 1'-0"

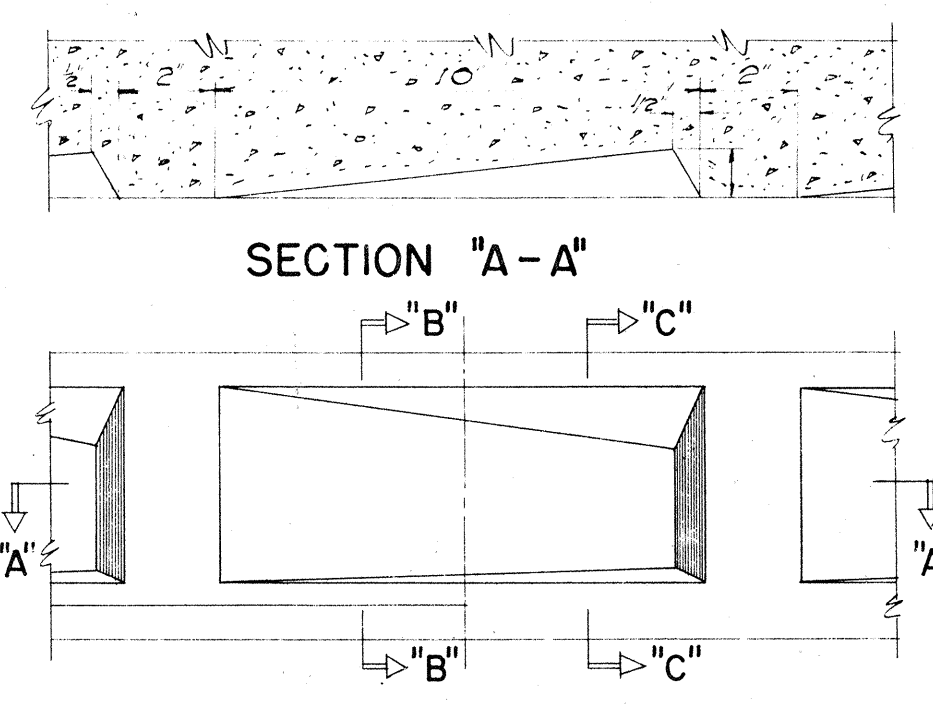
General Note Covering All Types of Curbs:
Occasionally curb rests on first layer of base course. See typical sections.



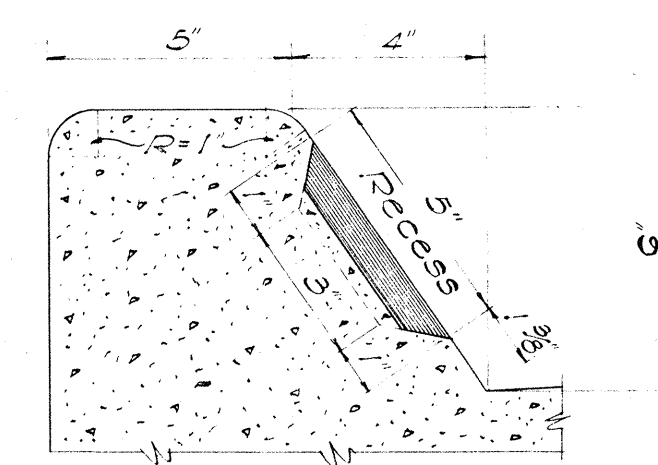
TYPE AND SPACING OF RECESSES



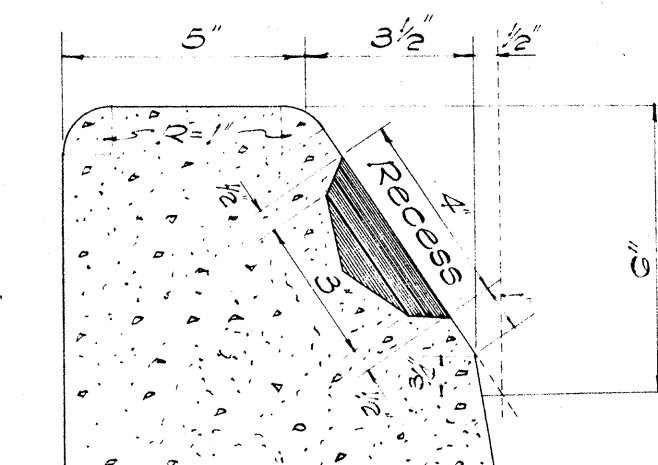
SECTION "B-B"
TYPE "A" & "B" CURB



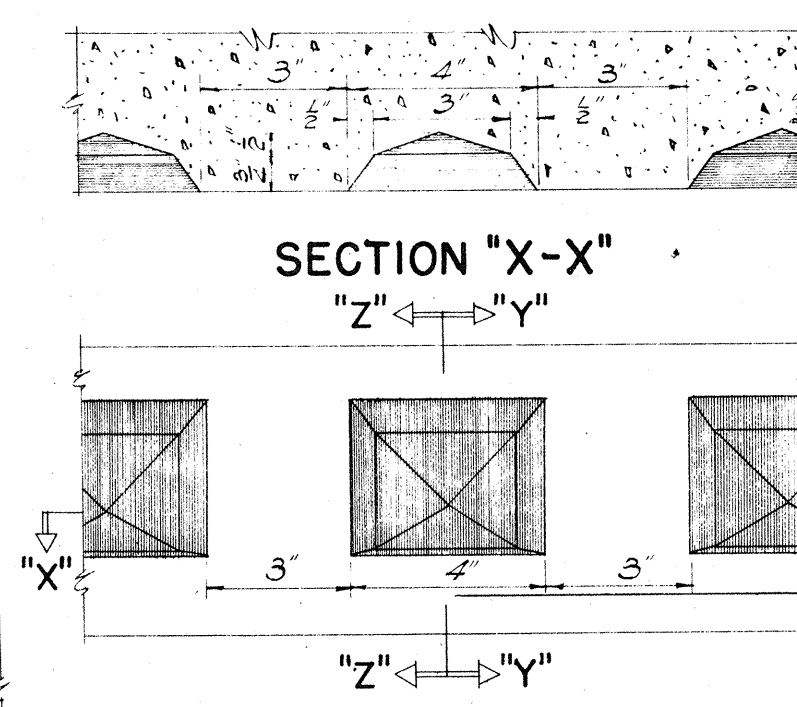
ELEVATION
SCALE: 3" = 1'-0"



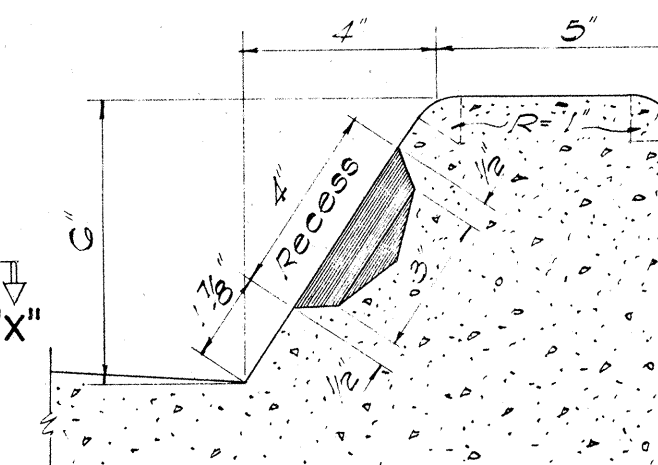
SECTION "C-C"
TYPE "AG" & "BG" CURB



SECTION "Y-Y"
TYPE "C" CURB



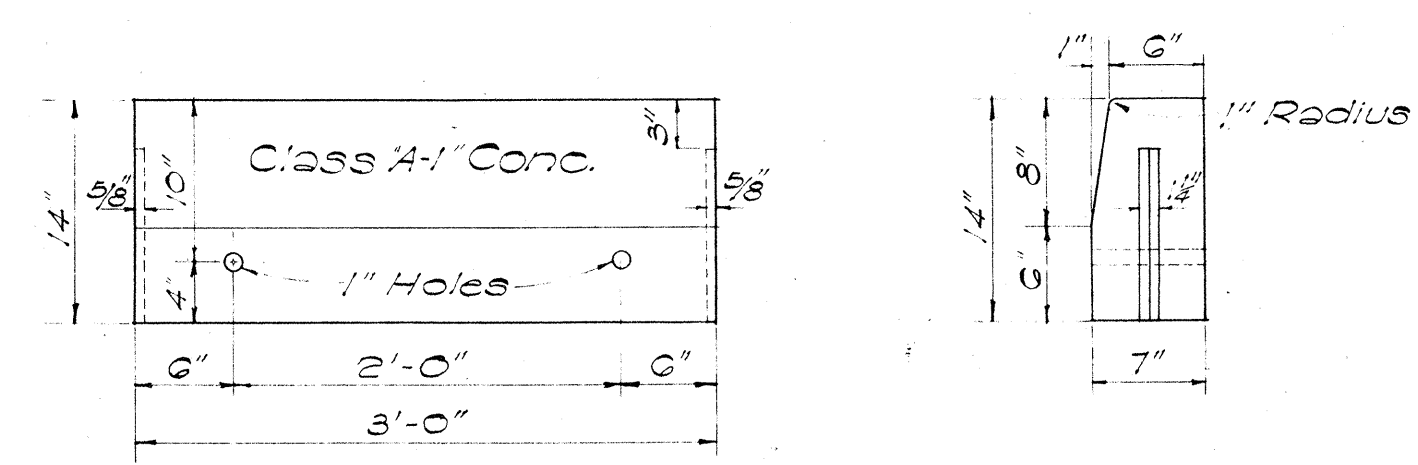
ELEVATION
SCALE: 3" = 1'-0"



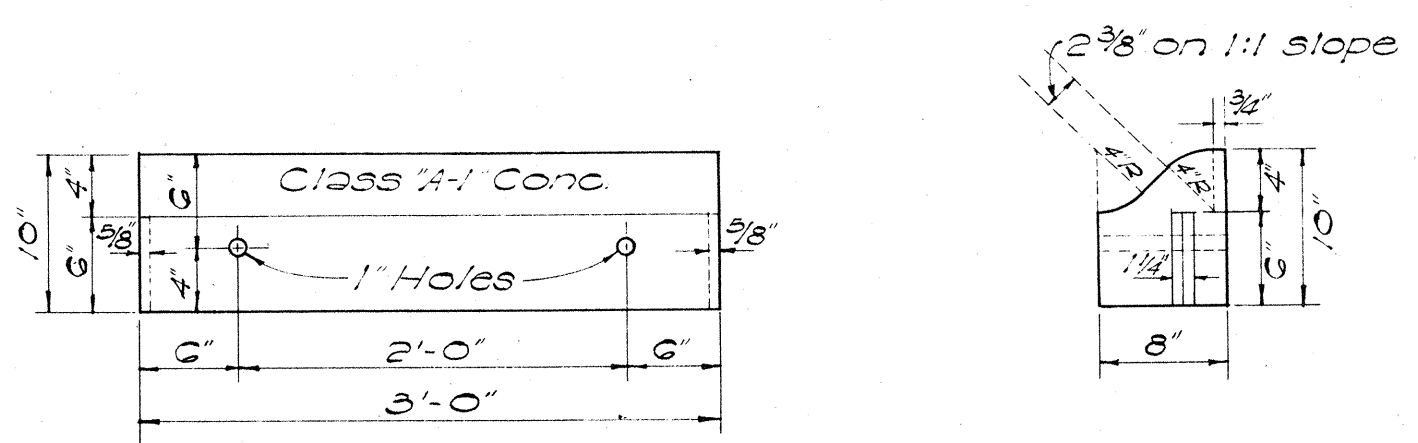
SECTION "Z-Z"
TYPE "CG" CURB

- NOTES:
- 1) Types "AG", "BG", "CG", "DG" and "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 Conc Curbs and Gutters shown herein are to be of Class "A-1" Conc. and Cast-in-Place.

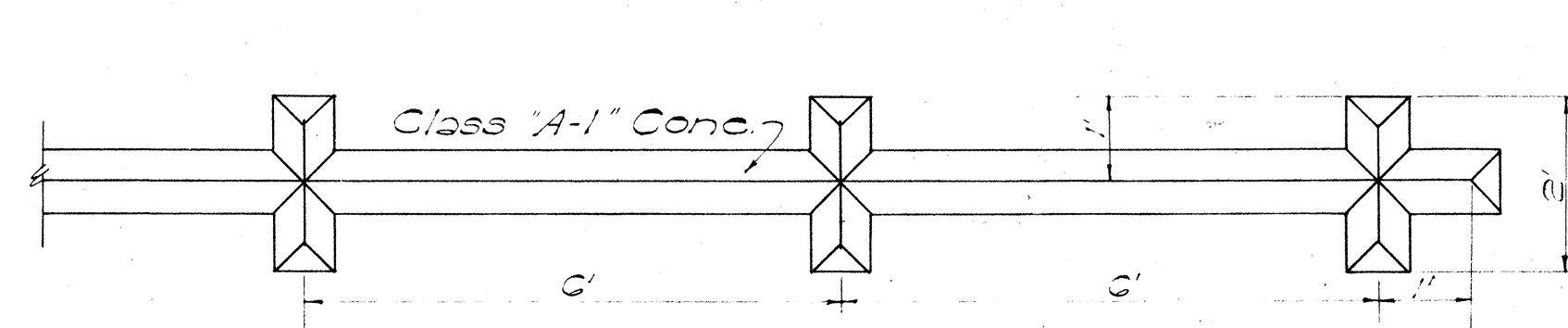
DETAILS OF CAST-IN-PLACE CONC. CURBS AND GUTTERS



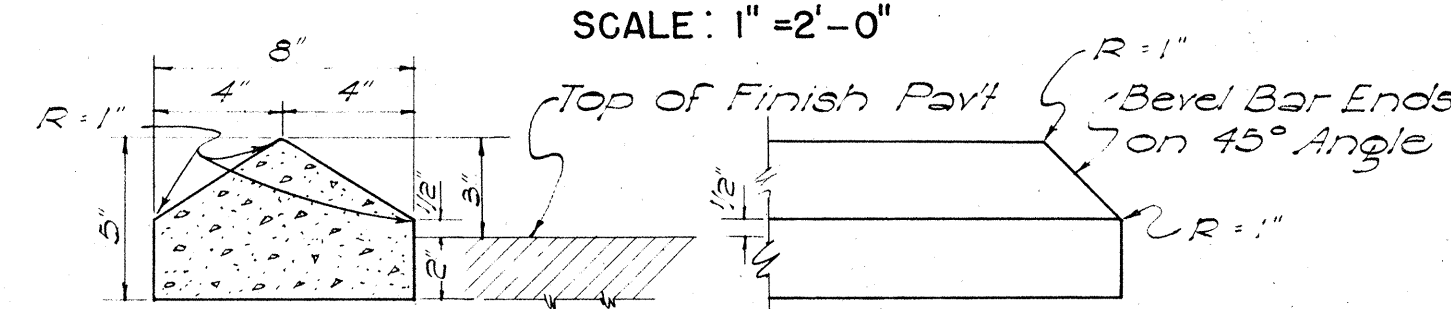
FRONT ELEV. END ELEV.
PRECAST CONC. CURB
SCALE: 1" = 1'-0"



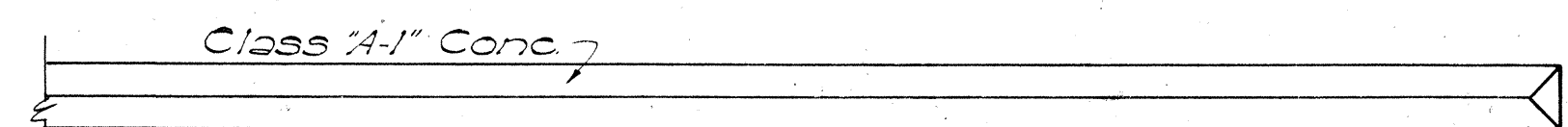
FRONT ELEV. END ELEV.
PRECAST CONC. ROLL CURB
SCALE: 1" = 1'-0"



PLAN
SCALE: 1" = 2'-0"

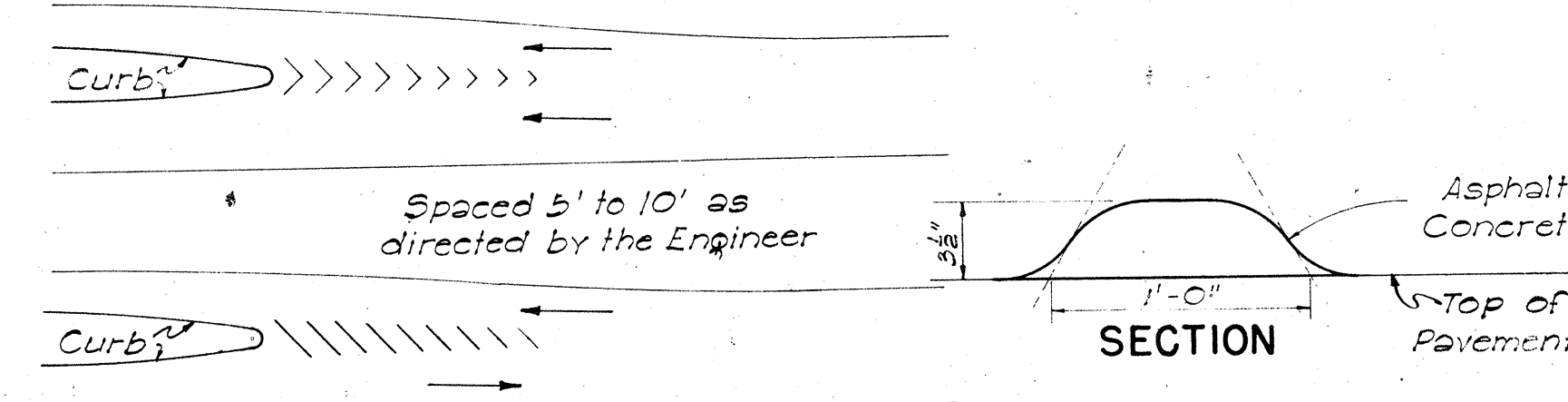
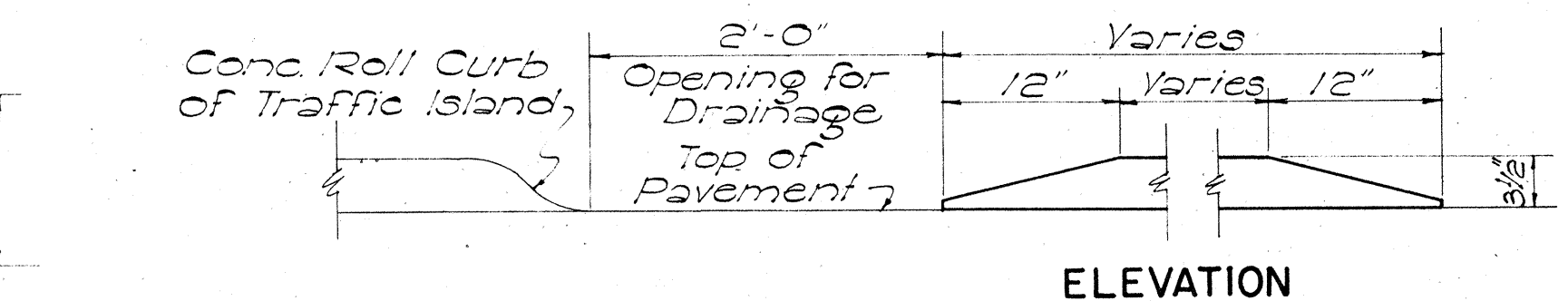


SECTION ELEVATION
RAISED TRAFFIC BARS
SCALE: 1" = 6"

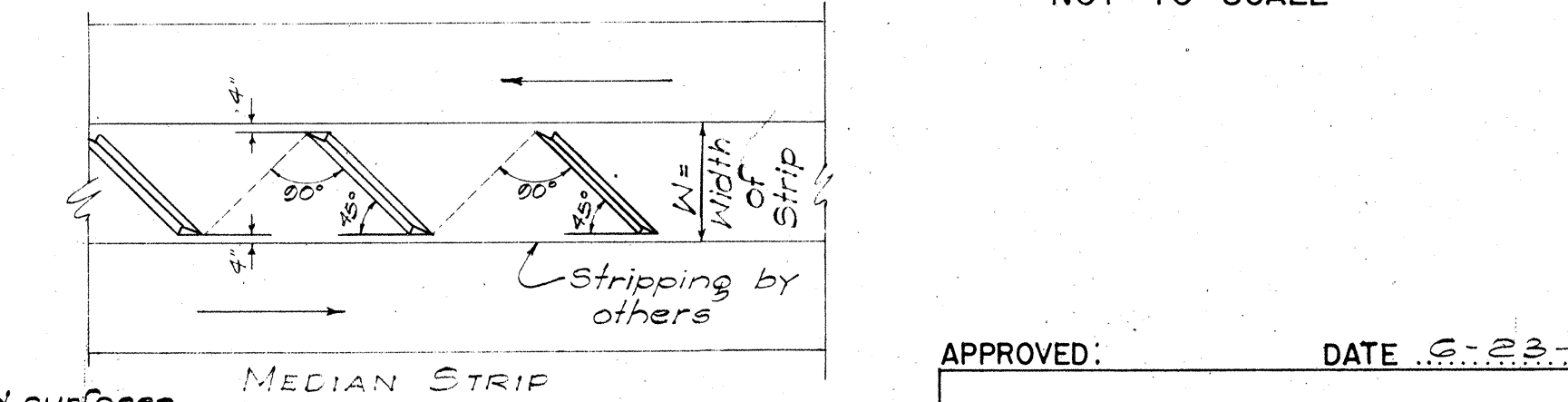


NOTE:
Section and Elevation for Jiggle Bars are same as the Traffic Bars.

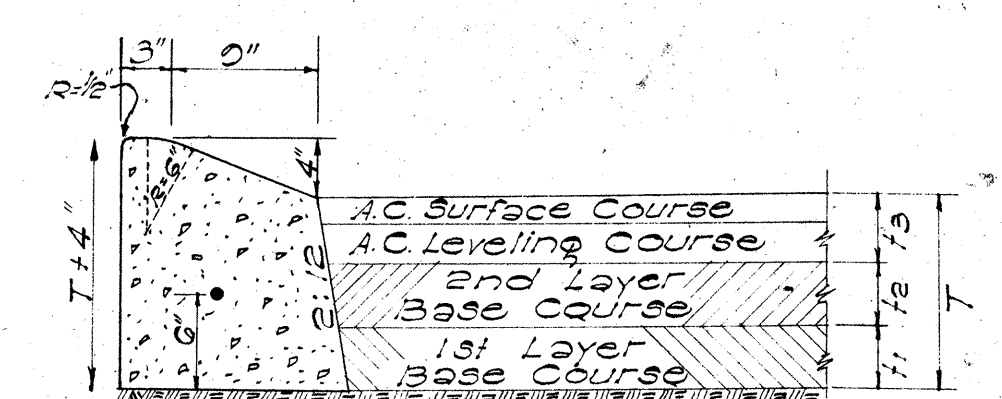
RAISED JIGGLE BARS
SCALE: 1" = 2'-0"



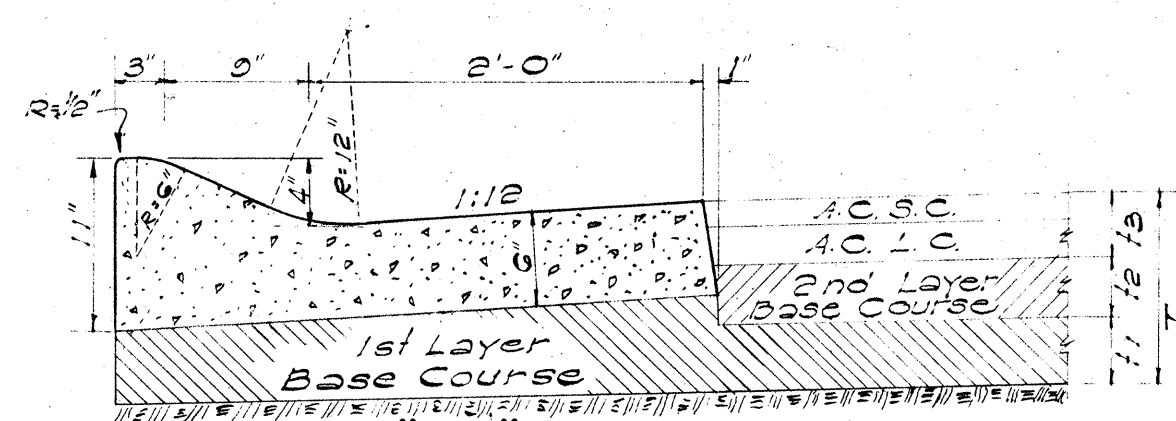
SECTION
A.C. TRAFFIC ROLL
NOT TO SCALE



NOT TO SCALE
LAYOUT OF JIGGLE BARS



TYPE "E" CAST-IN-PLACE
CONCRETE CURB
SCALE: 1" = 1'-0"



TYPE "EG" CAST-IN-PLACE
CONC. CURB & GUTTER
SCALE: 1" = 1'-0"

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
STANDARD DETAILS
CONCRETE CURBS,
CONCRETE CURBS & GUTTERS
SCALES AS NOTED

SHEET No. 1 OF 6 SHEETS

APPROVED: DATE 6-23-53
TERRITORIAL HIGHWAY ENGINEER

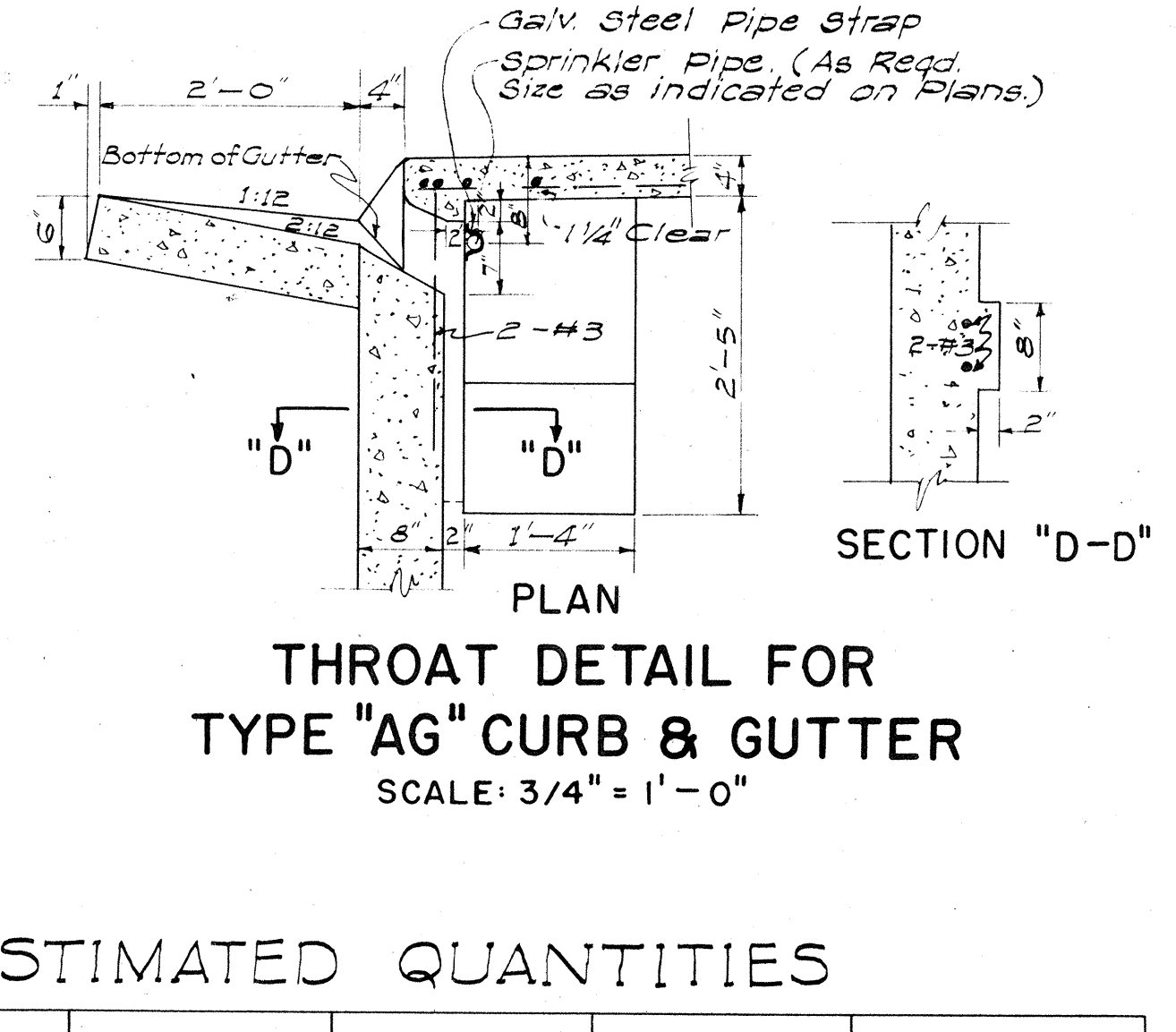
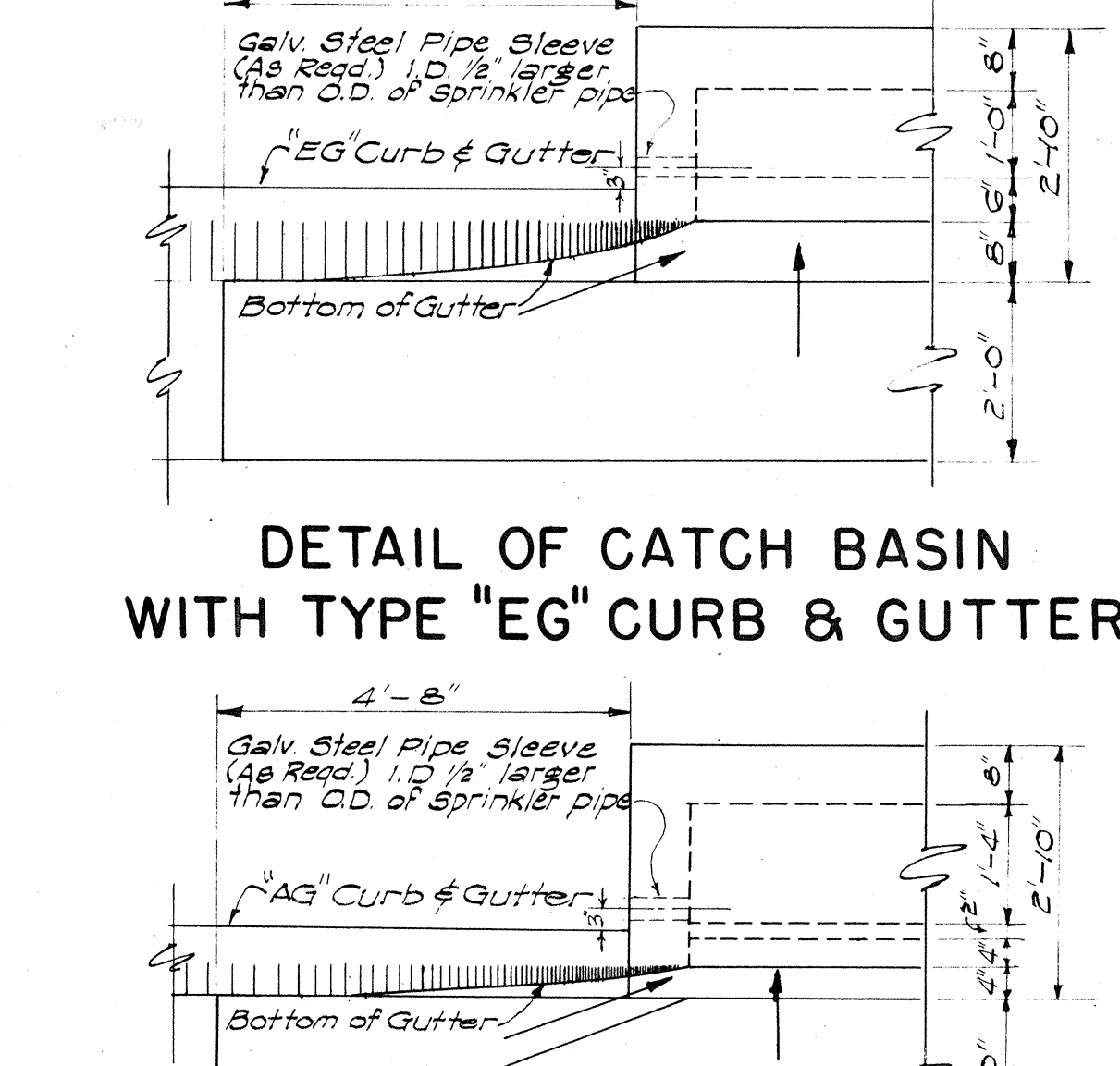
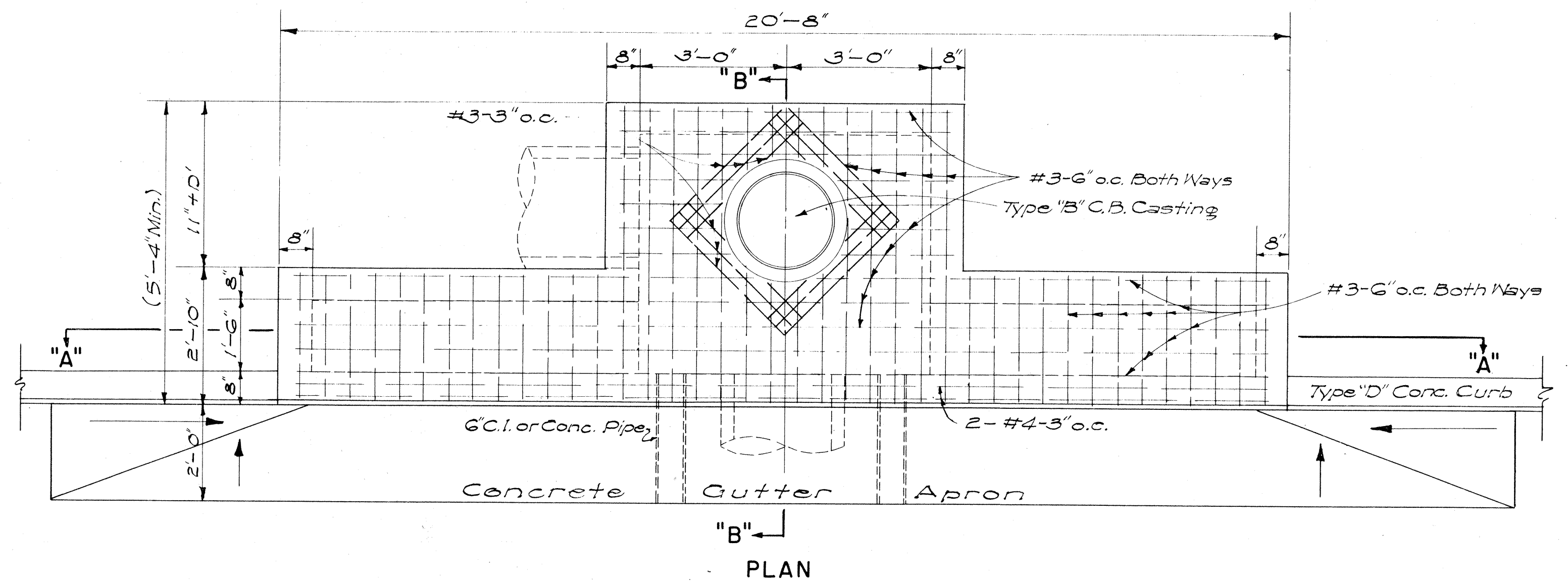
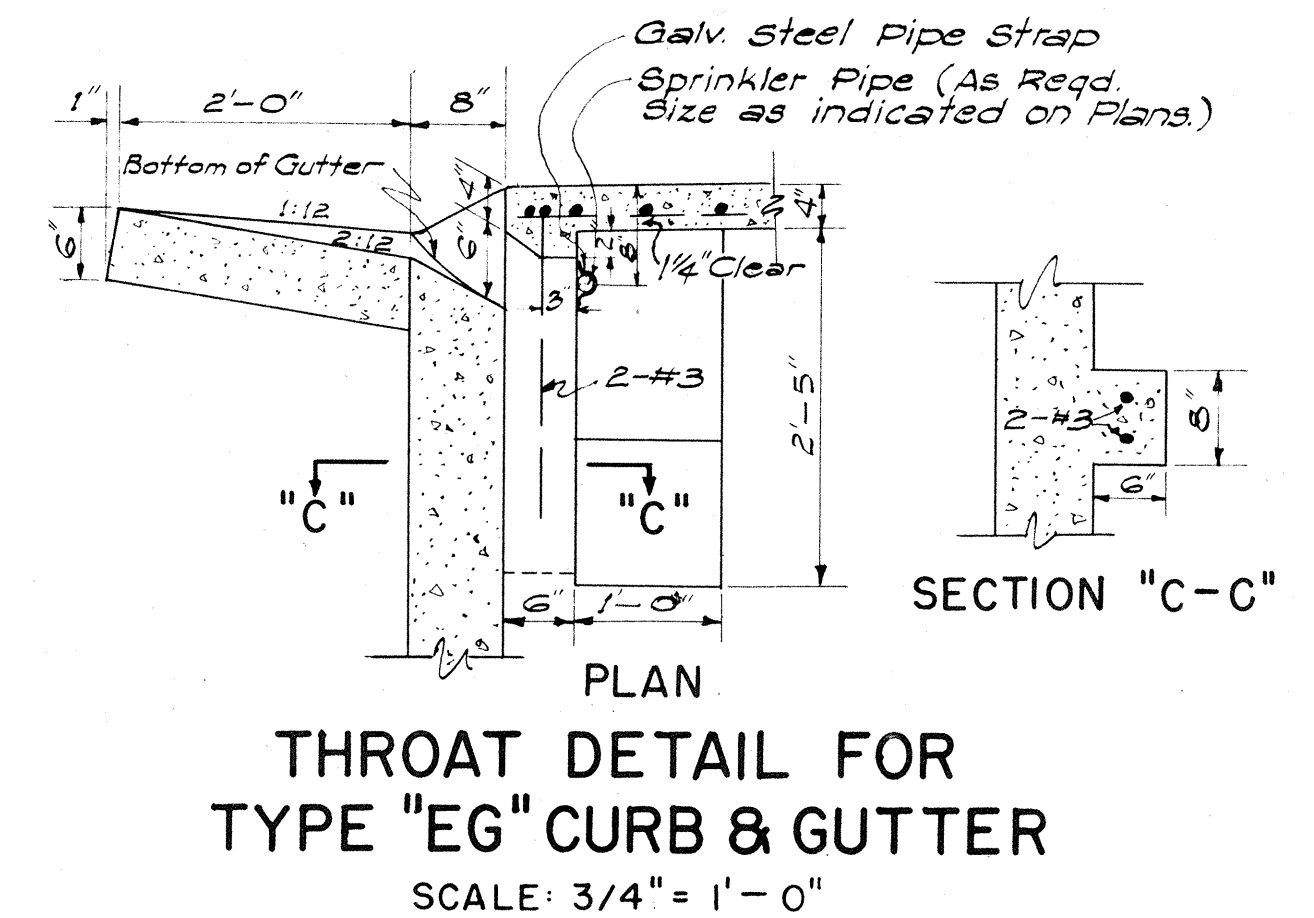
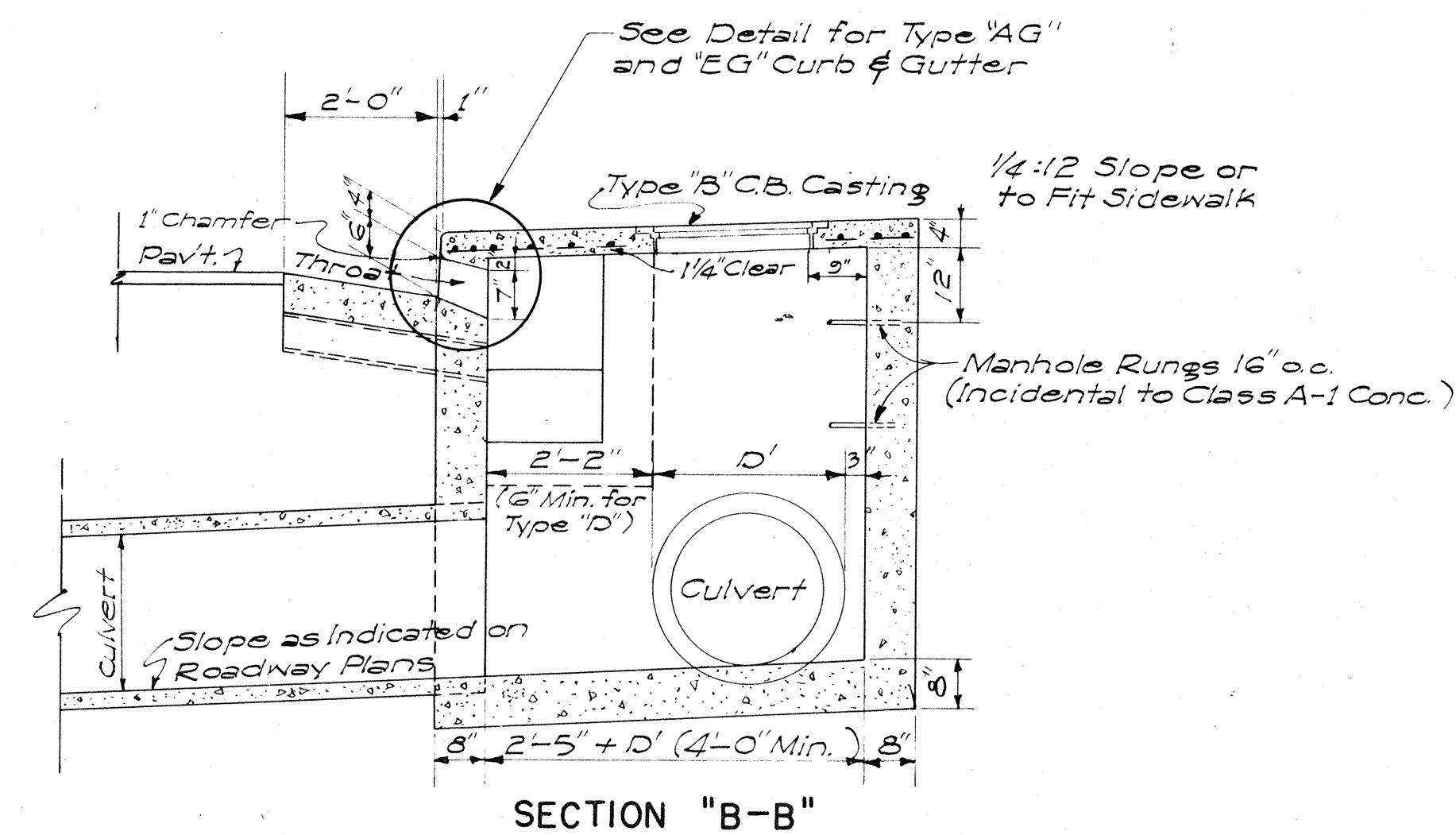
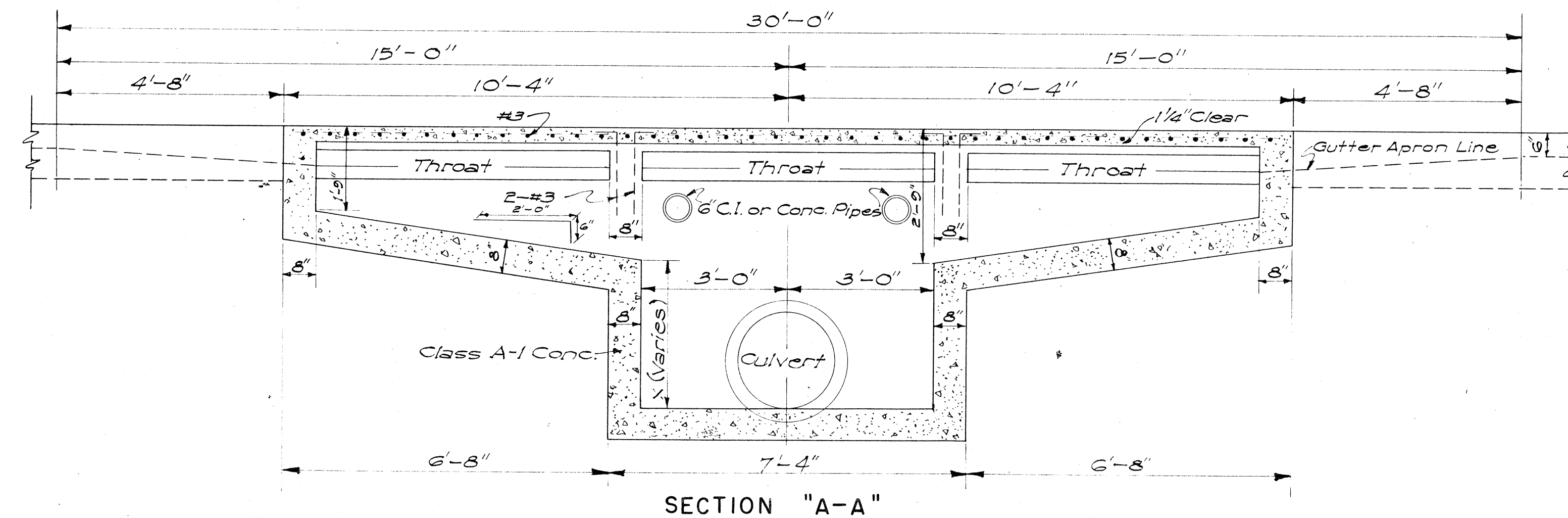
S 3001.1(1).12

"E" and "EG" Curbs have been revised 7-26-57

DATE	2/17/59
ORIGINAL PLAN	NO.
TRACED BY	L. C. Siro
QUANTITIES CHECKED BY	
CHECKED BY	

2/17/80

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



DETAIL OF TYPE "A" CATCH BASIN
SCALE: 1/2" = 1'-0"

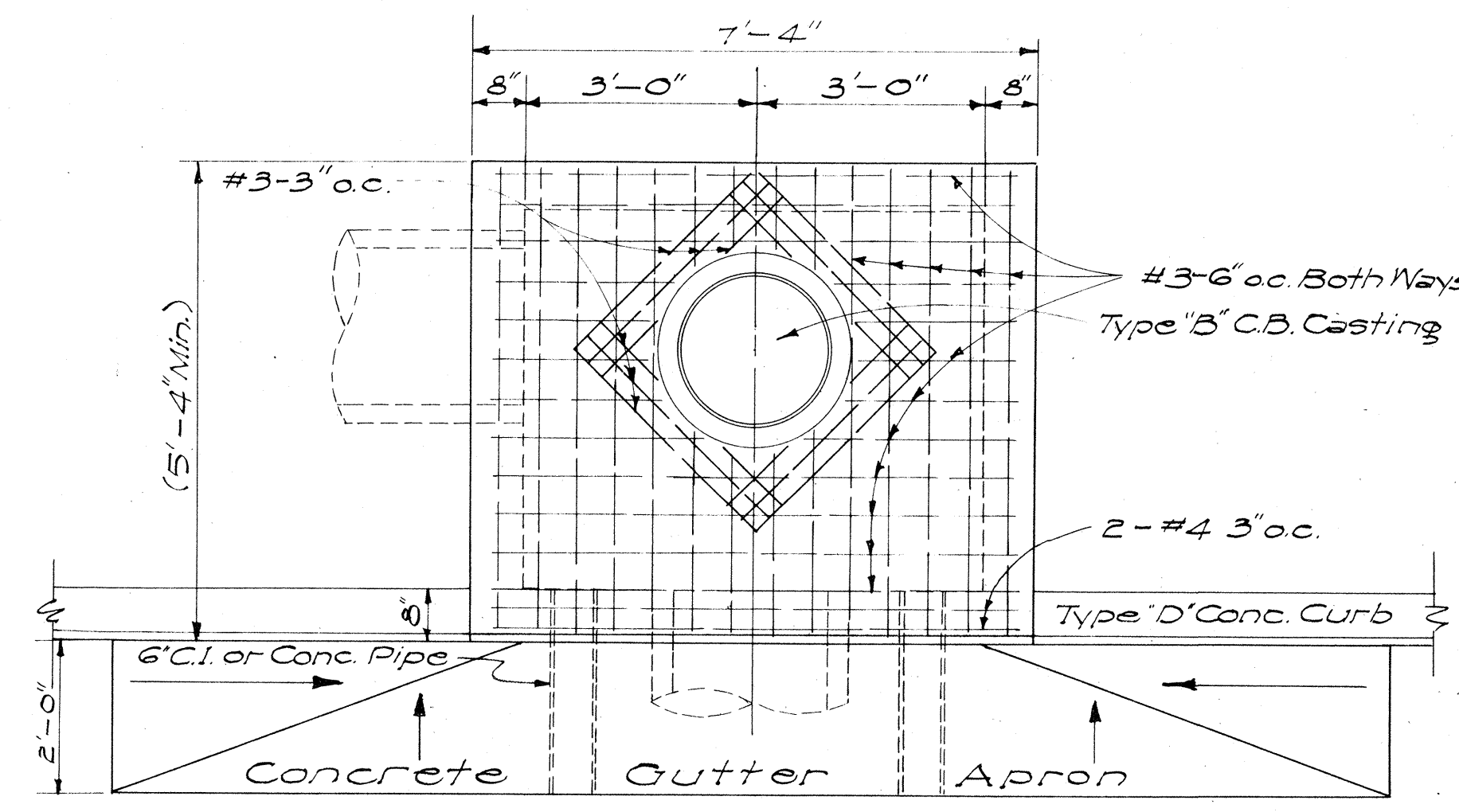
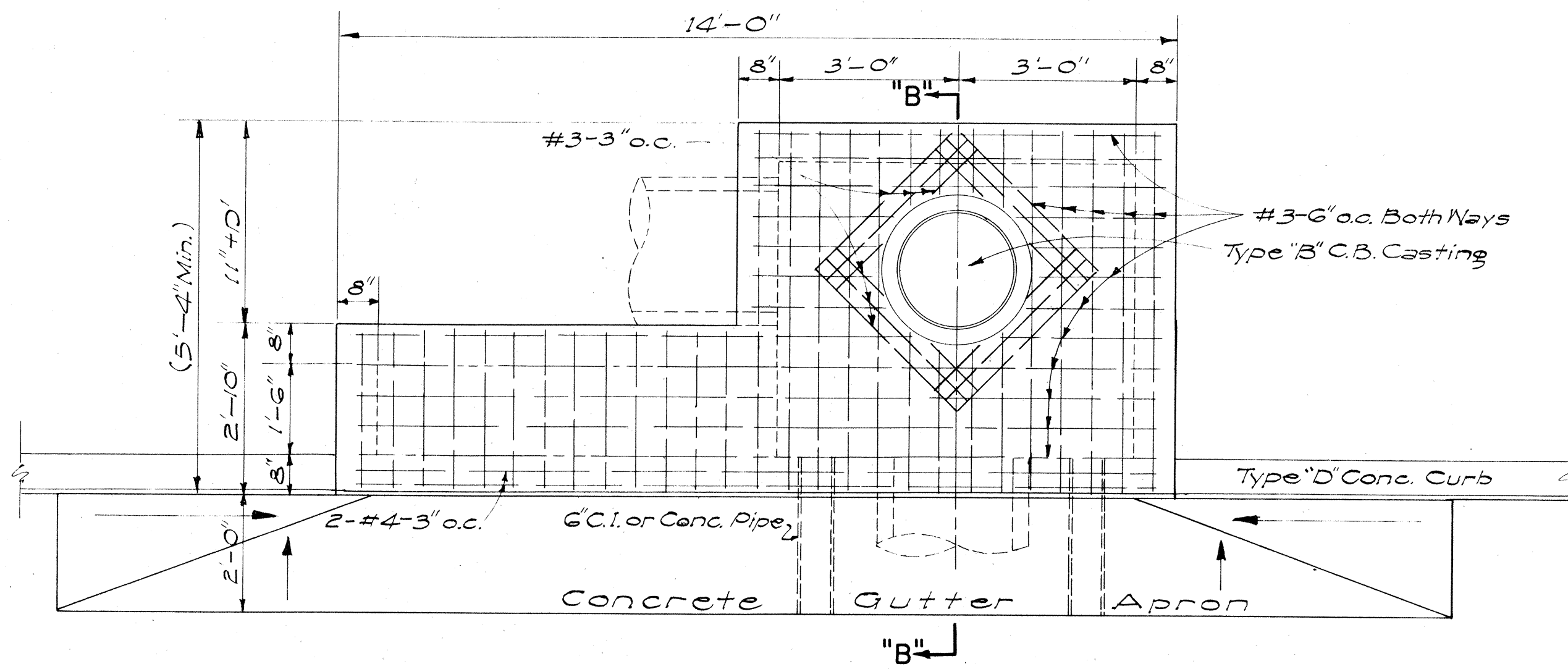
DETAIL OF CATCH BASIN WITH TYPE "AG" CURB & GUTTER
SCALE: 1/2" = 1'-0"

ESTIMATED QUANTITIES

Type	Class A-1 Conc.	Struct. Exc.	Reinf. Steel	Gutter Length
"A"	7.5 c.y.	24.7 c.y.	145 lb.	30'-0"
"B"	6.0 c.y.	21.5 c.y.	108 lb.	23'-4"
"C"	6.0 c.y.	21.5 c.y.	108 lb.	23'-4"
"D"	4.9 c.y.	16.5 c.y.	77 lb.	16'-8"

NOTES:

- Quantities based on X=3'-0" and D'=30"
- Quantities do not include concrete for Gutter Apron.
- The Contractor shall install 2'-6" Cast Iron or Concrete Pipes as incidental to Class A-1 Concrete for Construction Drainage.
- 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.
- The Contractor shall install Galvanized Steel Pipe Sleeves and Straps as incidental to Sprinkler System.



DETAIL OF TYPE "B" CATCH BASIN
SCALE: 1/2" = 1'-0"
NOTE: TYPE "C" C.B. SIMILAR BUT OPPOSITE HAND

DETAIL OF TYPE "D" CATCH BASIN
SCALE: 1/2" = 1'-0"

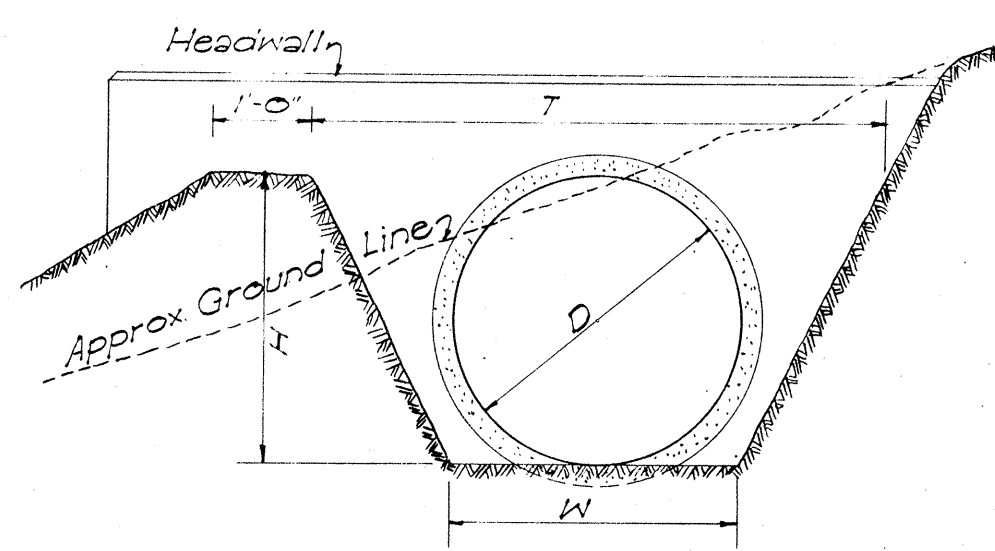
APPROVED: *Wm. H. Hester*
TERRITORIAL HIGHWAY ENGINEER

DATE: May 27, 1980

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
STANDARD DETAILS
CONCRETE CATCH BASINS
SCALES AS NOTED
SHEET NO. 2 OF 6 SHEETS

AUG. 1957

DATA FOR OUTLET DITCH			
D	W	H	T=H+H
18"	24"	2'-0"	4'-0"
24"	30"	2'-0"	4'-0"
30"	30"	2'-0"	5'-0"
36"	36"	3'-0"	6'-0"



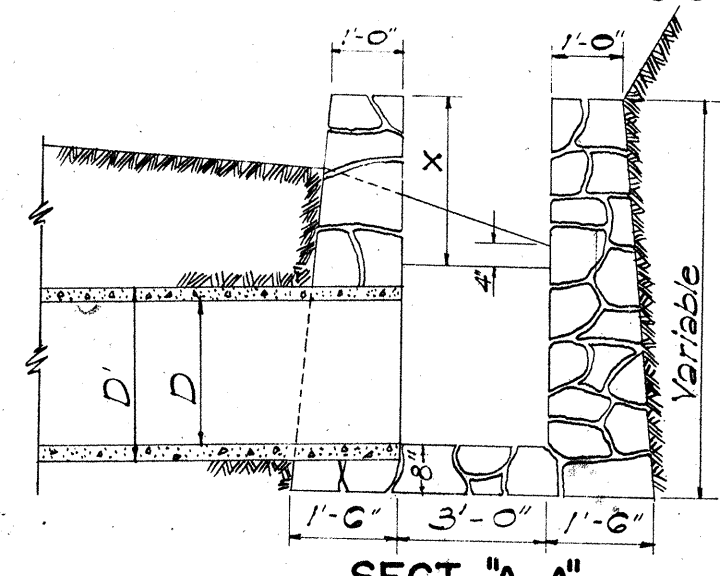
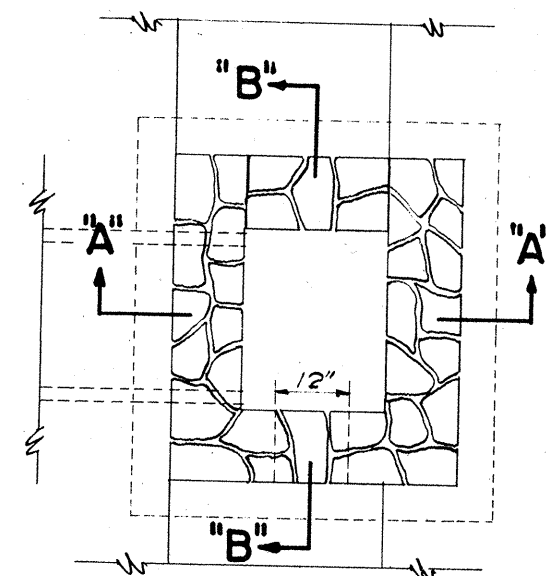
DETAIL OF OUTLET DITCH

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

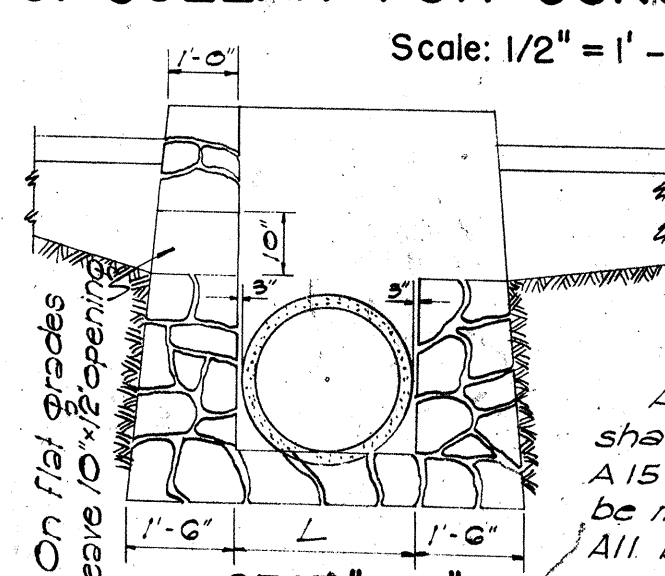
DATA FOR MASONRY DROP INTAKE			
D	D	L=D+6"	Where Variables Equal
23"	18"	2'-5"	3.02
30"	24"	3'-0"	3.61
37"	30"	3'-7"	4.21
44"	36"	4'-2"	4.85

NOTE:

Dimension "X" is assumed as 2'-4" in figuring the above quantities.



SECT. "A-A"

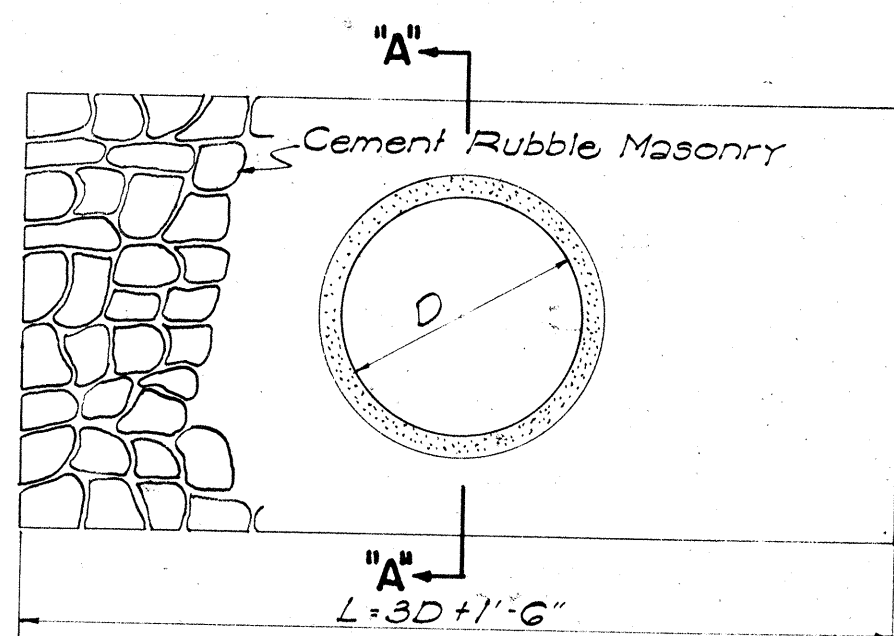


SECT. "B-B"

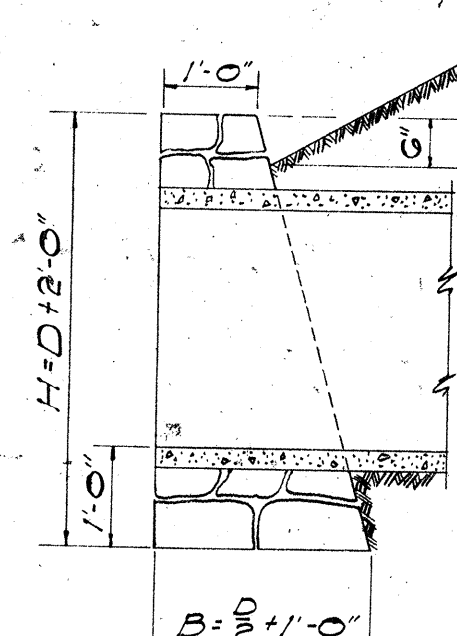
DETAIL OF MASONRY DROP INTAKE

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

DATA - MASONRY HEADWALL			
D	H	B	L
18"	3'-6"	1'-0"	6'-0"
24"	4'-0"	2'-0"	7'-6"
30"	4'-6"	2'-3"	9'-0"
36"	5'-0"	2'-6"	10'-6"



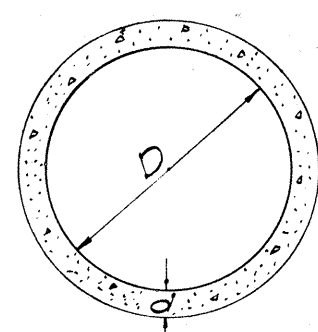
ELEVATION



SECT. "A-A"

DETAIL OF MASONRY HEADWALL

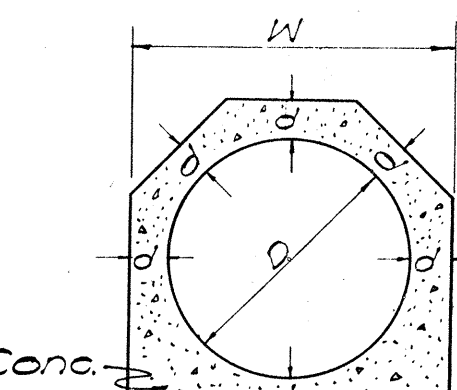
Scale: 1/2" = 1'-0"



SECTION

CONC. PIPE CULVERT

NOTE:
Thickness "d", reinforcing, and concrete used, are to conform with the approved design as provided by the Specifications.



SECTION

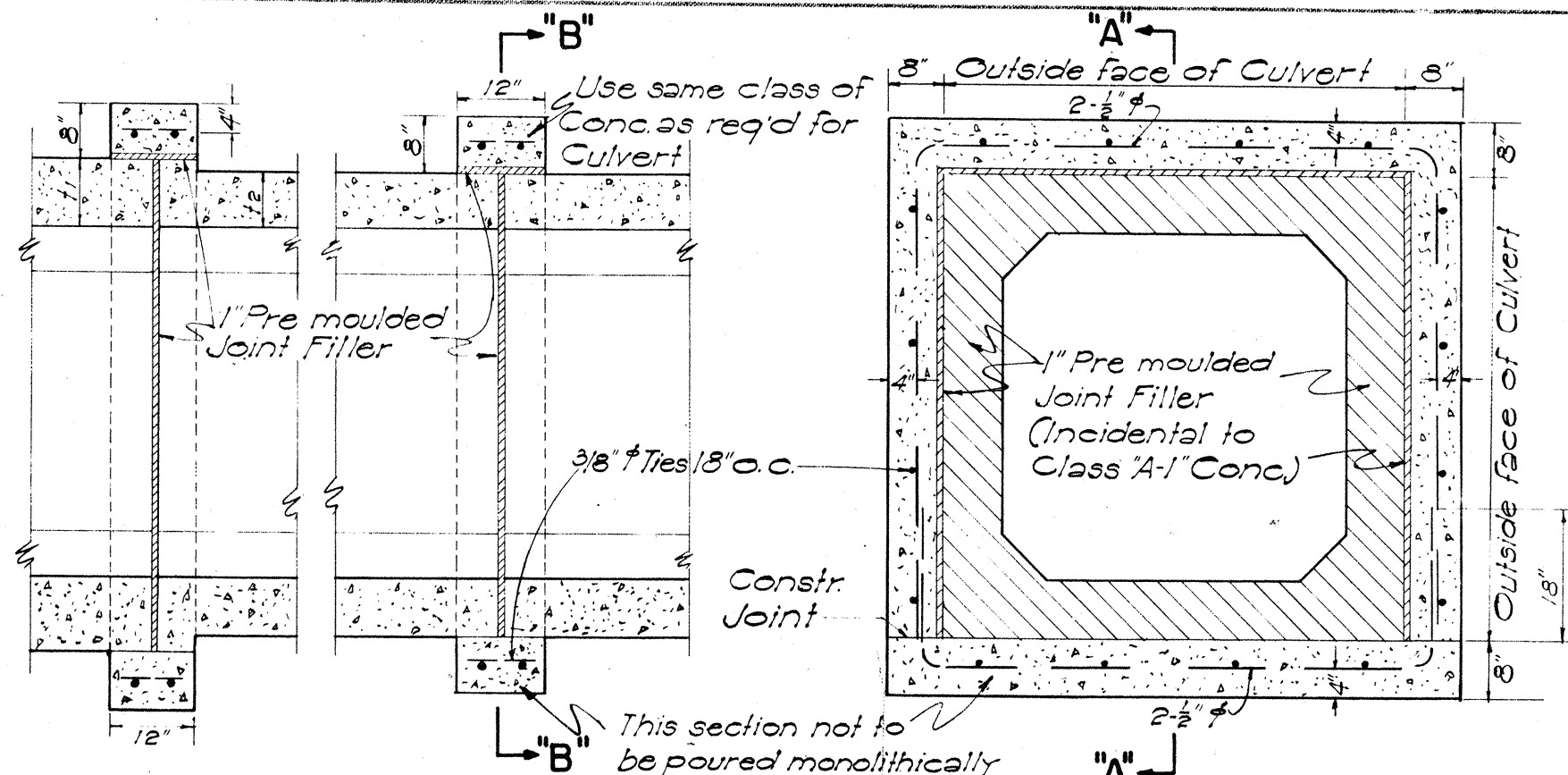
CAST-IN-PLACE CONC. CULVERT

DATA - CAST-IN-PLACE CONC. CULVERT			
D	d	W	Cu. Yds. per ft.
18"	4"	2'-2"	0.11
24"	4 1/2"	2'-0"	0.14
30"	5"	3'-4"	0.19
36"	5 1/2"	3'-11"	0.26

DATA FOR CONC. HEADWALL			
D	B	L	H
18"	1'-6"	6'-0"	4'-0"
24"	1'-6"	7'-6"	4'-6"
30"	2'-0"	9'-0"	5'-0"
36"	2'-0"	10'-6"	5'-6"
42"	2'-6"	12'-0"	6'-0"
48"	2'-6"	13'-6"	6'-6"

DETAIL OF CONCRETE HEADWALL

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

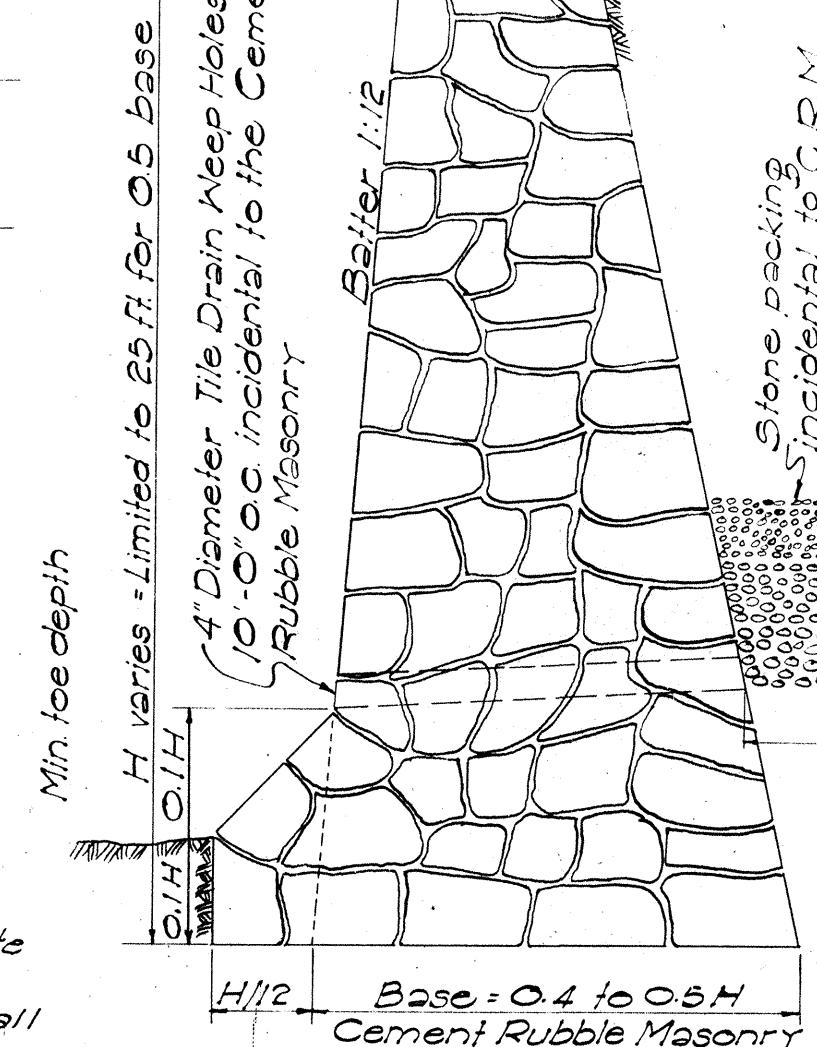
SECTION "A-A"
CONC. COLLAR FOR CONC. BOX CULVERT

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

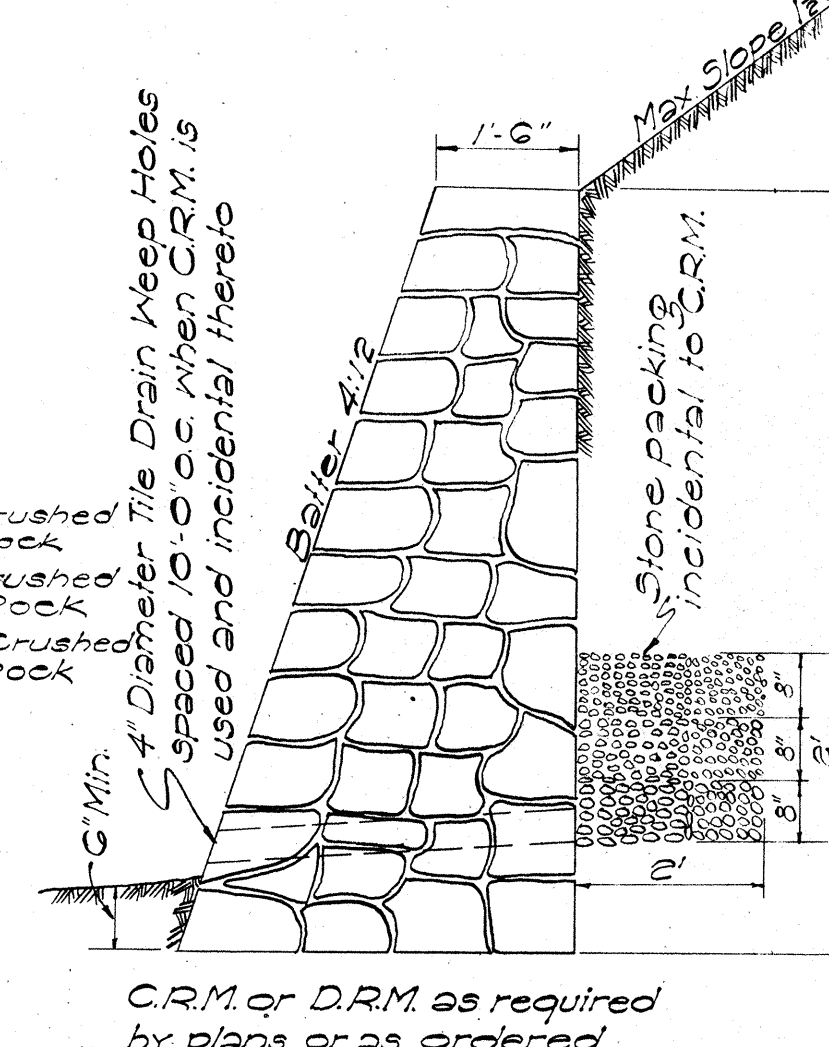
REINFORCING BARS

All reinforcing bars for concrete shall be Billet Steel bars, ASTM A15, intermediate grade. Steel shall be made by the open-hearth process. All bars shall be deformed type conforming to ASTM A-305.

SECTION OF HIGH CEMENT RUBBLE MASONRY RETAINING WALL OR SEAWALL



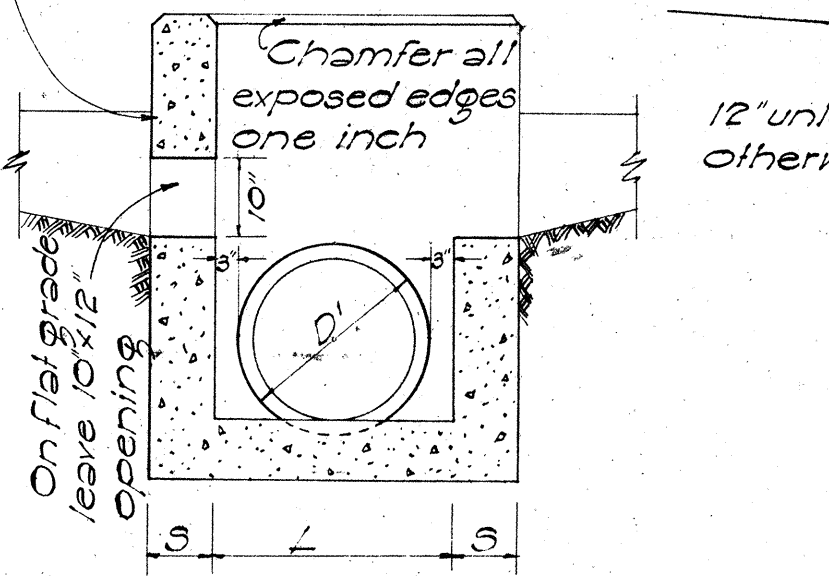
SECTION OF LOW MASONRY RETAINING WALL OR SEAWALL



DATA - CONC. DROP INTAKE			
D	D	L=D+6"	Where Variables Equal
23"	18"	2'-5"	1.41
30"	24"	3'-0"	1.72
37"	30"	3'-7"	2.32
44"	36"	4'-2"	2.73
51"	42"	4'-9"	3.54
58"	48"	5'-4"	4.01

Note: Dimension "X" is assumed as 2'-4" in figuring the above quantities.

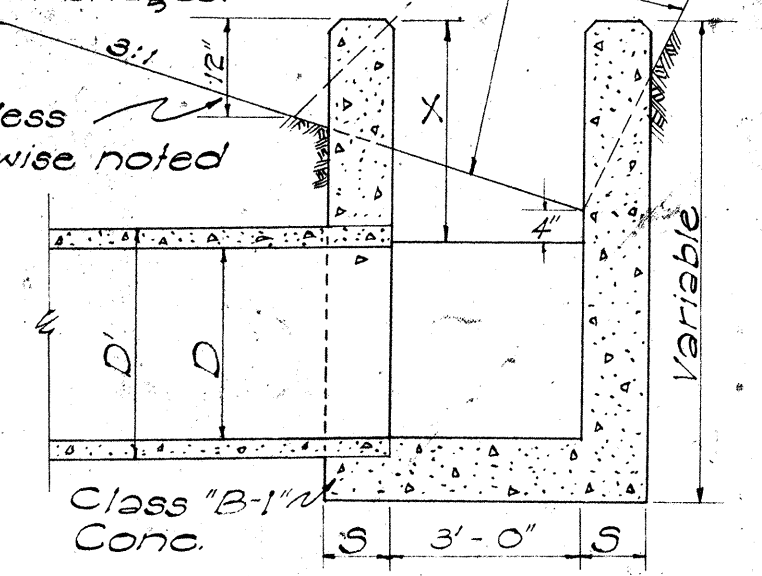
Note: This type of structure shall also be used for the Drop Intakes of Siphons connected with Irrigation Ditches or Flumes with appropriate changes to dimensions. In this case all joints must be made water tight.



SECTION "B-B"

Where drainage comes from both sides lower this wall to same elevation as shown for opposite wall.

Excavate recess in roadway excavation slope for inlet to dimensions and form designated by Engineer. This is "Unclassified Excavation".



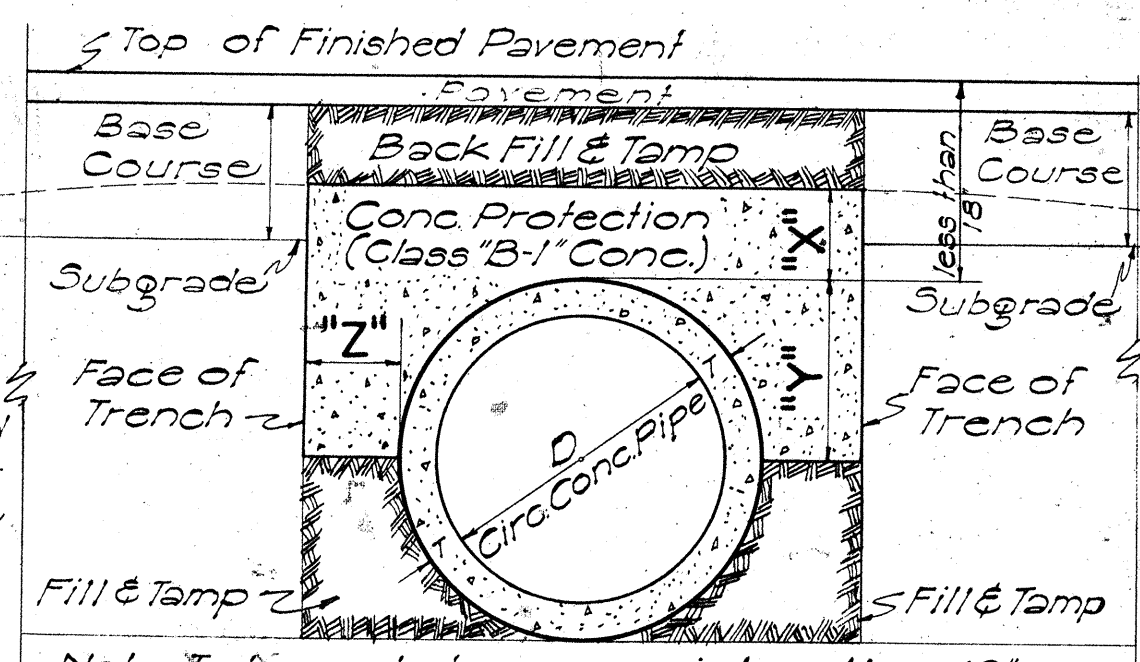
SECTION "A-A"

DETAIL OF CONCRETE DROP INTAKE

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

SECT. OF CULVERT WITH CONC. PROTECTION

Scale: 1" = 1'-0"



DATA FOR CONCRETE PROTECTION OVER CULVERTS		
X	Y	Z
6" for 18" D		Z must be from pipe to face of trench
7" " 24" D		
8" " 30" D		
9" " 36" D		
10" " 42" D		
11" " 48" D		
12" " 54" D		

APPROVED:

DATE: 6-22-52

TERRITORIAL HIGHWAY ENGINEER

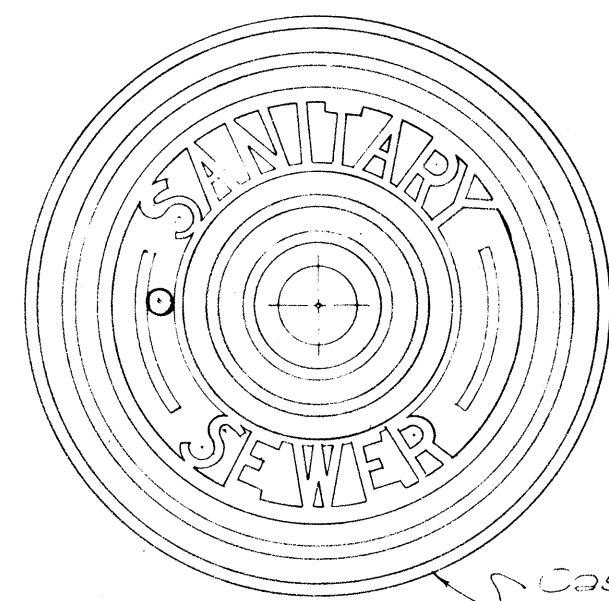
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
STANDARD DETAILS
DROP INTAKES, RETAINING WALLS,
HEADWALLS, CONSTRUCTION JOINTS
SCALES AS NOTED

SHEET No 3 OF 6 SHEETS

S 3001.1(1).14

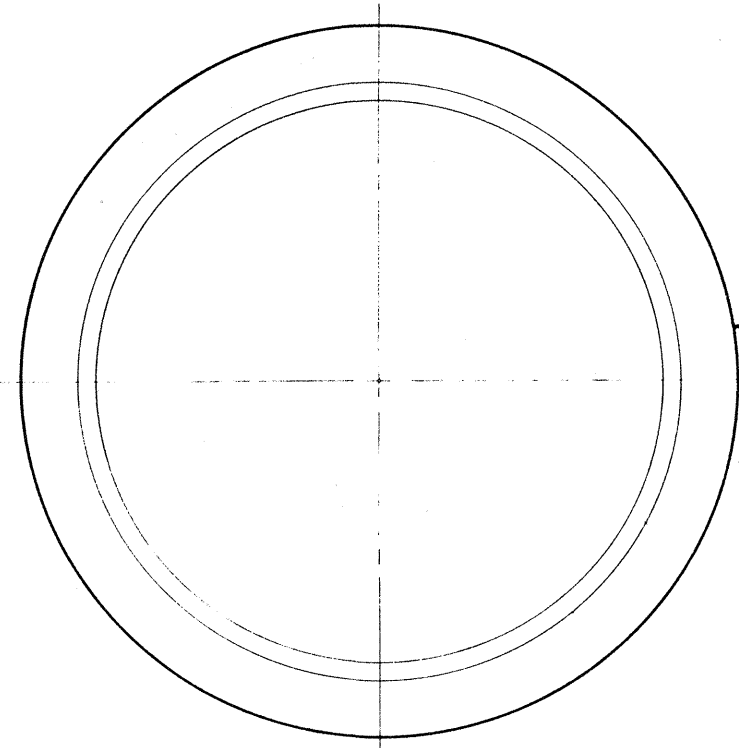
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS

August 1957

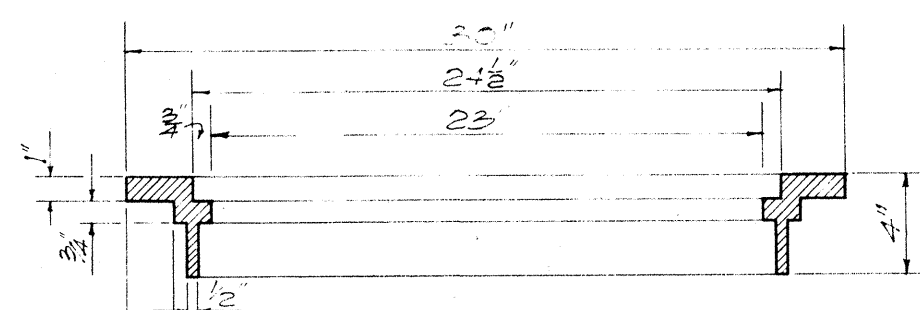


TOP VIEW OF COVER

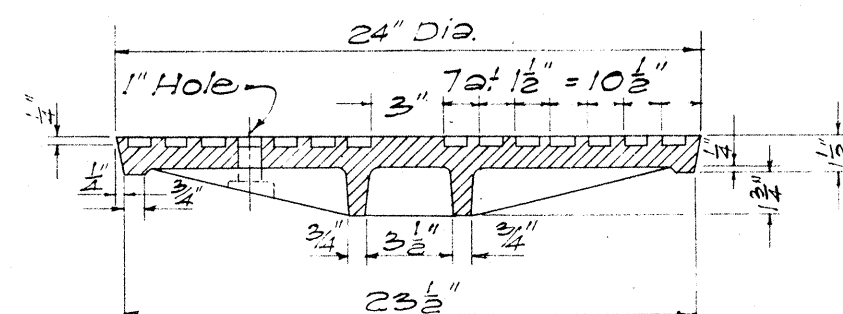
NOTE:
The Cover for Water Manhole shall be the same as for Sanitary Sewer except that the word "WATER" shall be substituted for "SANITARY SEWER". The frames for Sanitary Sewer and Water Covers shall be the same.



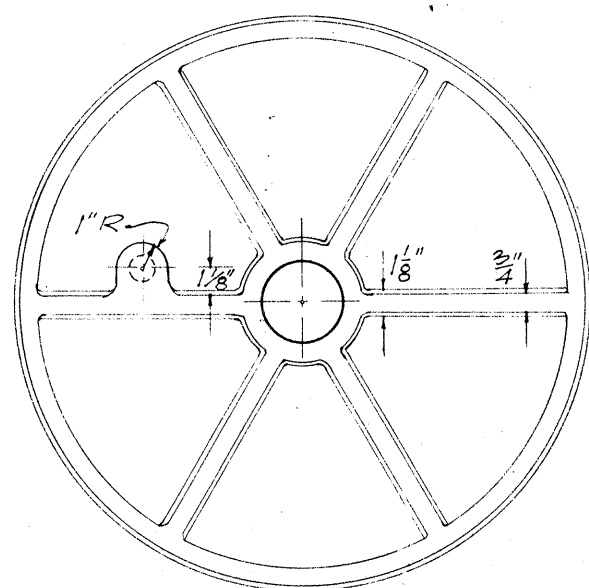
PLAN OF RIM



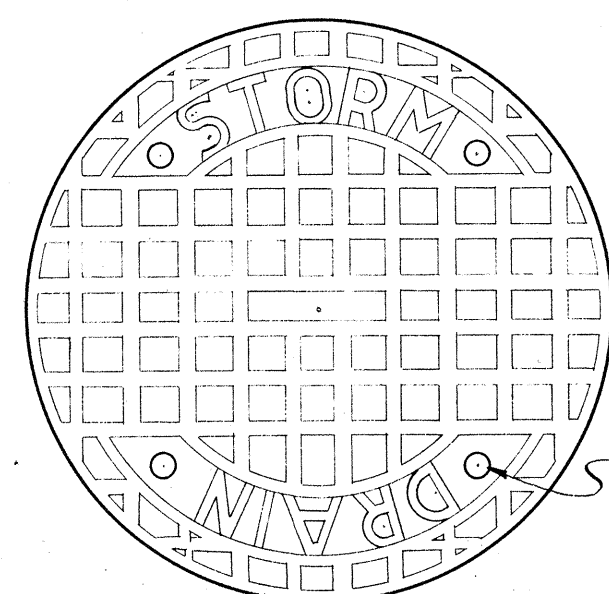
SECTION OF RIM



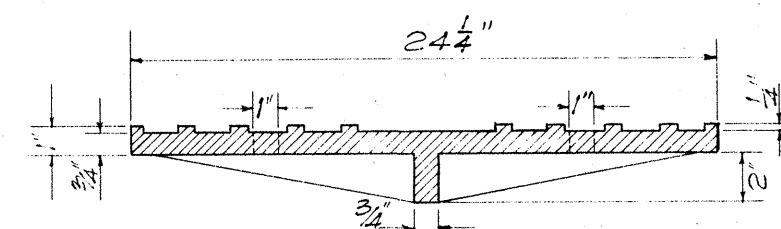
SECTION



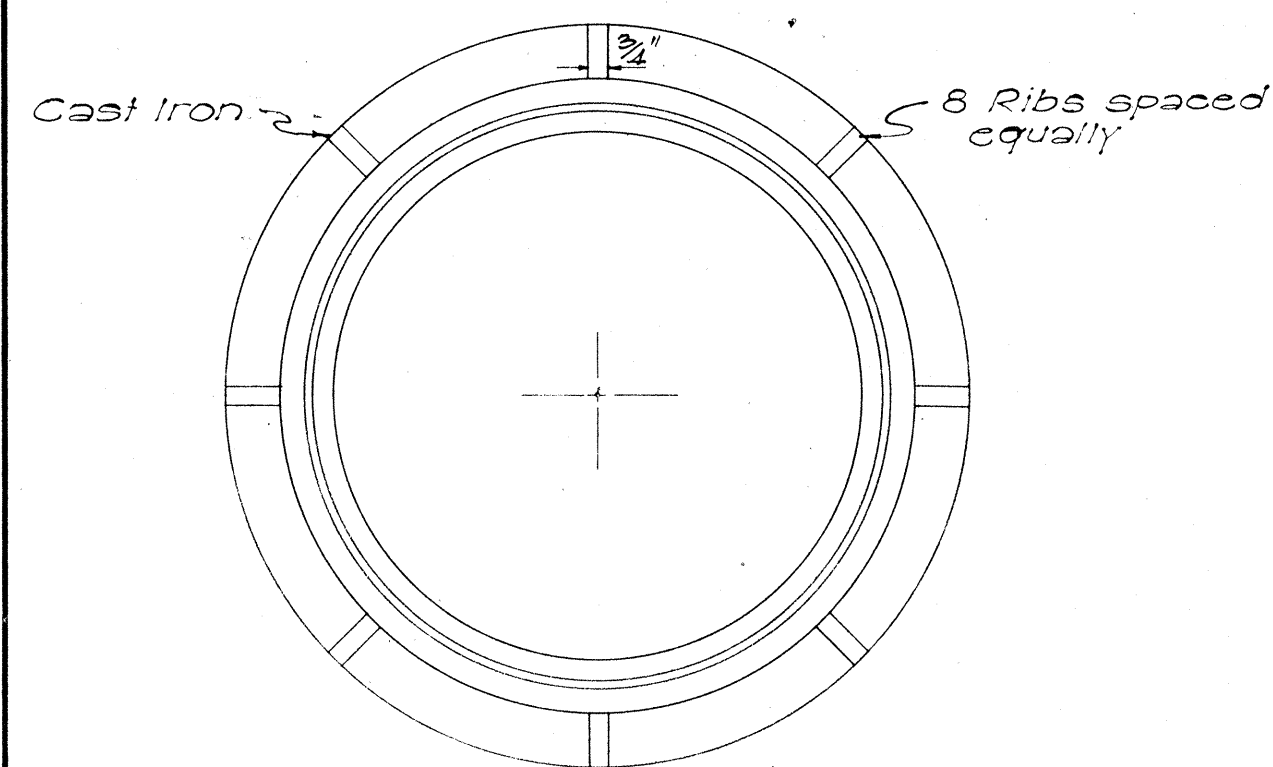
BOTTOM VIEW OF COVER



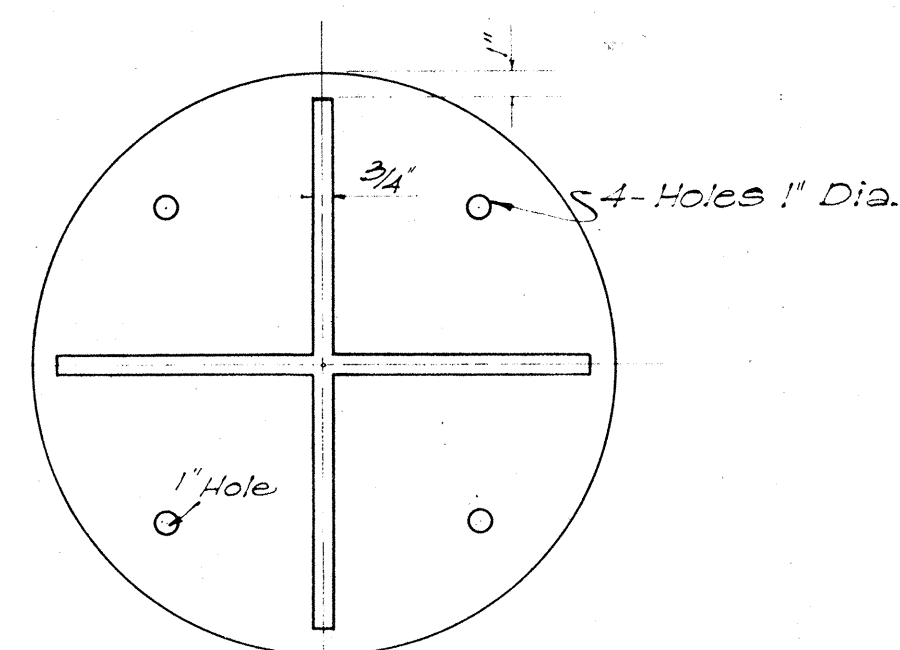
TOP VIEW OF COVER



SECTION



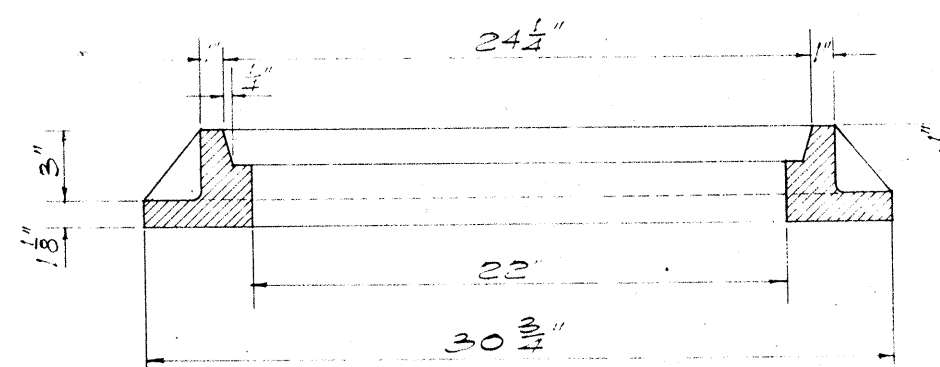
PLAN OF RIM



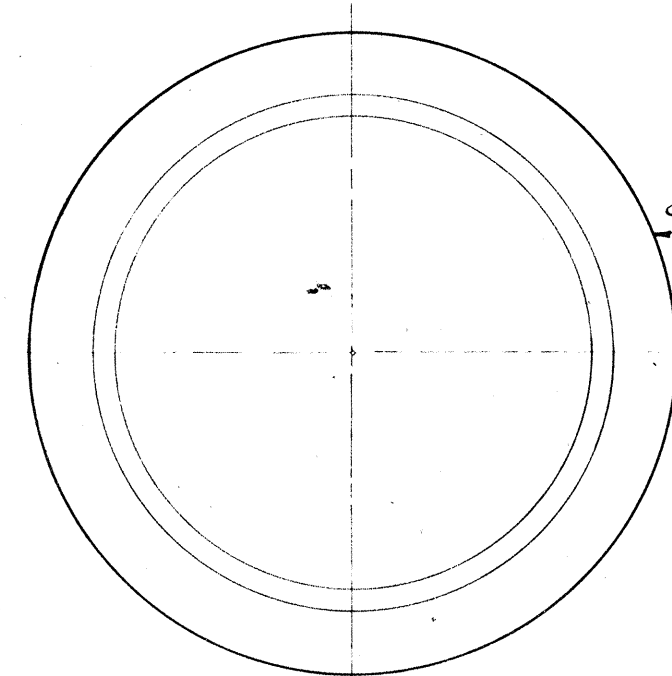
BOTTOM VIEW OF COVER

DETAILS OF TYPE "B"
CATCH BASIN CASTINGS

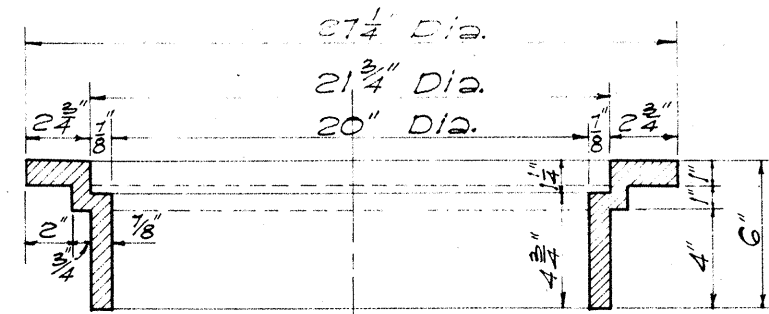
SCALE: 1-1/2" = 1'-0"

SECTION OF RIM
DETAILS OF TYPE "C"
MANHOLE CASTINGS

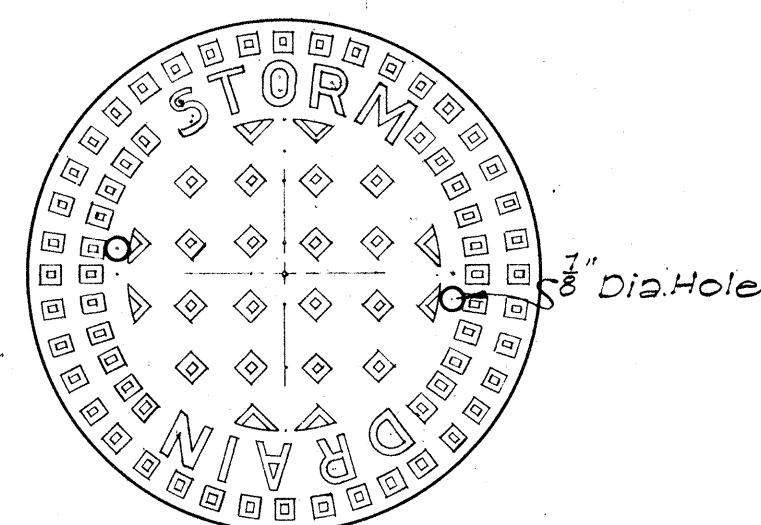
SCALE: 1-1/2" = 1'-0"



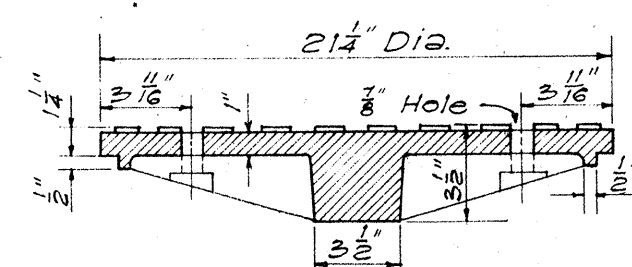
PLAN OF RIM



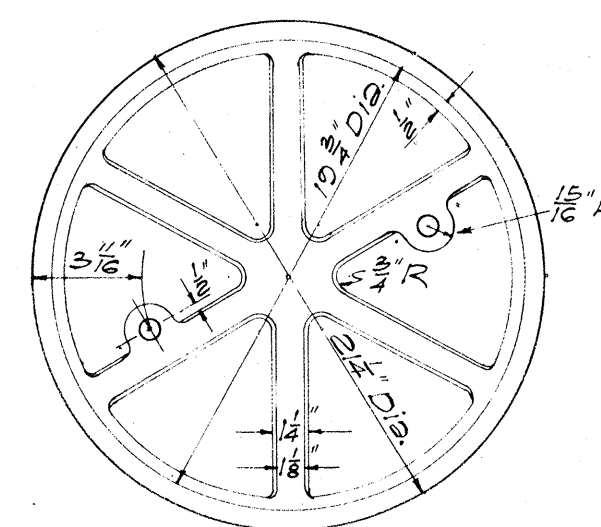
SECTION OF RIM



TOP VIEW OF COVER



SECTION

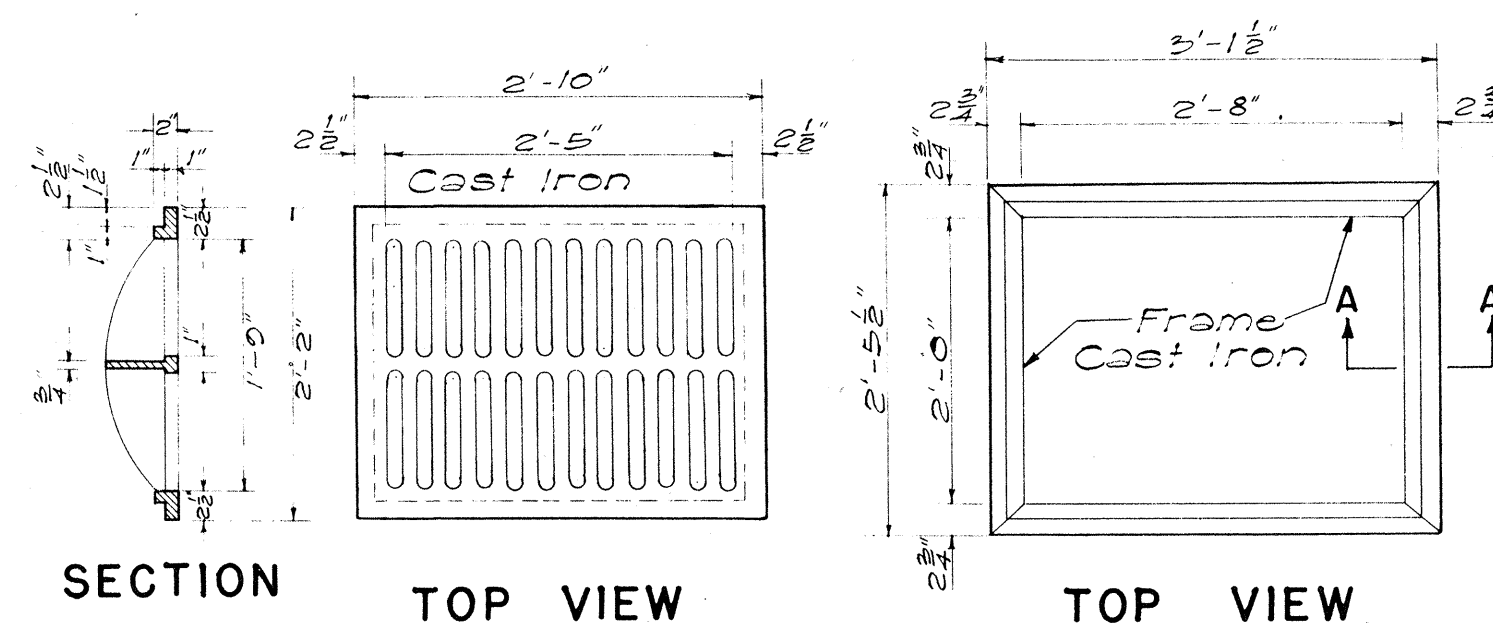


BOTTOM VIEW OF COVER

DETAILS OF TYPE "A"
MANHOLE CASTINGS

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

NOTE: Stock Pattern From Novelty Foundry ~ Honolulu



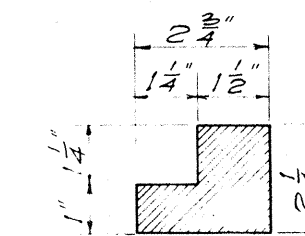
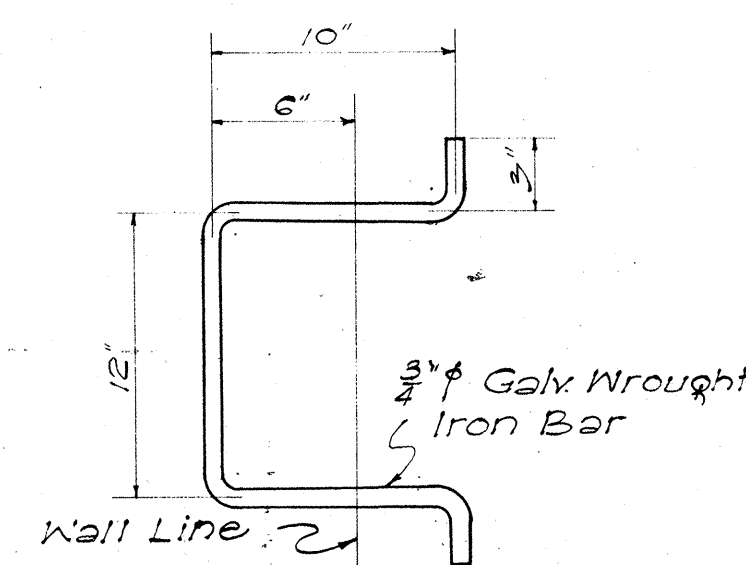
SECTION

TOP VIEW

TOP VIEW

TYPE C C.I. FRAME AND GRATING

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

SECTION "A-A"
SCALE 3" = 1'-0"

MANHOLE RUNG

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

APPROVED: *Ben E. Hunter*
TERRITORIAL HIGHWAY ENGINEER

DATE: 8-23-58

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
STANDARD DETAILS
CATCH BASIN AND
MANHOLE CASTINGS
SCALES AS NOTED

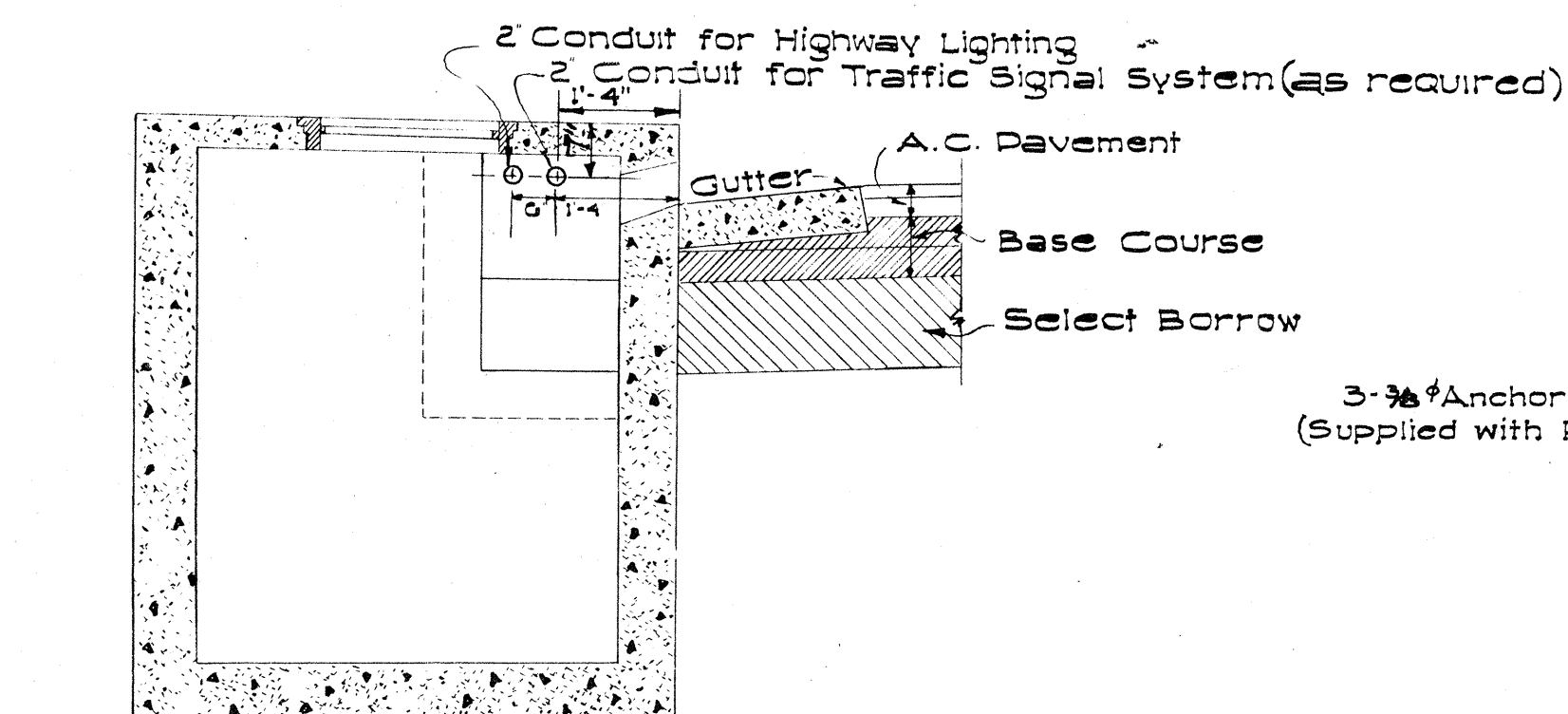
SHEET No 4 OF 6 SHEETS

S 3001.1(1).15

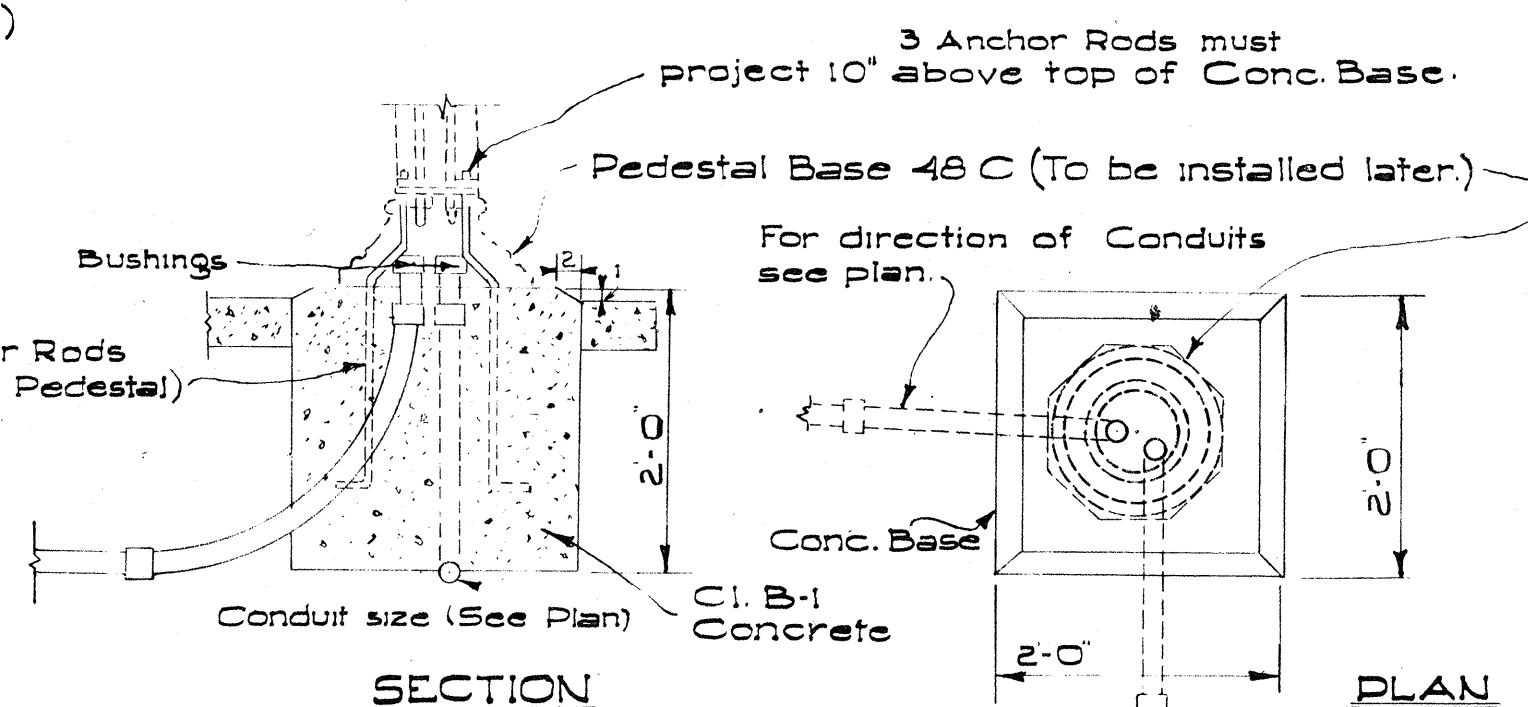
ORIGINAL PLAN	DESIGNED BY	DATE
NOTE BOOK	TRACED BY	
	QUANTITIES BY	
	CHECKED BY	
	No.	

NOTE: Galv. 2" Conduits shall be supported by Band Hangers bolted to the top slab of Catch Basins. Band Hangers shall be No. 200-C Crane Catalogue No. 48 or equal. Pipe Hangers and bolts shall be incidental to item No. 400 Class A-1 Concrete other than in Bridges.

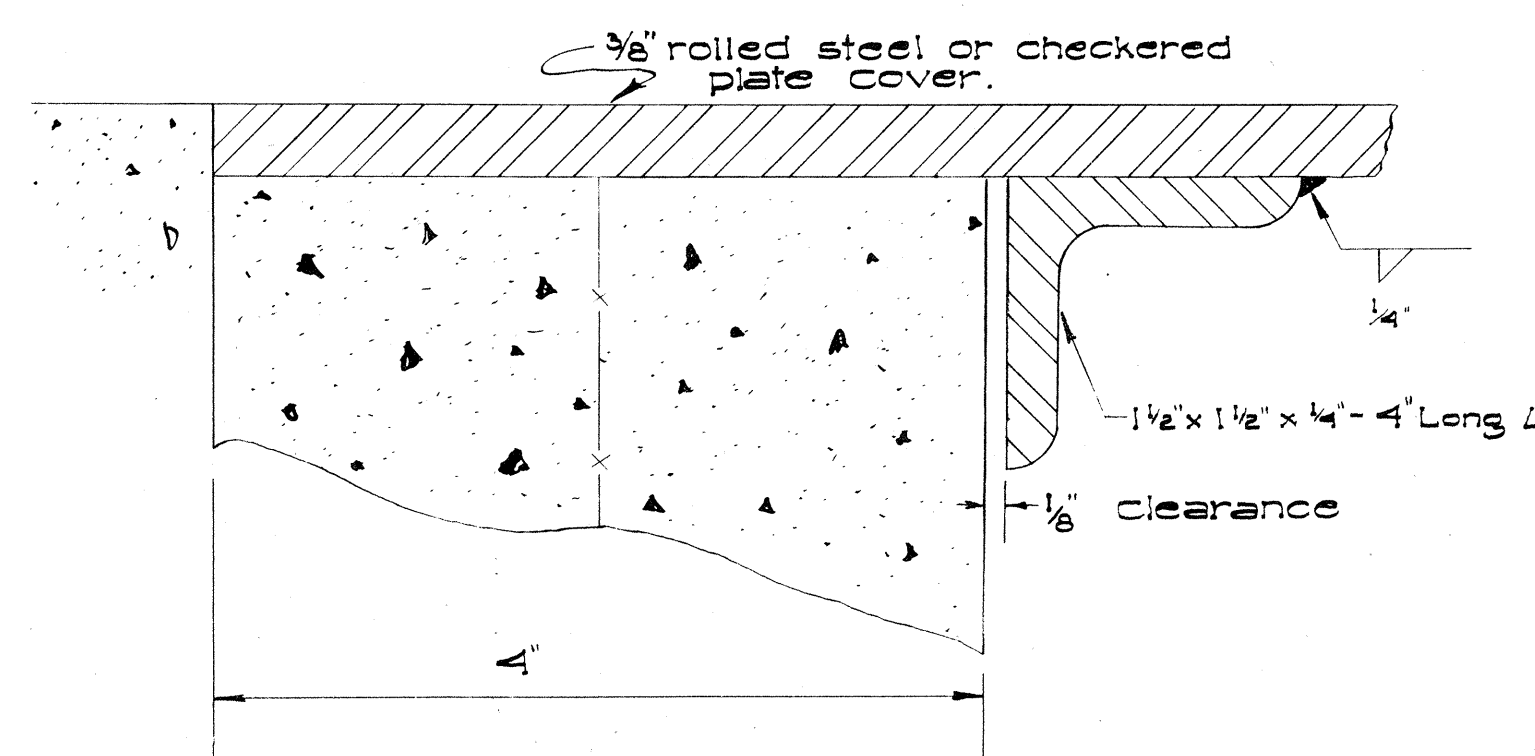
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS



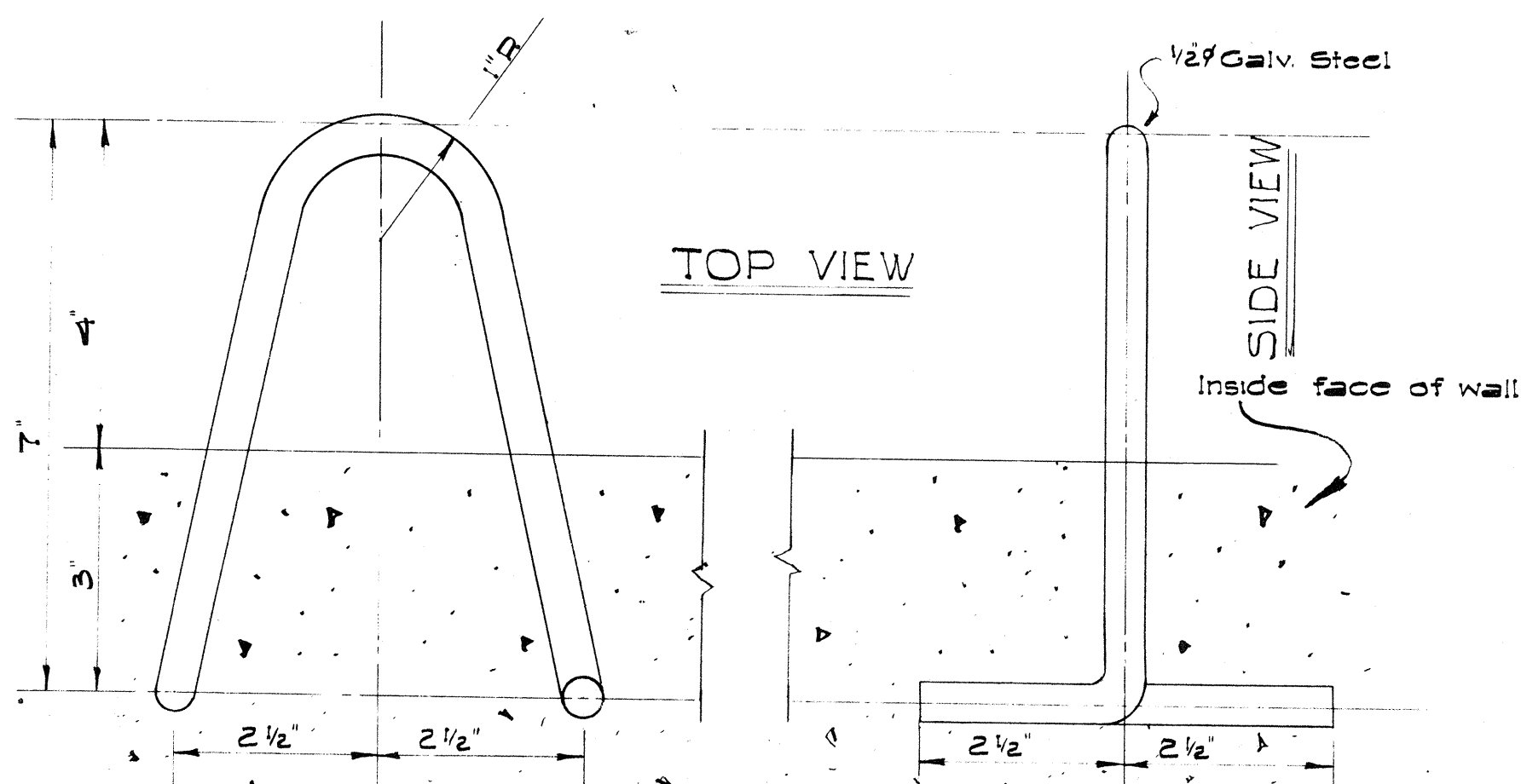
TYPICAL SECTION SHOWING CONDUITS PASSING THROUGH CATCH BASINS
Scale 1/2"=1'-0"



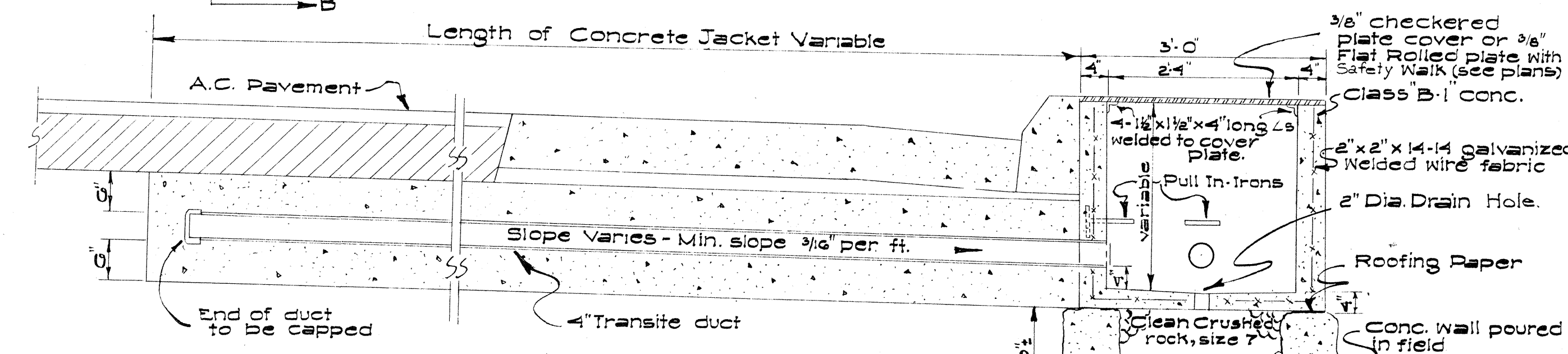
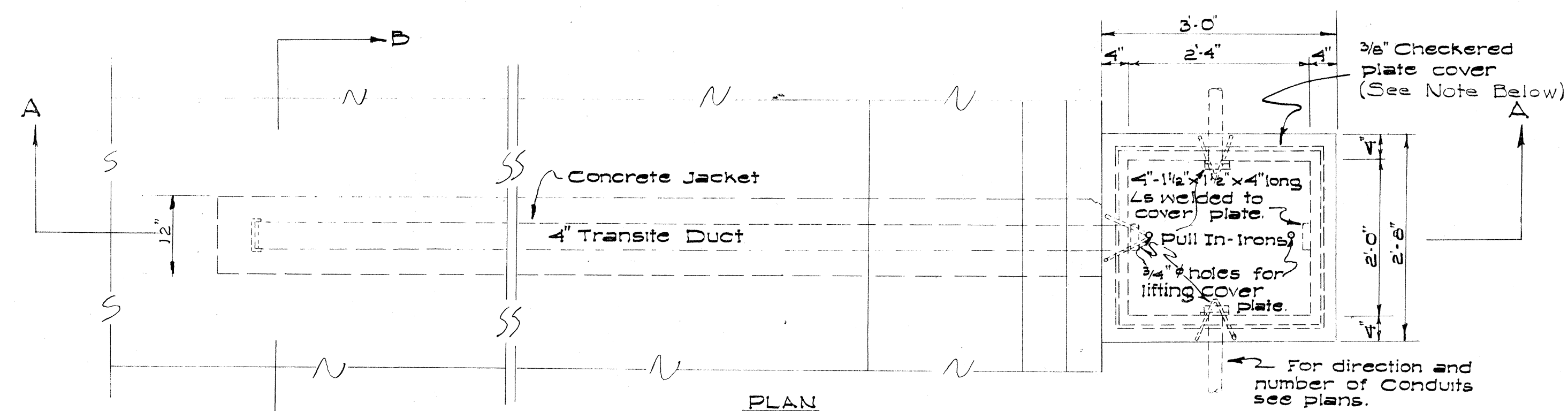
BASE FOR TRAFFIC SIGNAL POLES
Scale 3/4"=1'-0"



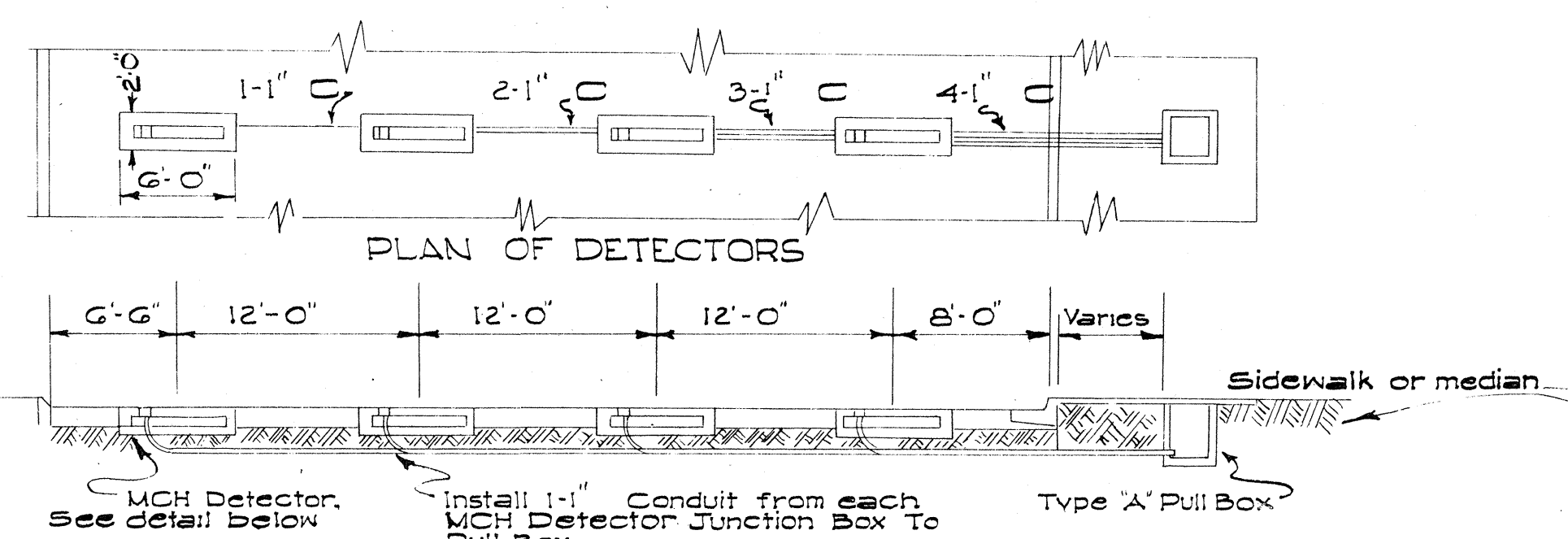
DETAIL 'A'



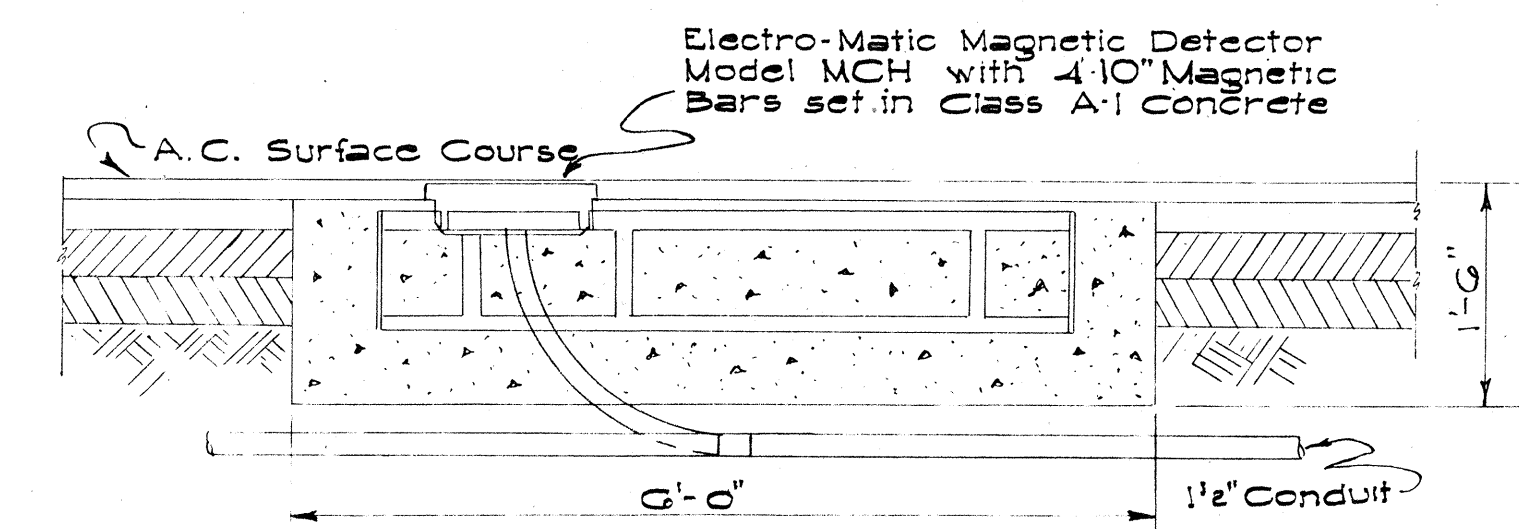
PULL-IN IRON DETAIL 'B'
Scale: 1/2"=1'-0"



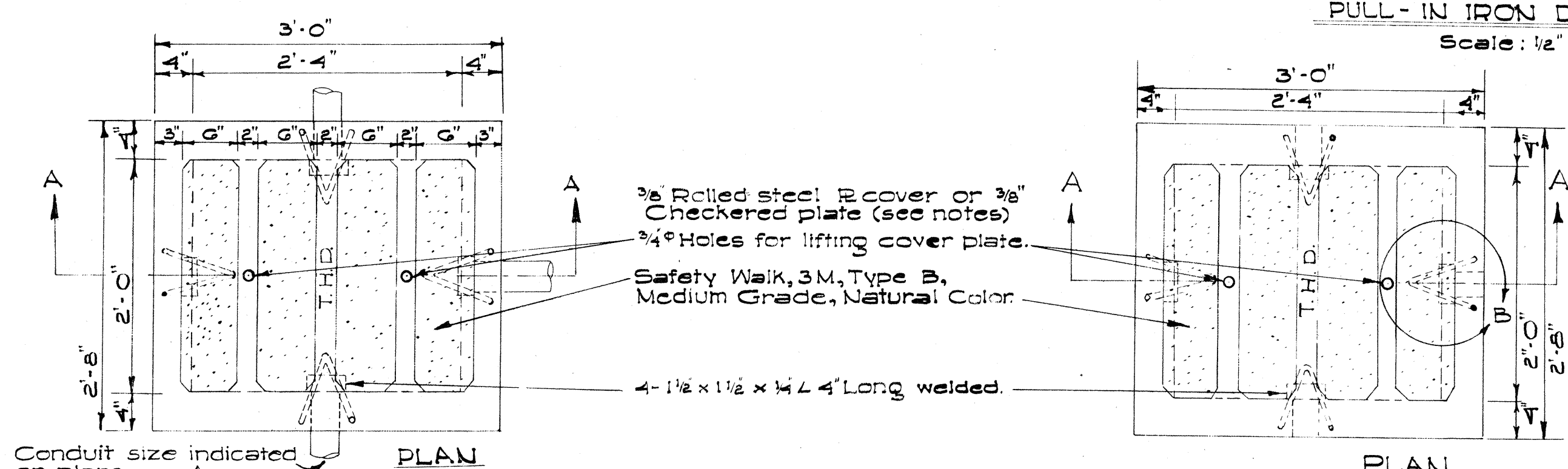
SECTION 'A-A'
DETAIL OF TYPE 'A' PULLBOX AND TRANSITE DUCT FOR MODEL 'MK' DETECTORS
Scale: 3/4"=1'-0"



TYPICAL LAYOUT OF MCH DETECTORS IN CONCRETE JACKET
Scale: 1/8"=1'-0"

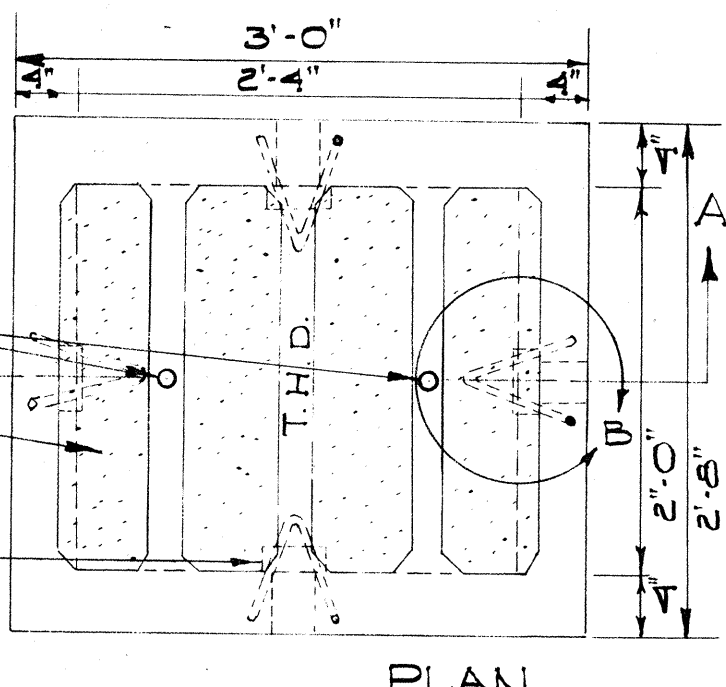


DETAIL OF MCH DETECTOR IN CONCRETE JACKET
Scale: 3/4"=1'-0"

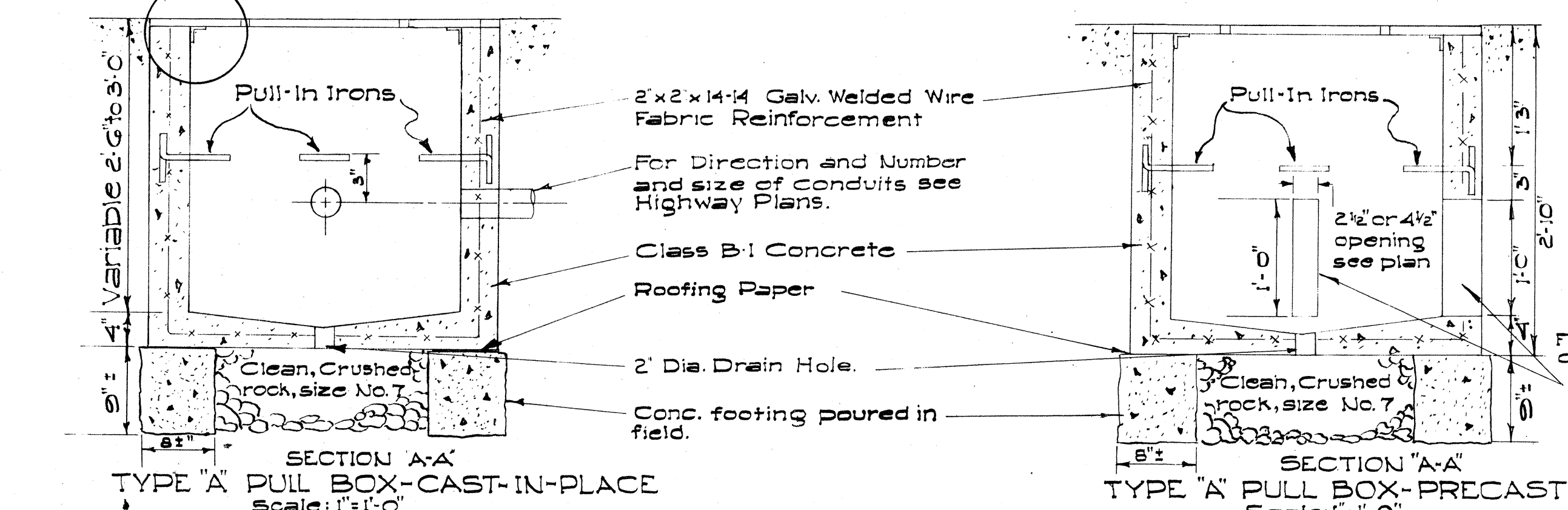


Conduit size indicated on plans.

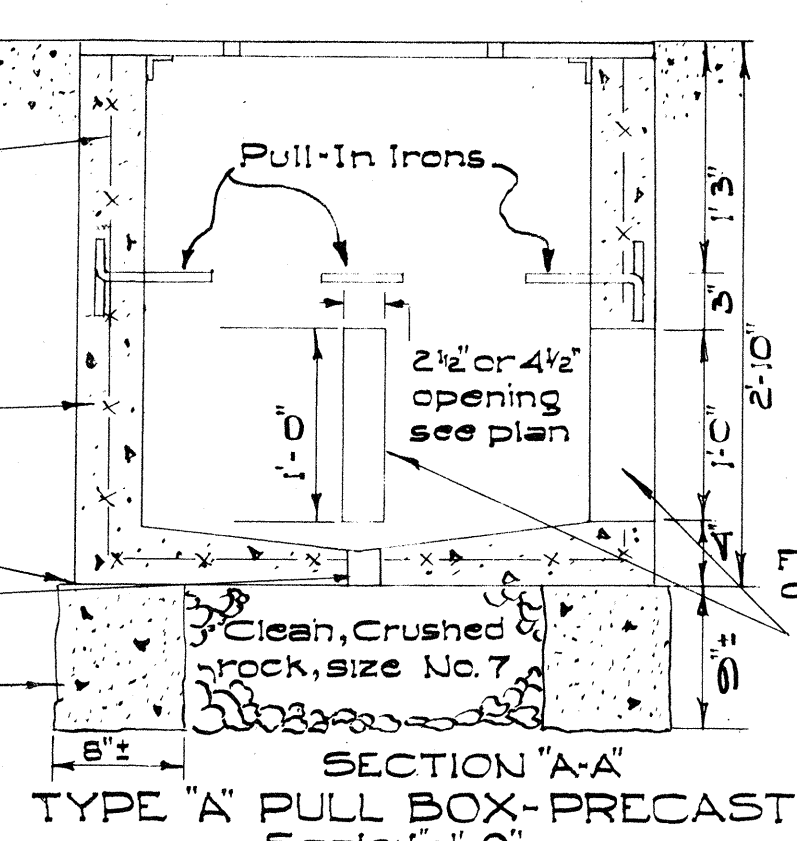
PLAN



PLAN



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 safety Walk 3M, Type B, Medium Grade, Natural Color shall be used on all Pull Boxes located on sidewalk areas where pedestrians are 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.

APPROVED..... DATE Aug 9, 1957
TERRITORIAL HIGHWAY ENGINEER

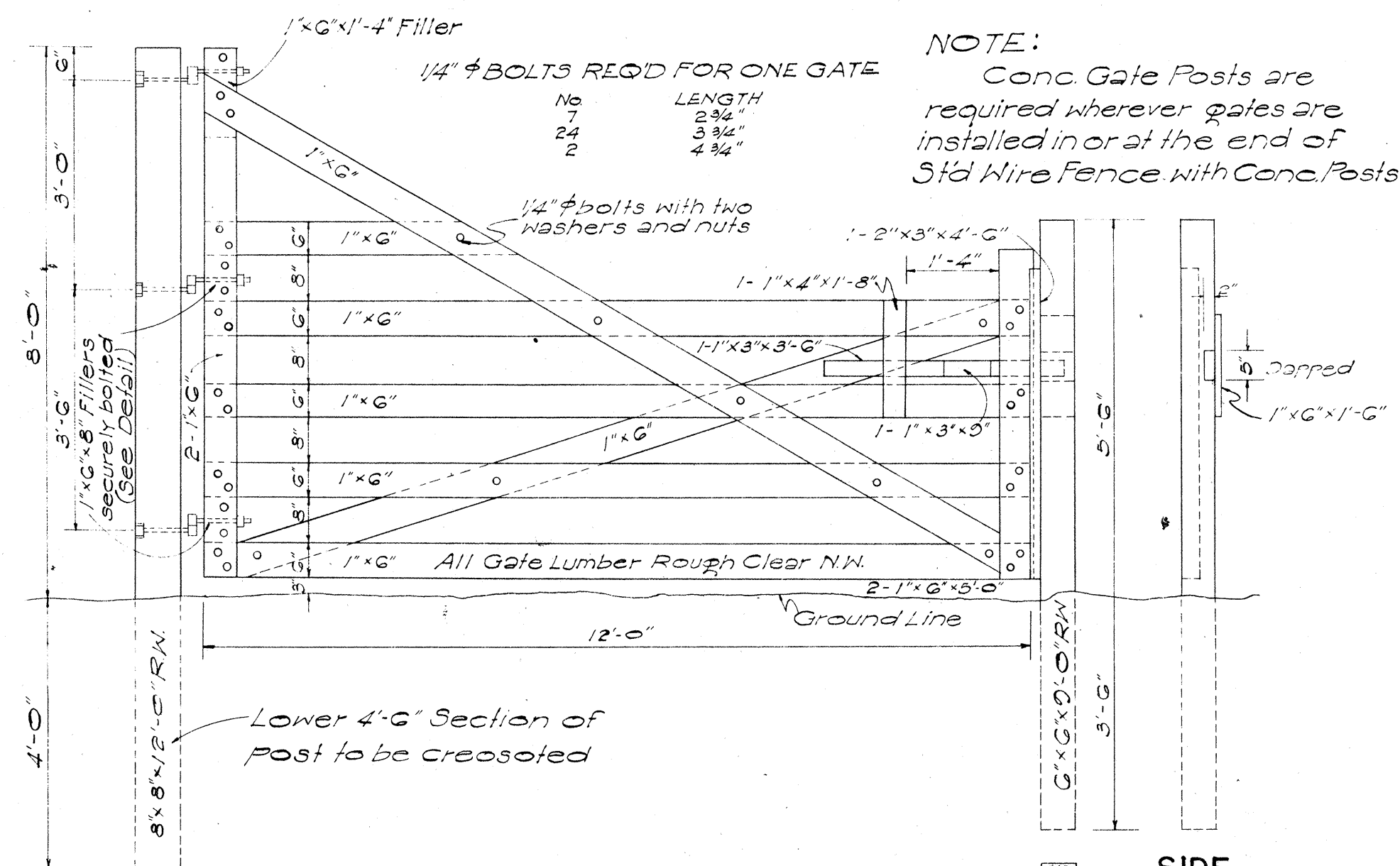
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
STANDARD DETAILS
TRAFFIC SIGNAL SYSTEM
BASE, PULLBOX,
MAGNETIC DETECTORS

SHEET No 5 OF 6 SHEETS

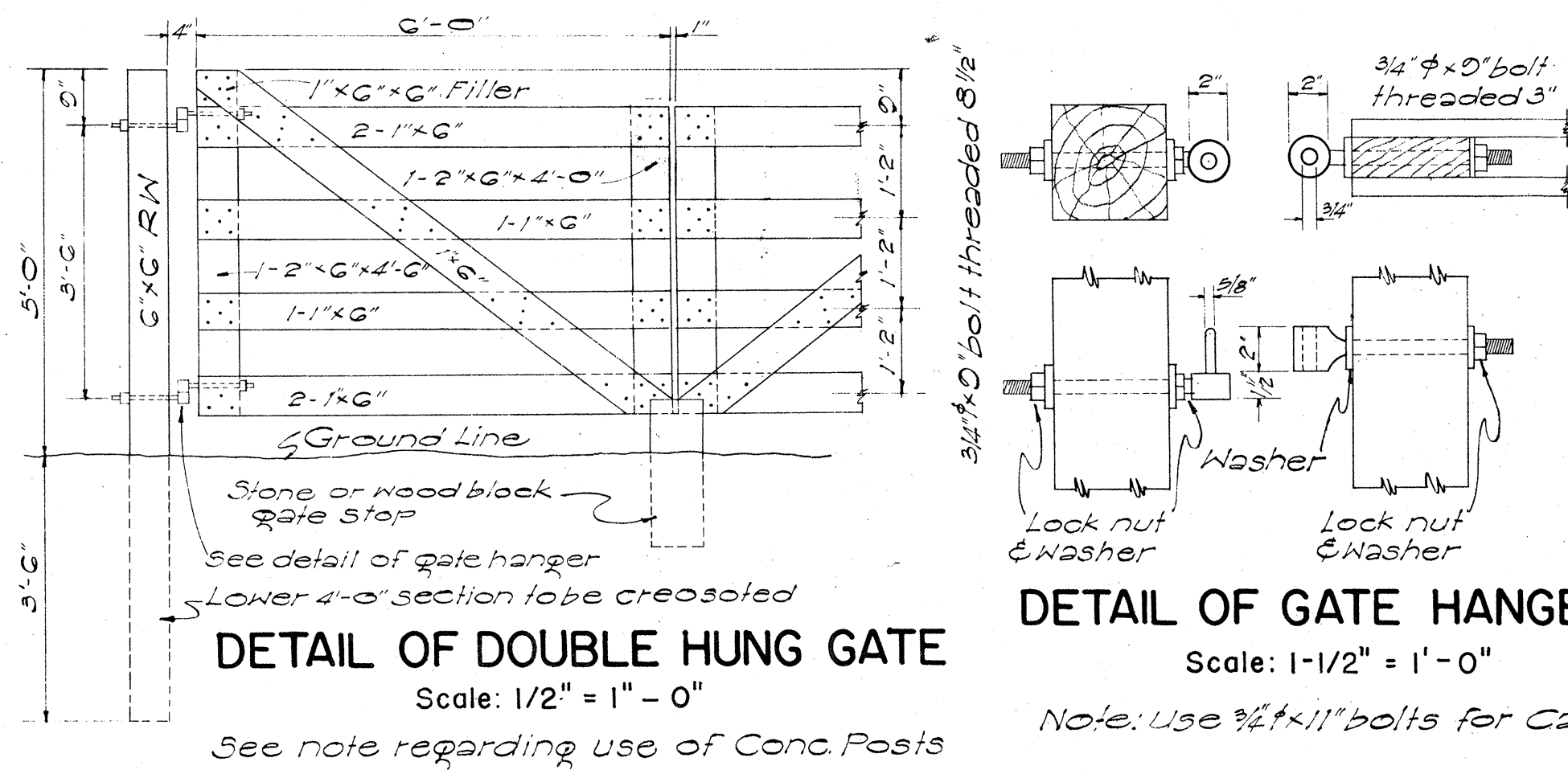
S 3001.1 (1).16

ORIGINAL PLAN	DATE
DESIGNED BY	7/1/57
DRAWN BY	
TRACED BY	
CHECKED BY	
NOTED BY	
NO.	

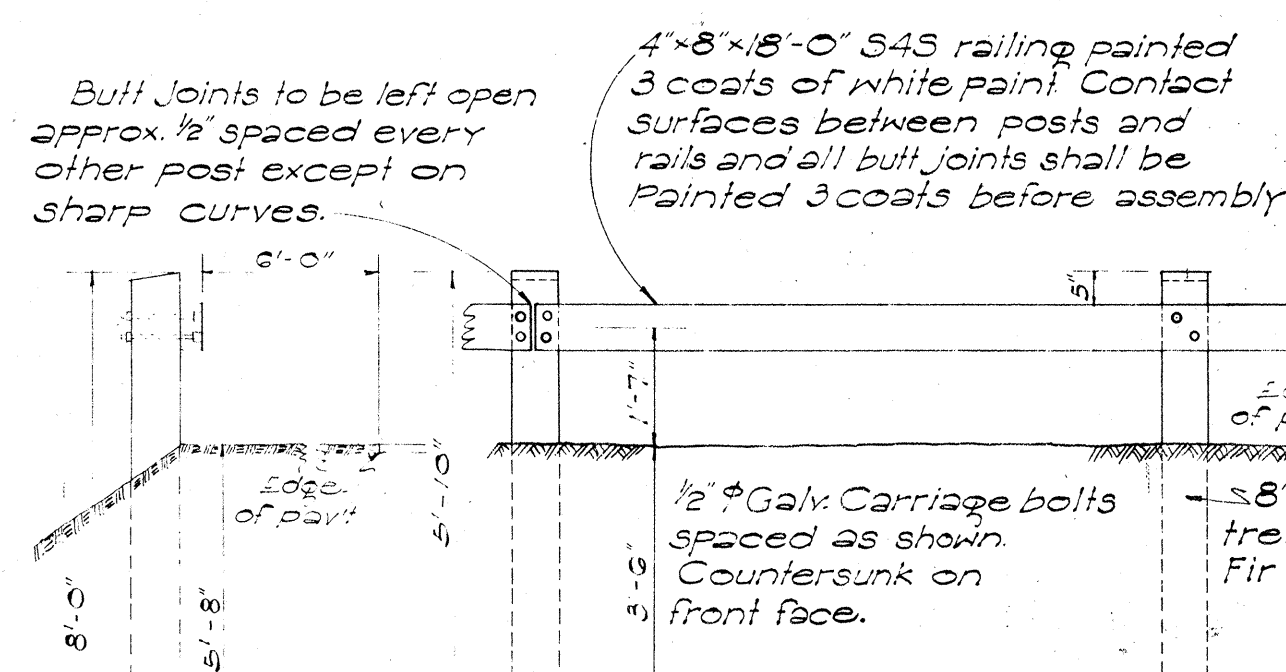
AUG. 1957



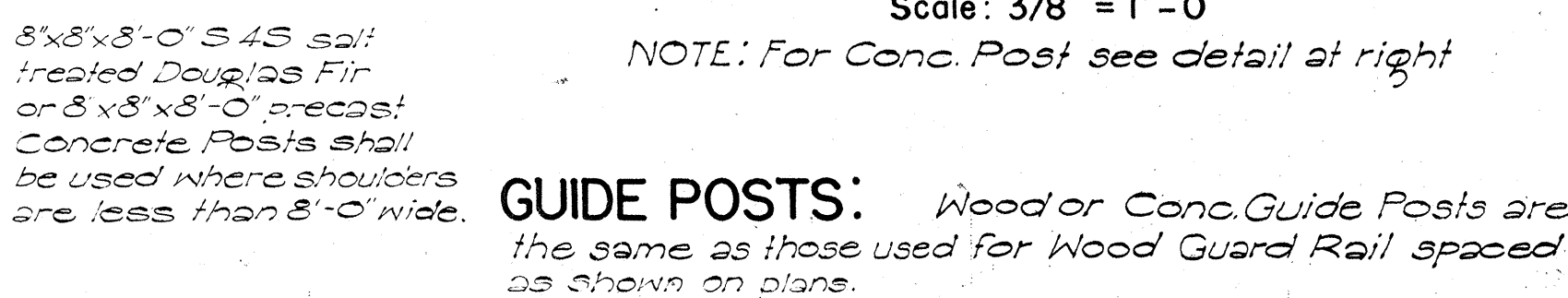
DETAIL OF CATTLE GATE
Scale: 1/2" = 1' - 0"



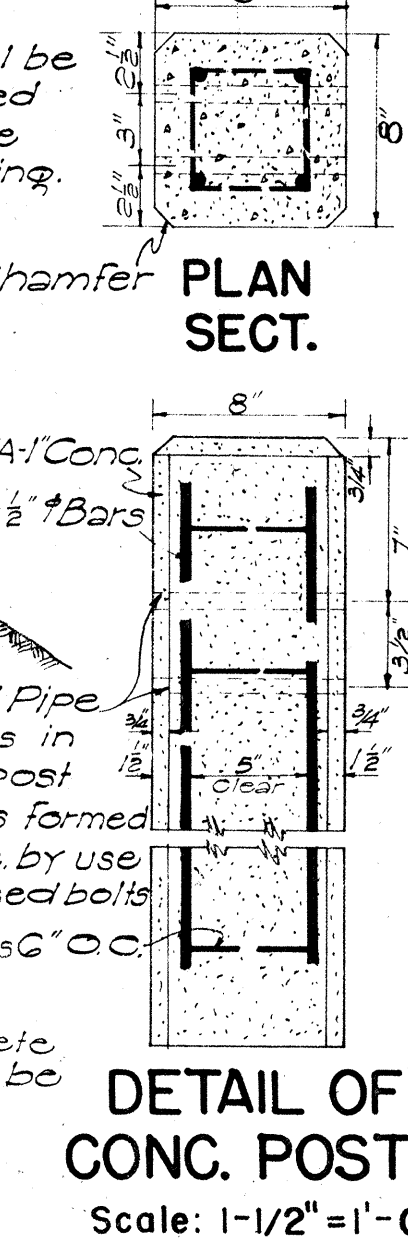
DETAIL OF GATE HANGER
Scale: 1-1/2" = 1' - 0"



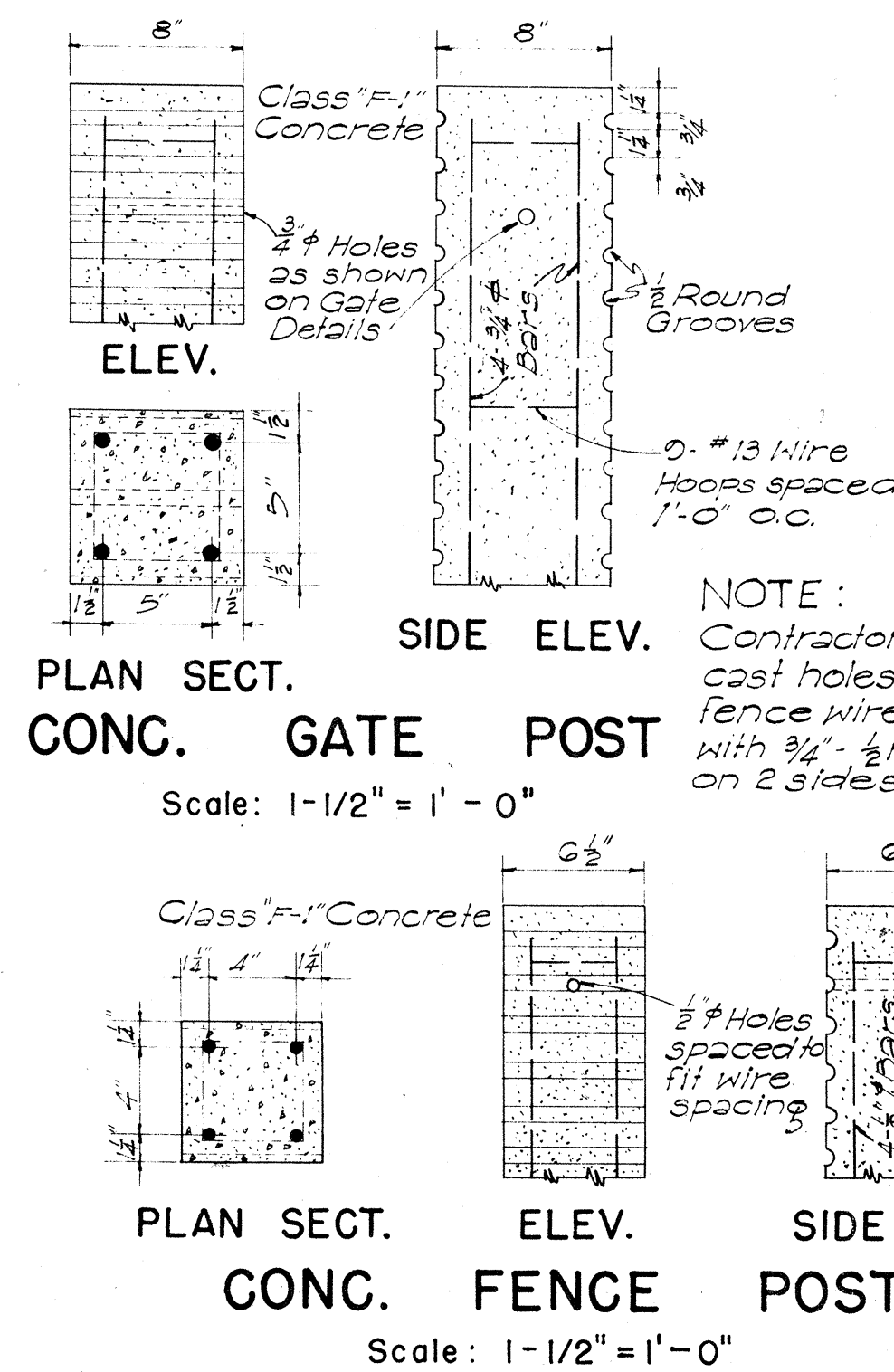
WOOD GUARD RAIL WITH WOOD POSTS
Scale: 3/8" = 1' - 0"



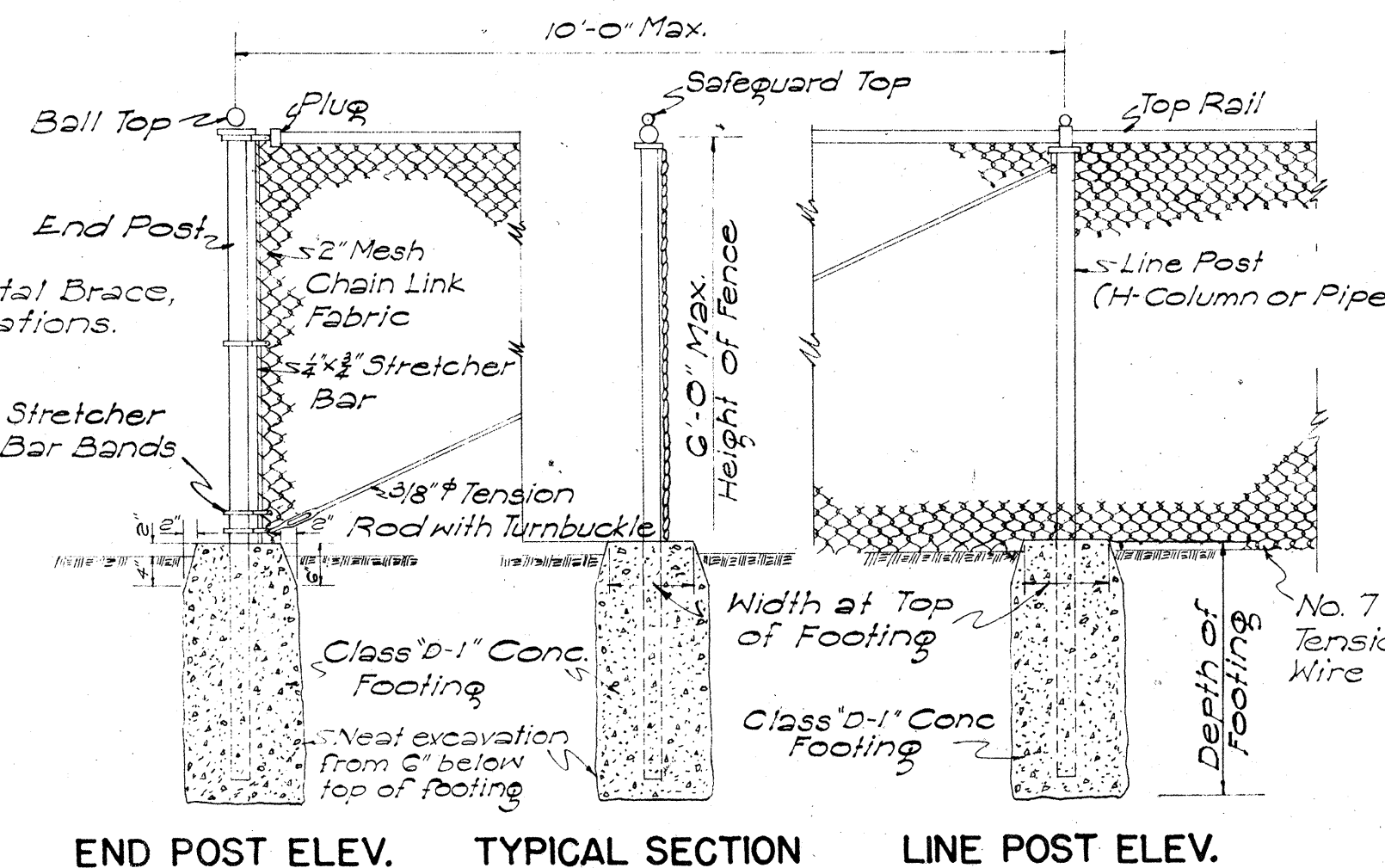
GUIDE POSTS: Wood or Conc. Guide Posts are the same as those used for Wood Guard Rail spaced as shown on plans.



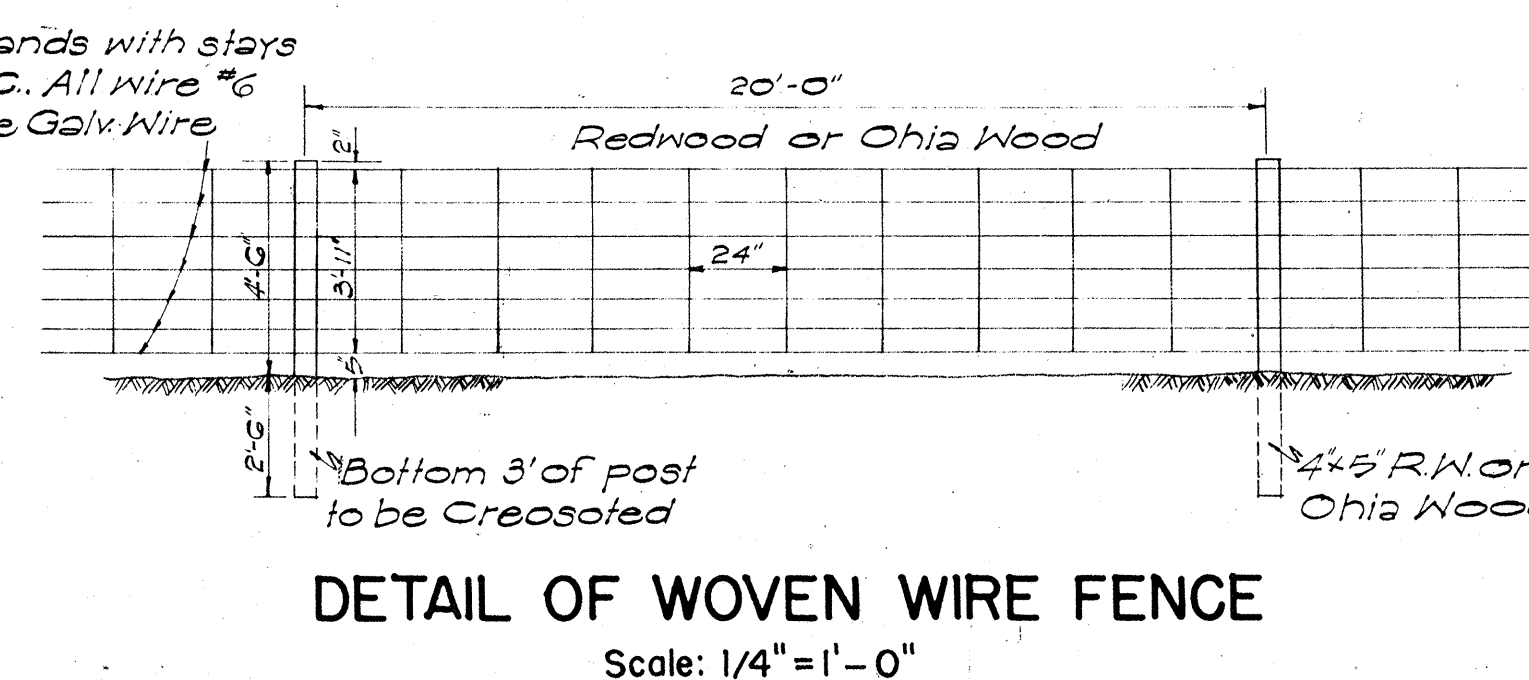
DETAIL OF CONC. POST
Scale: 1-1/2" = 1' - 0"



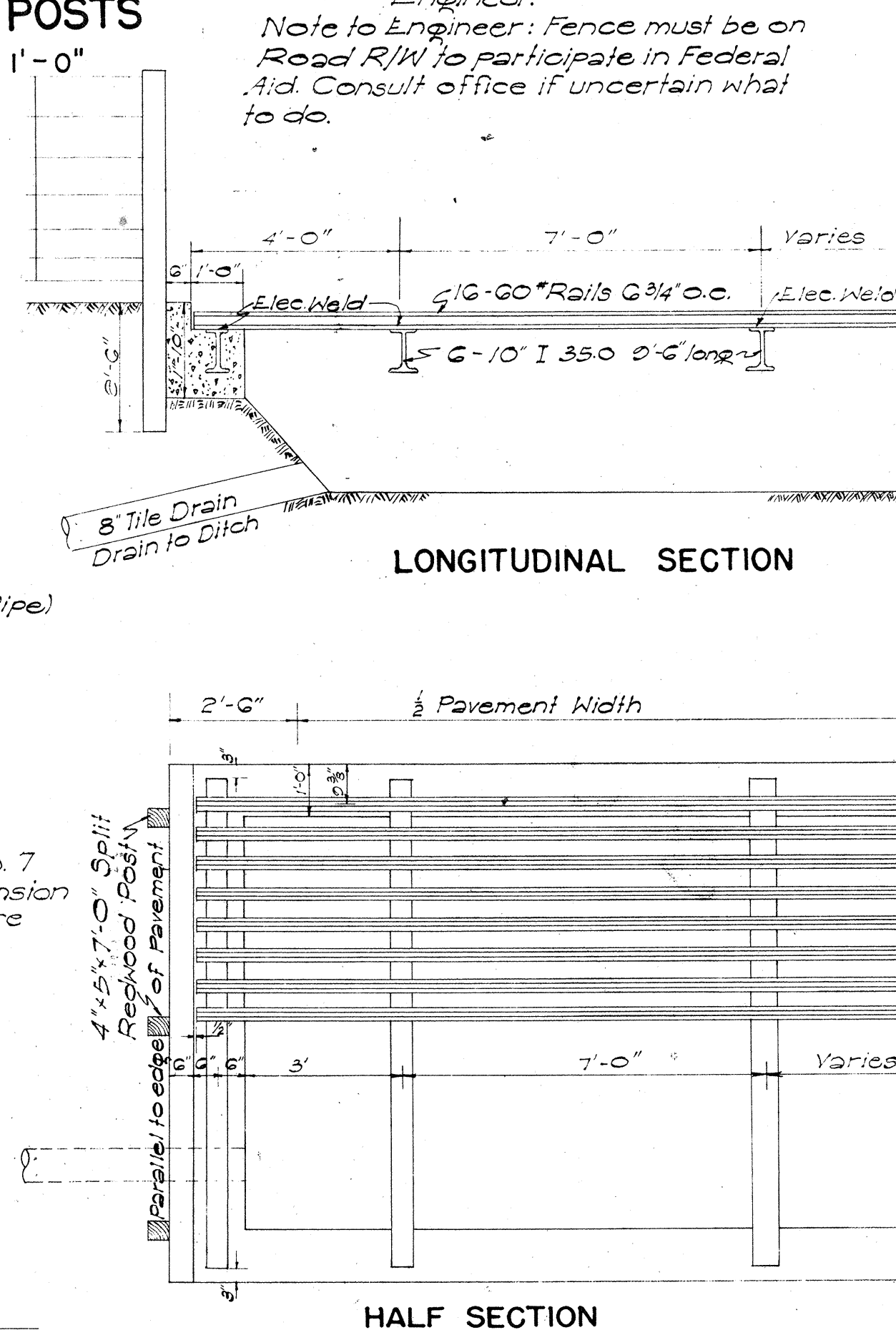
DETAILS OF STANDARD WIRE FENCE WITH WOOD POSTS
Scale: 3/8" = 1' - 0"



DETAIL OF CHAIN LINK FENCE
Scale: 1/2" = 1' - 0"



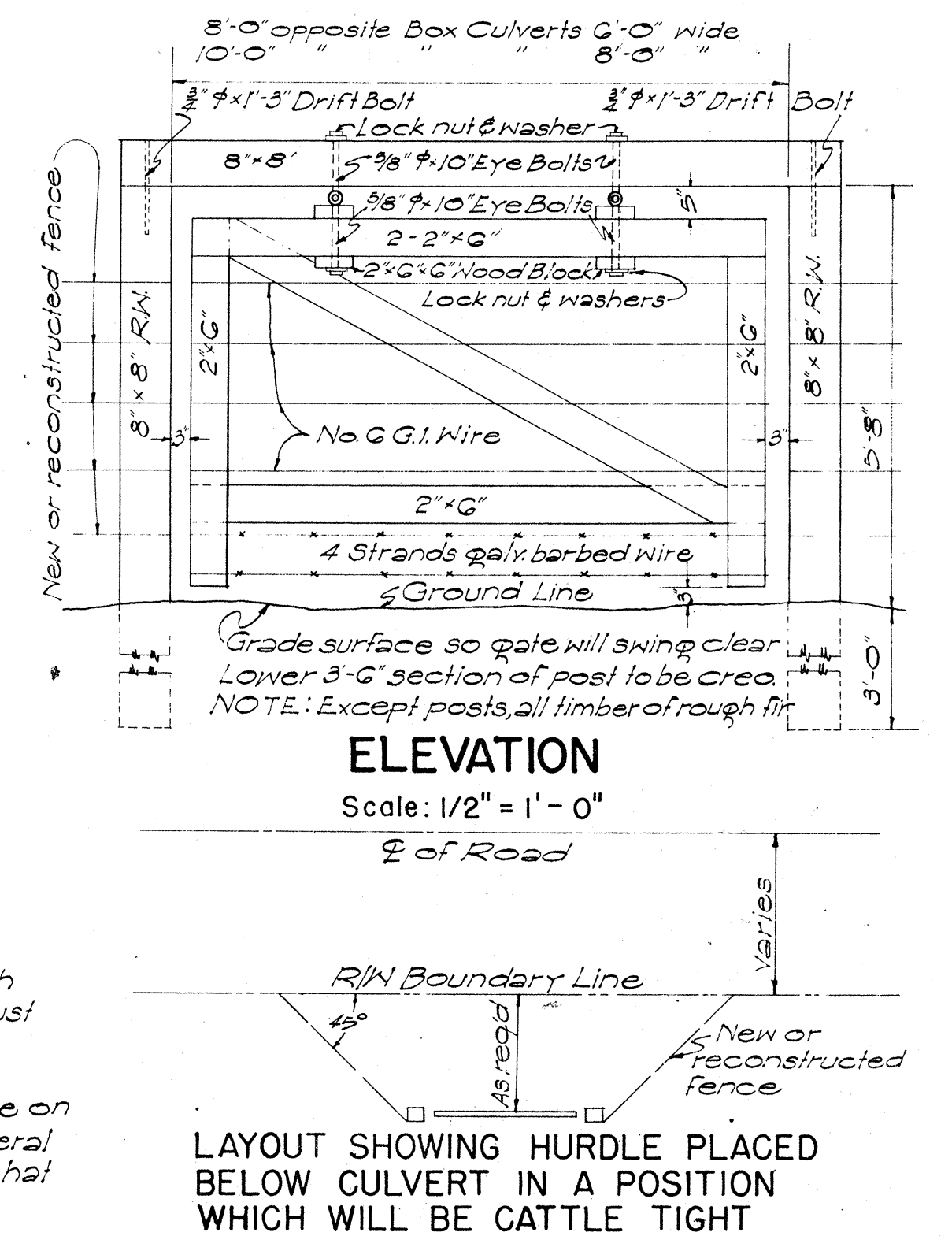
DETAIL OF WOVEN WIRE FENCE
Scale: 1/4" = 1' - 0"



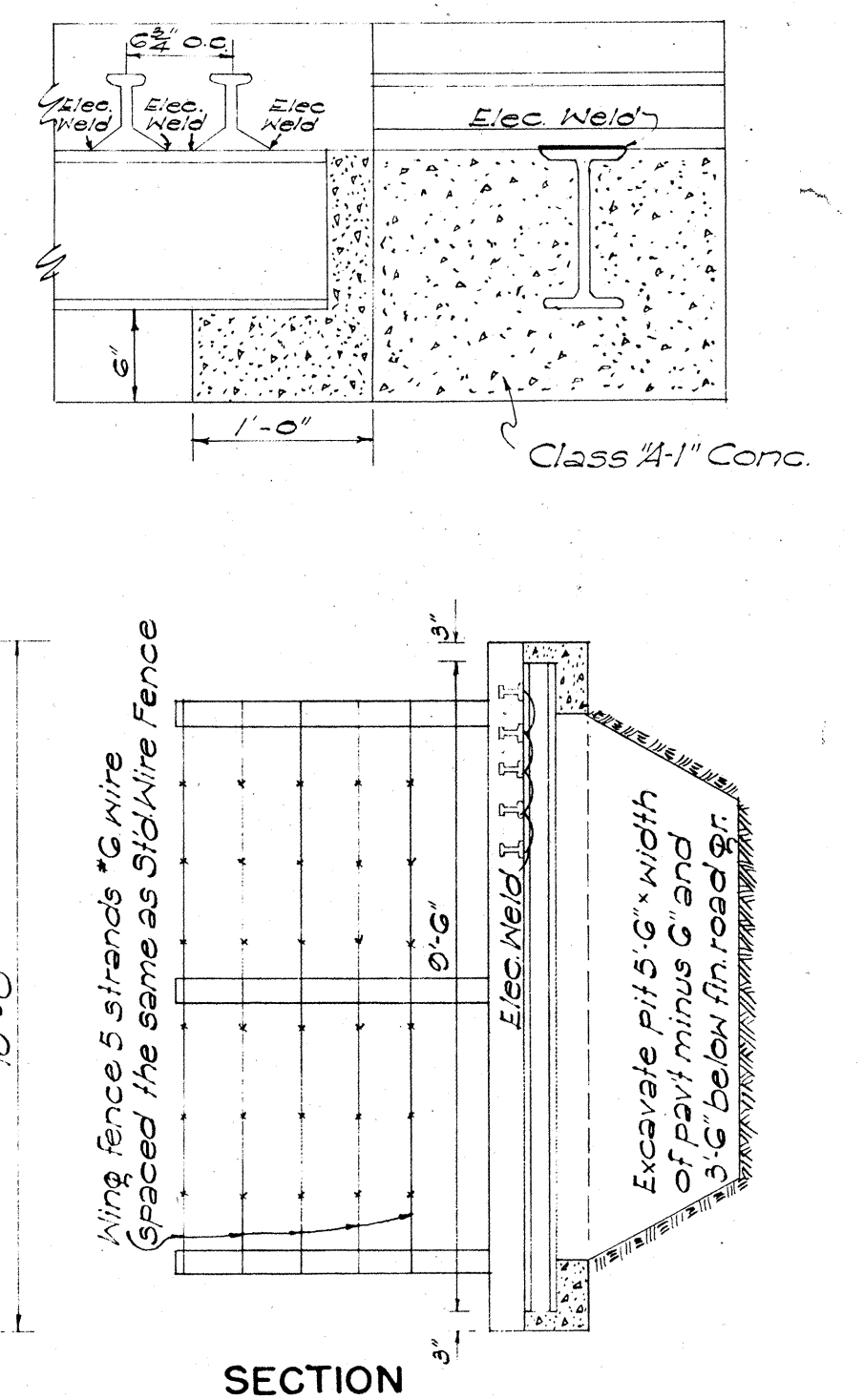
HALF SECTION

DETAIL OF CATTLE GUARD
Scale: 3/8" = 1' - 0"

APPROVED: _____ DATE: 6-23-58
TERRITORIAL HIGHWAY ENGINEER



DETAILS OF HURDLE



SECTION

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
STANDARD DETAILS
FENCES, GATES, GUARD RAILS,
GUIDE POSTS, CATTLE GUARD
SCALES AS NOTED

SHEET NO. 6 OF 6 SHEETS

S 3001.1(1).17