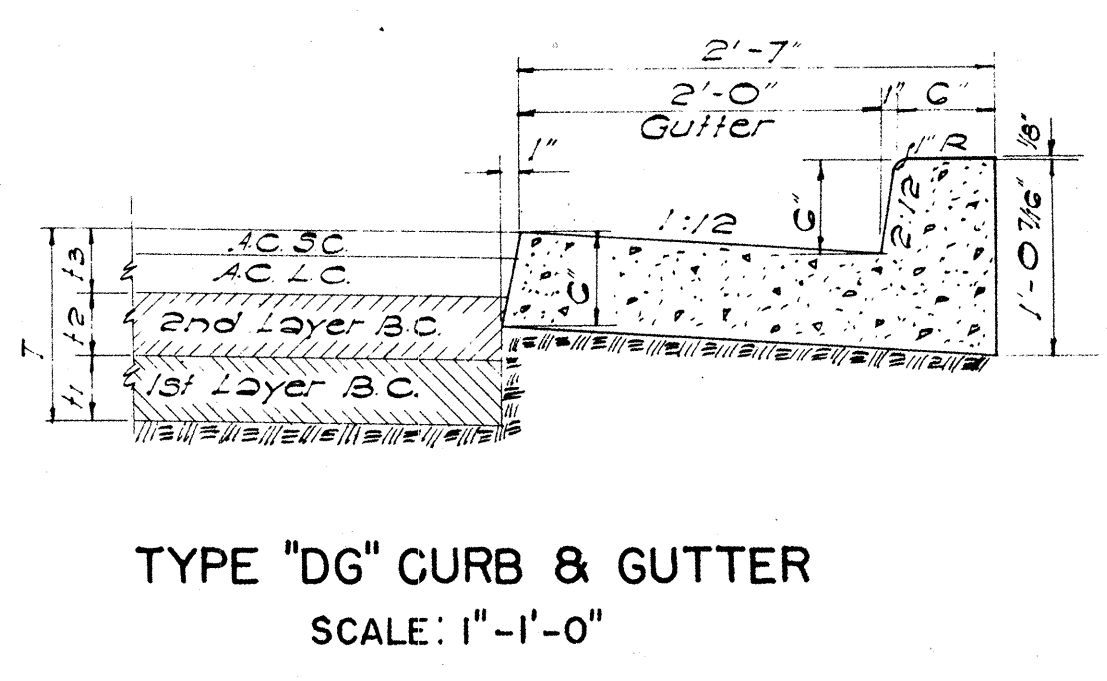
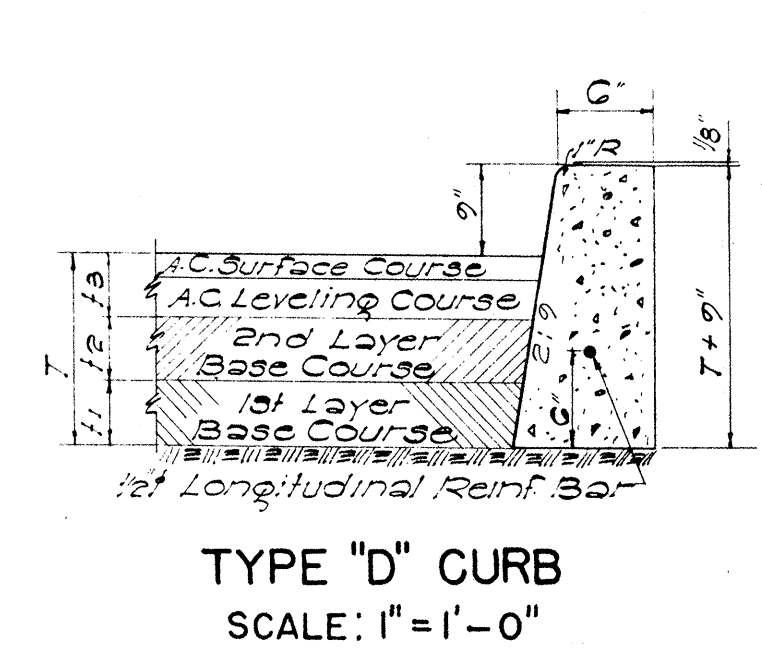
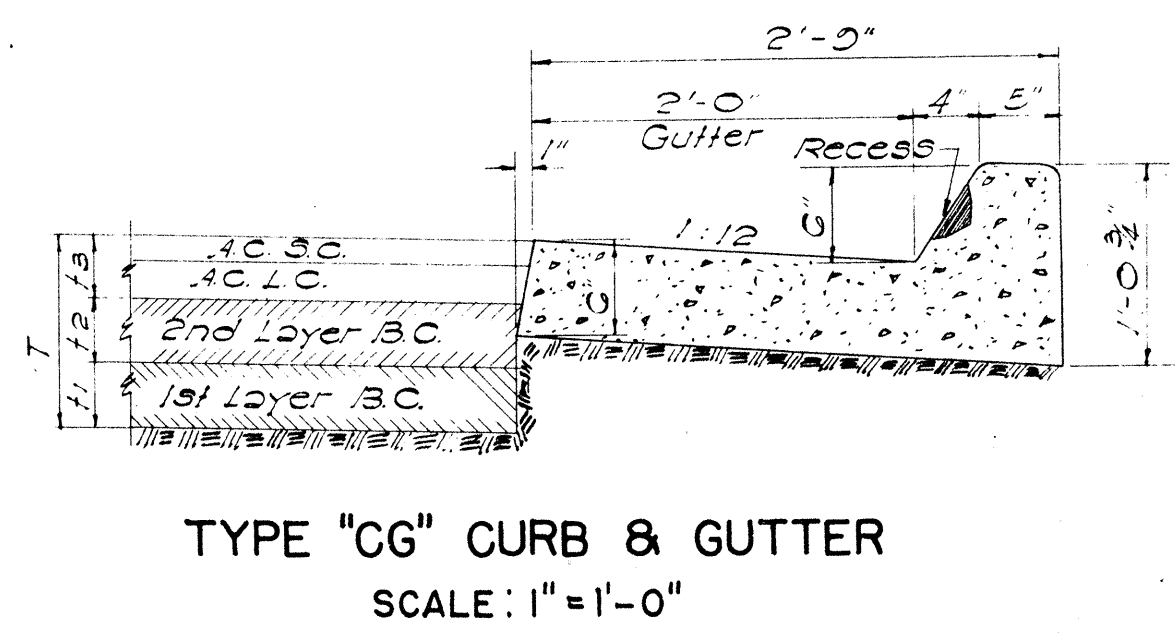
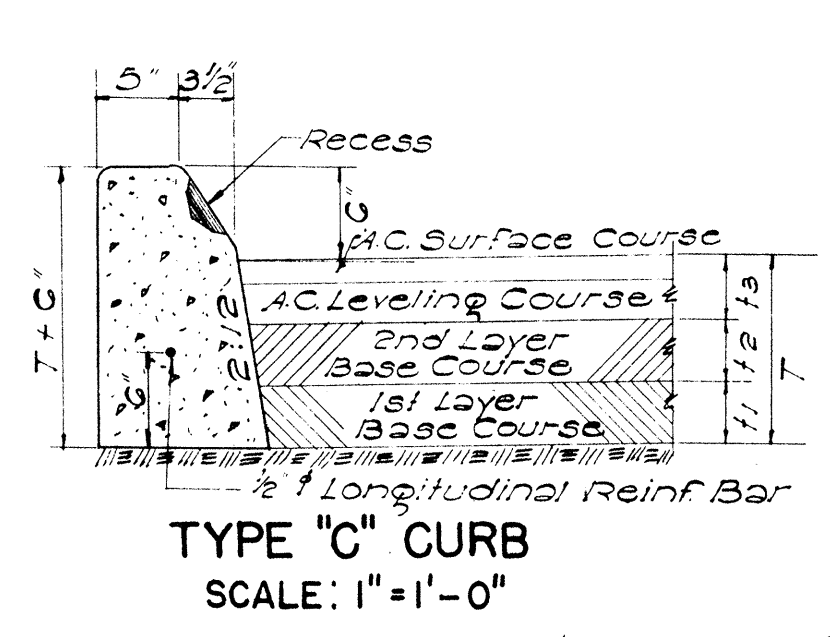
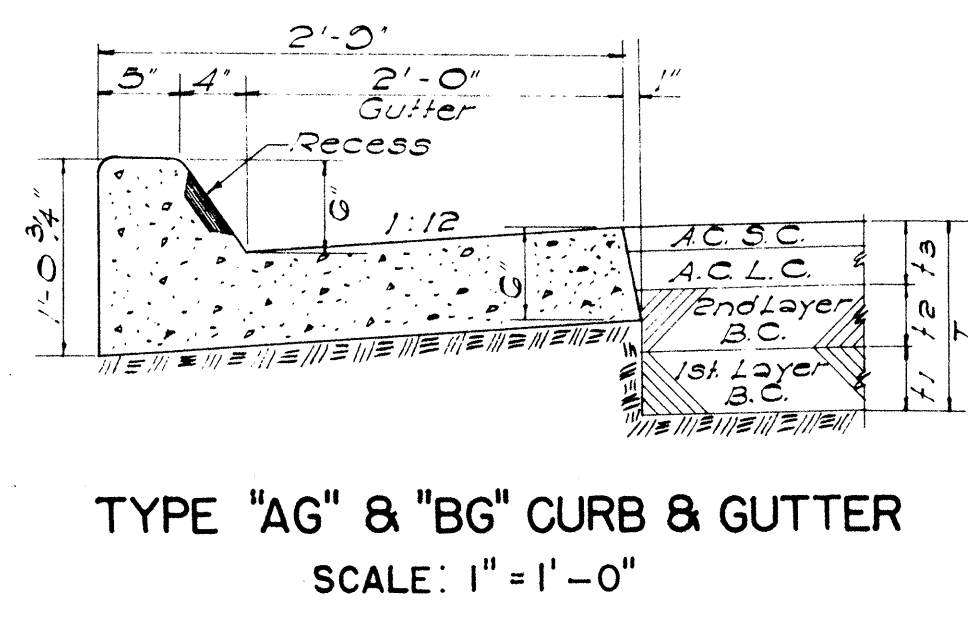
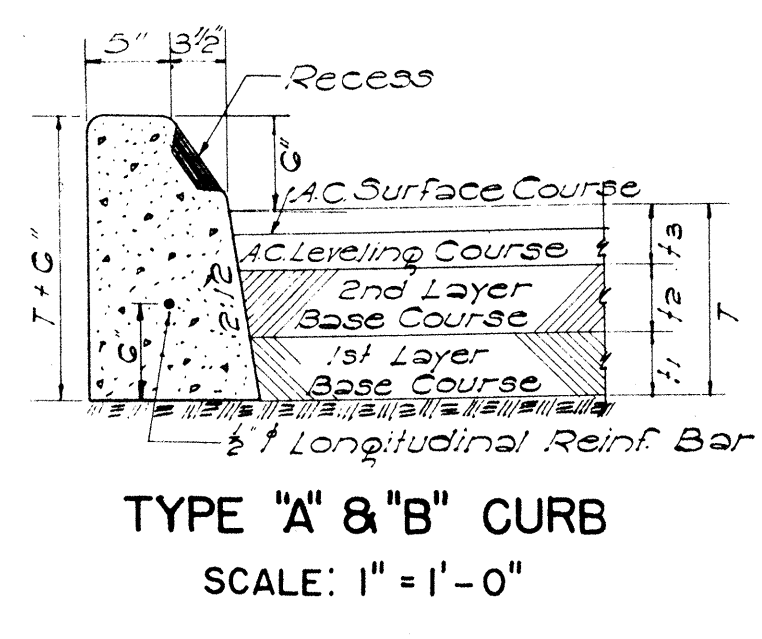
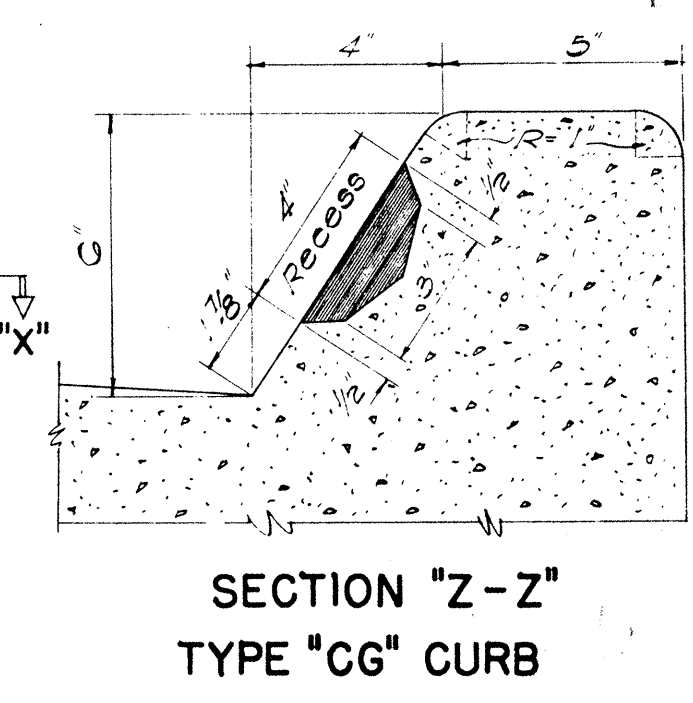
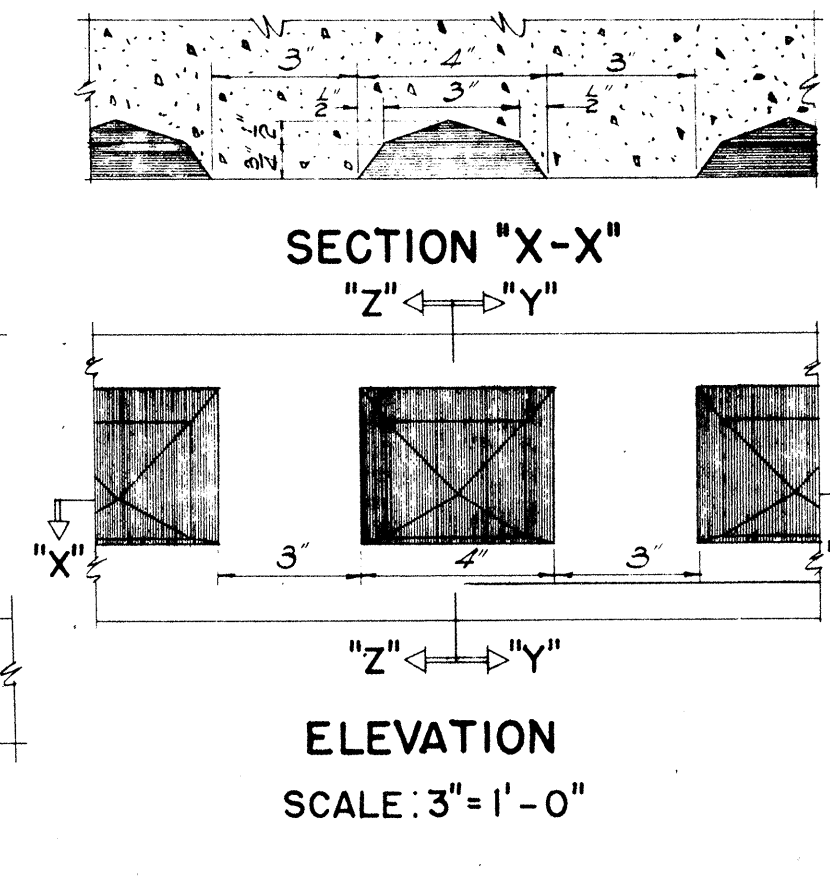
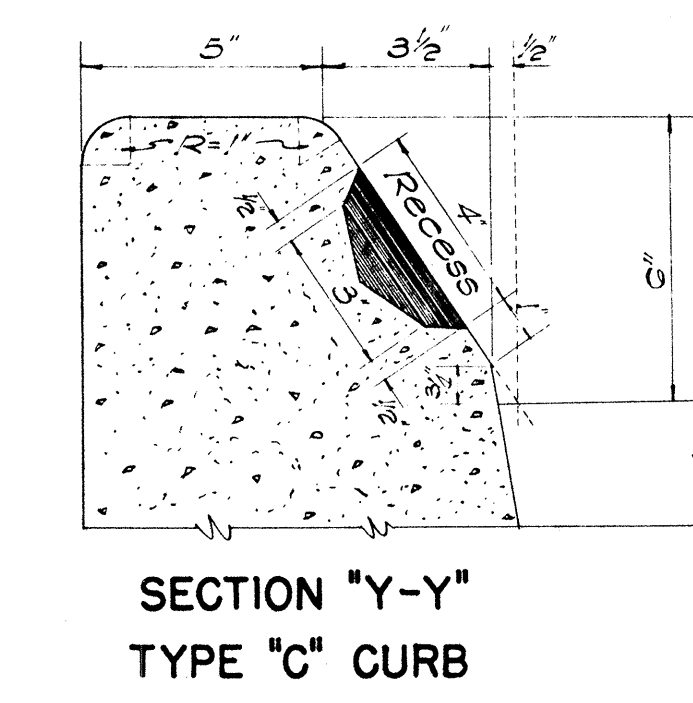
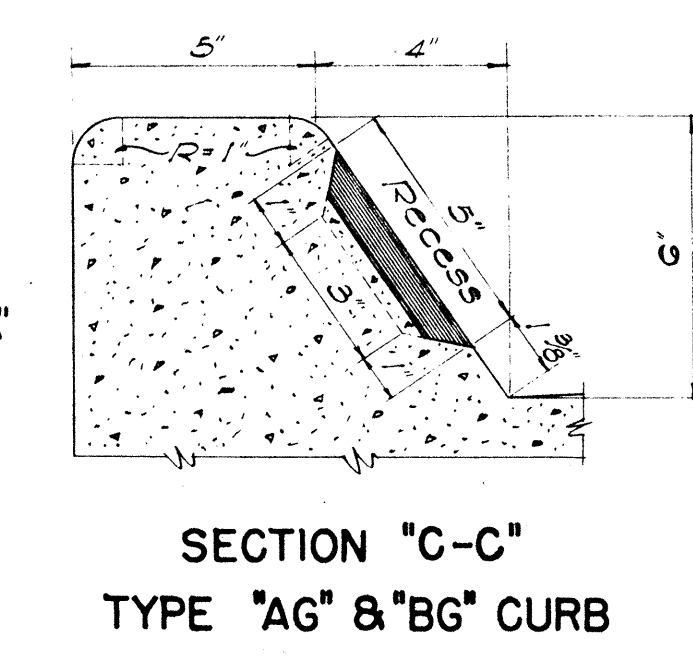
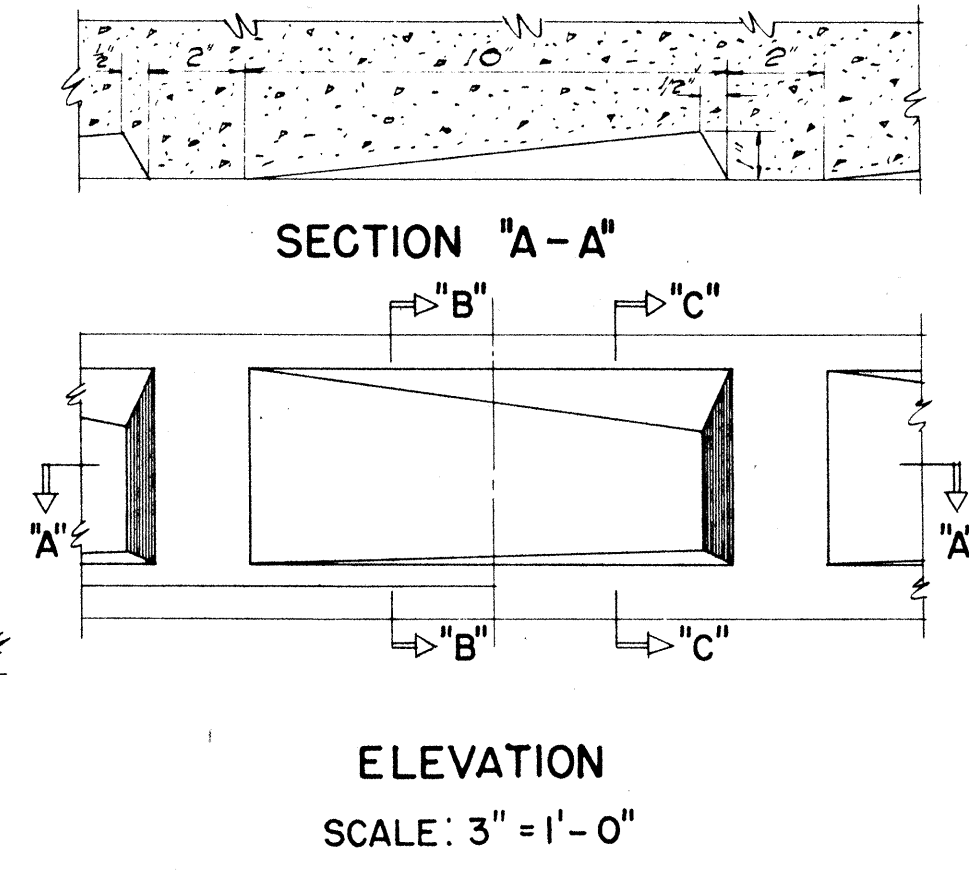
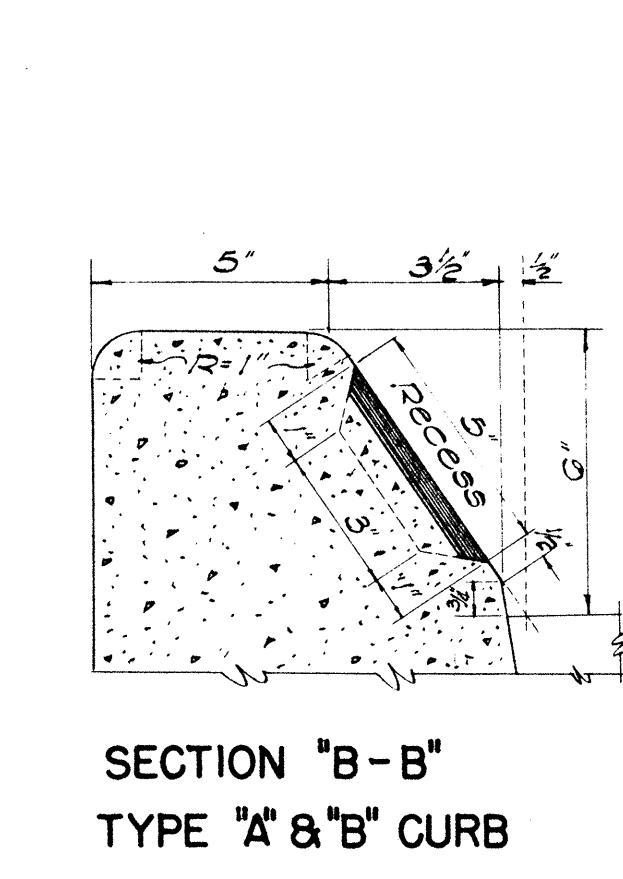
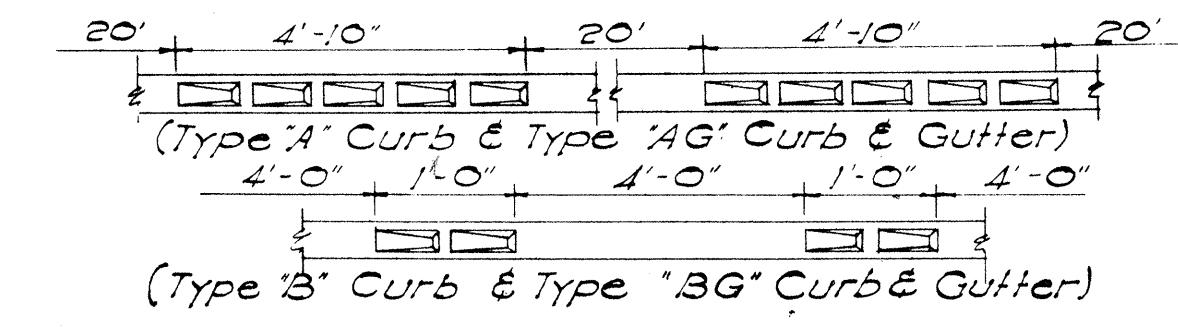
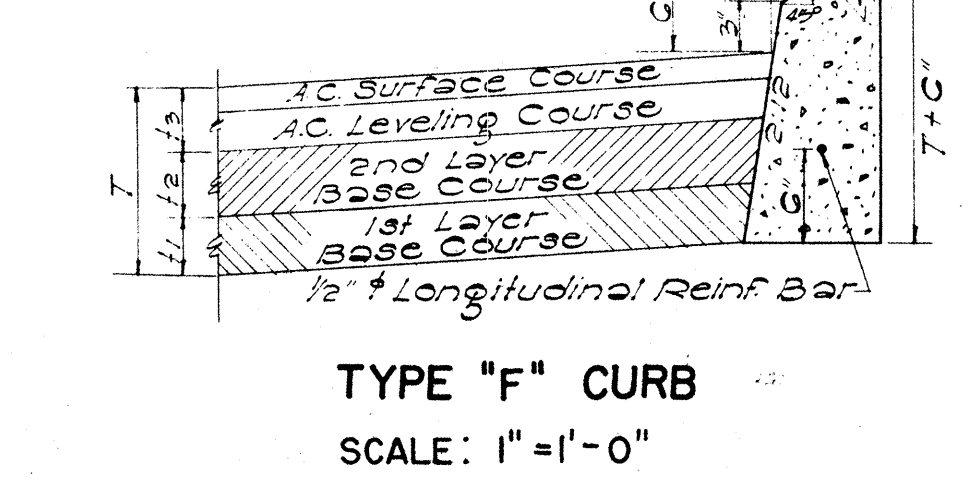




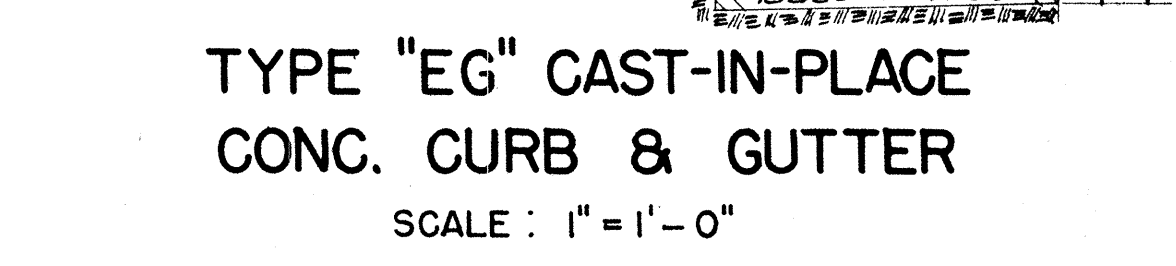
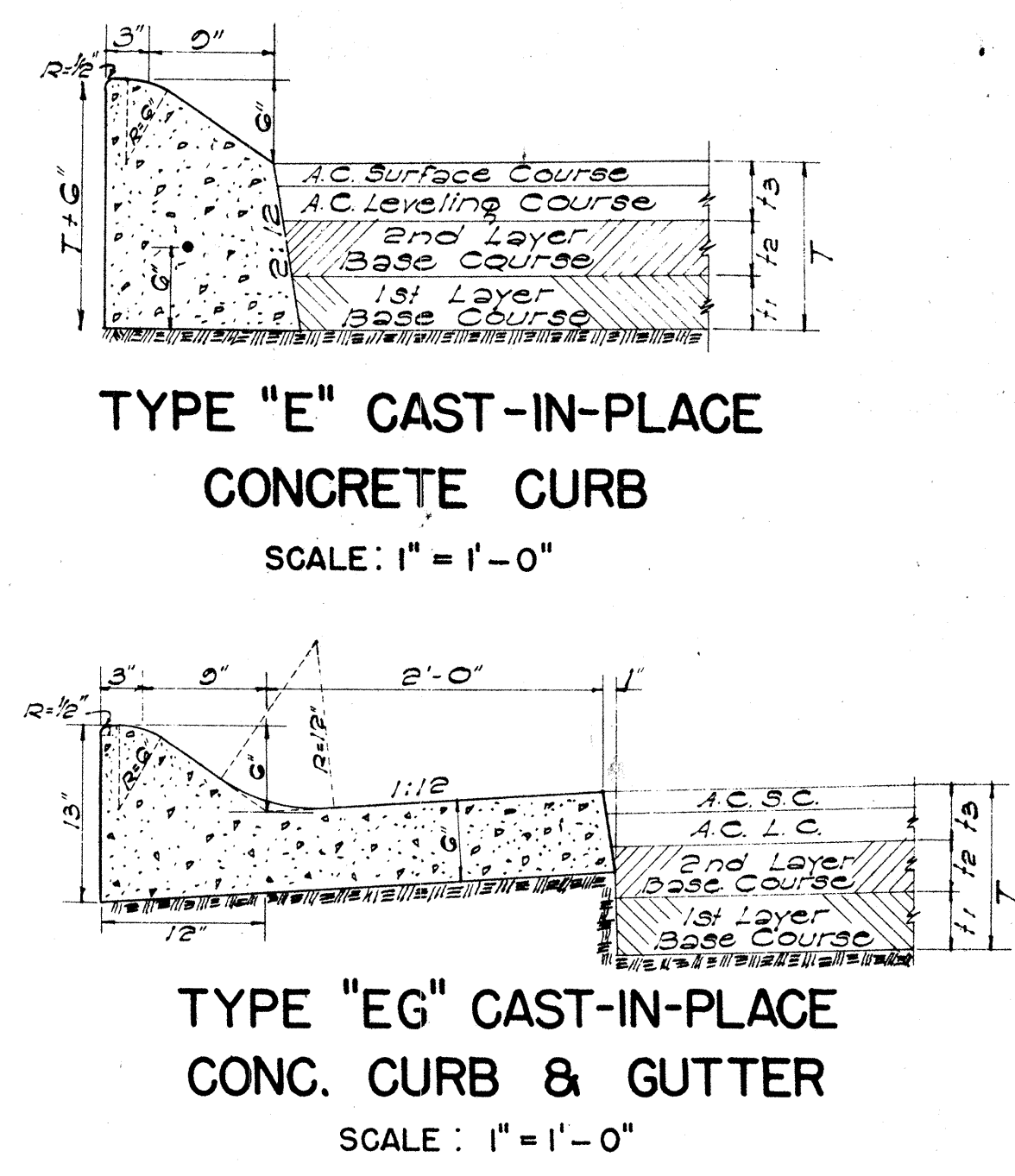
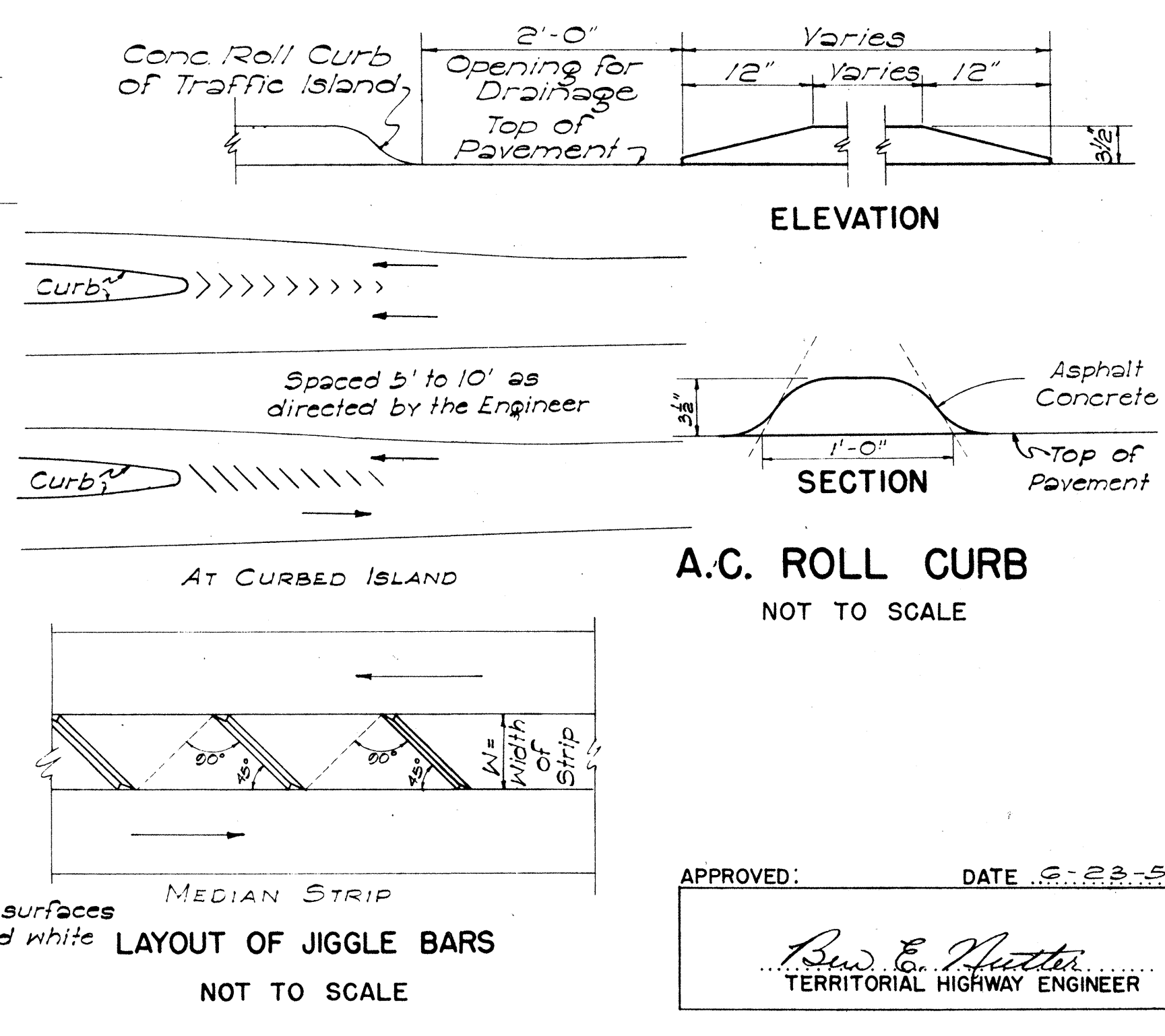
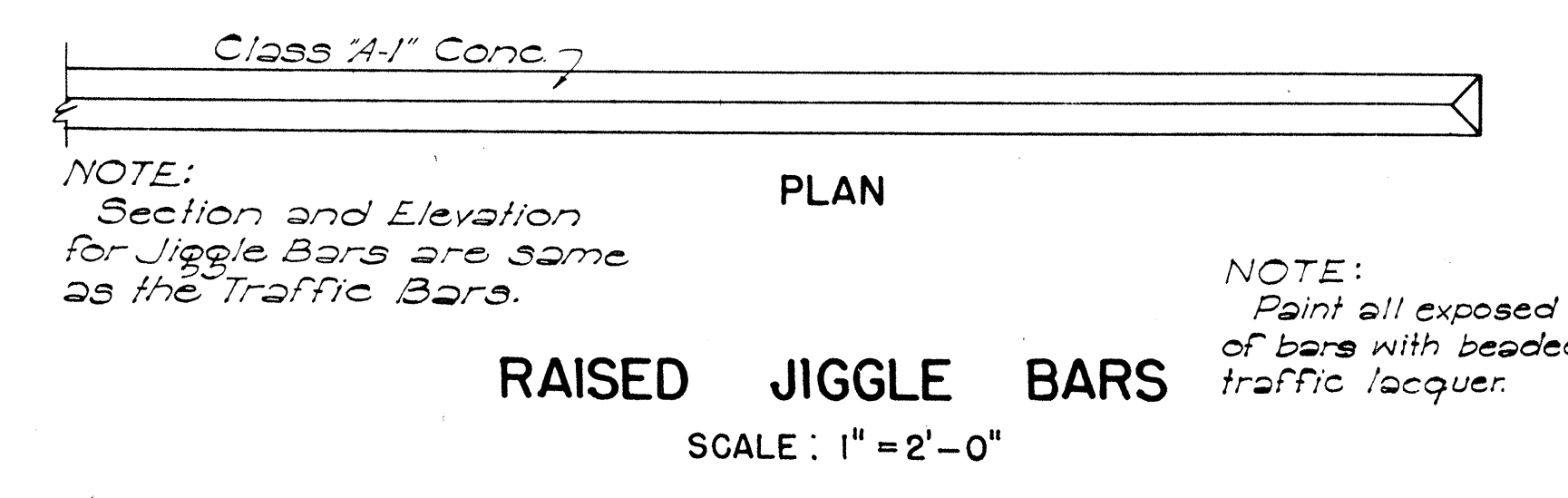
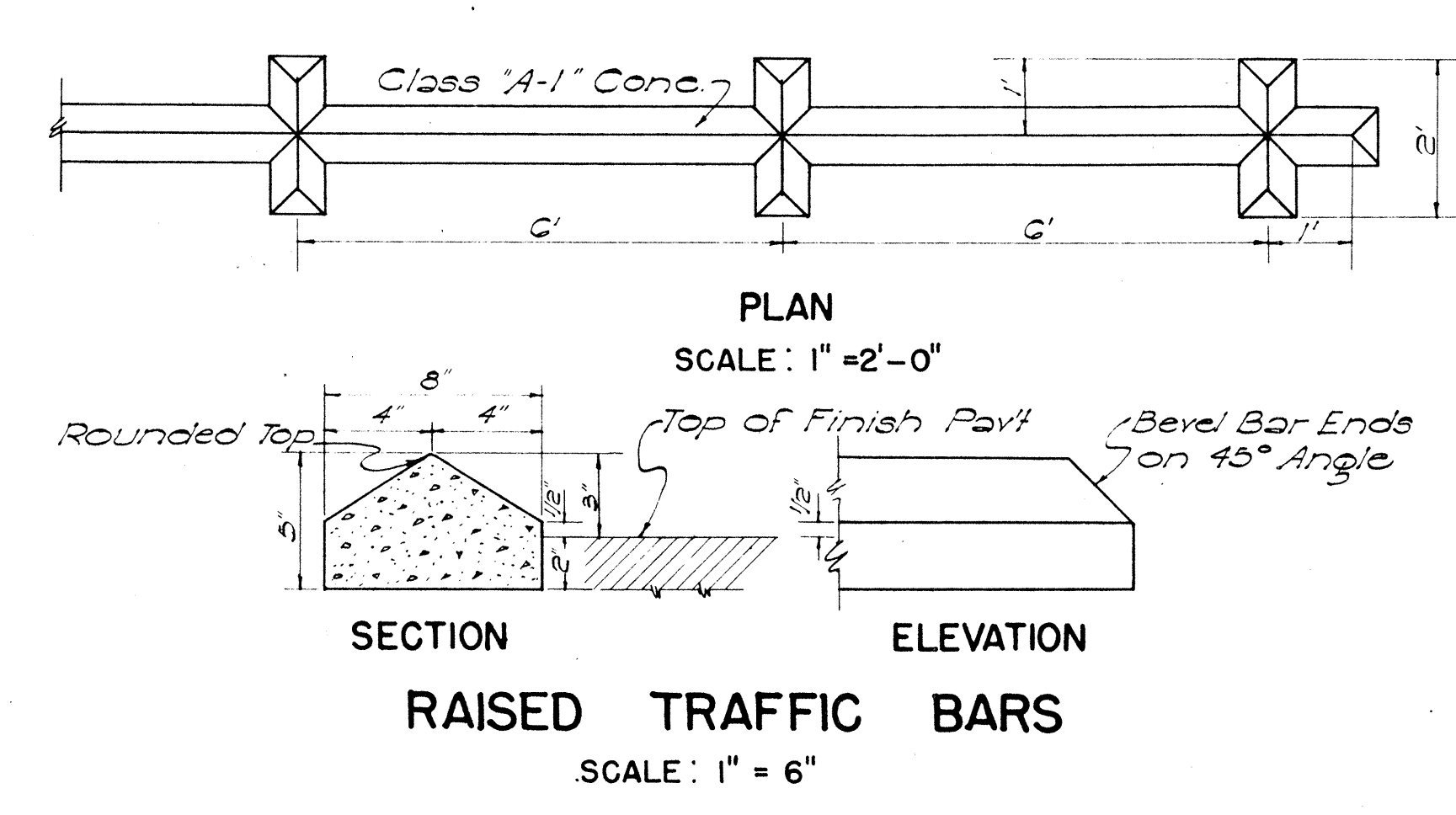
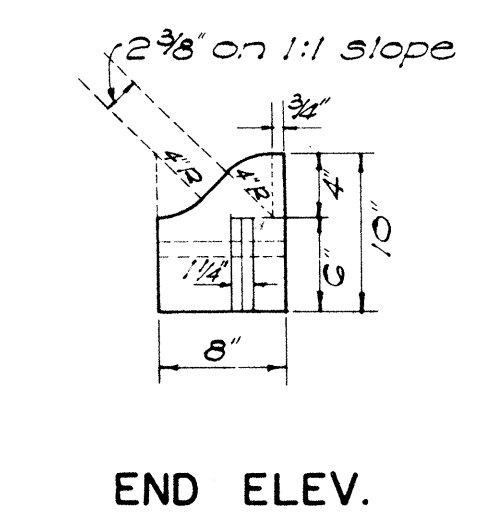
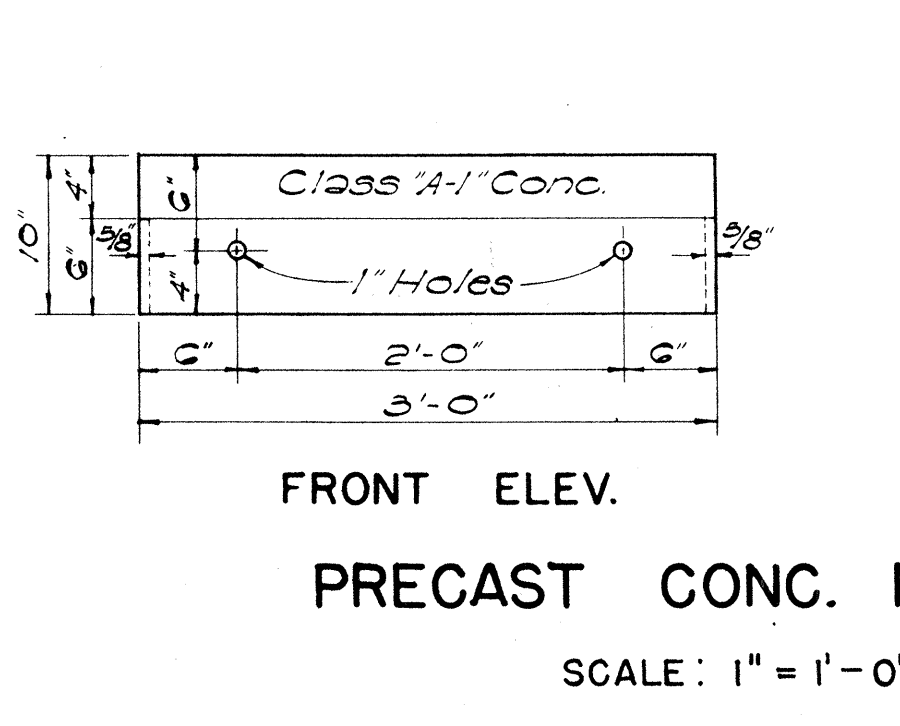
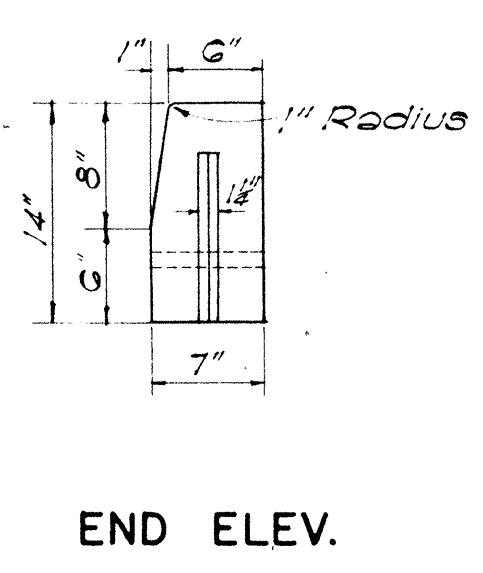
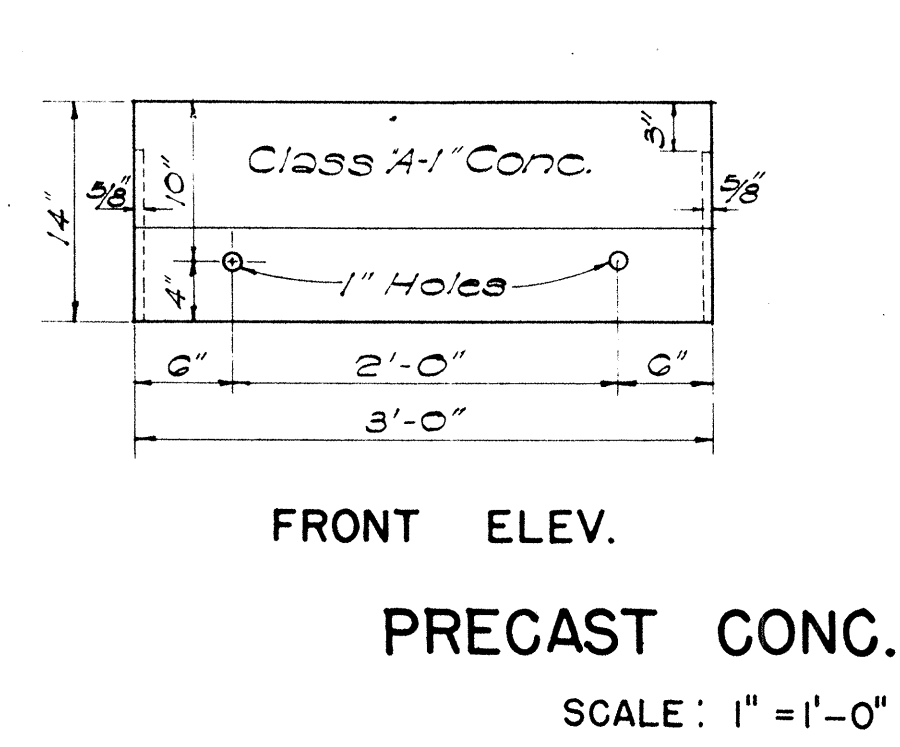
General Note Covering All Types of Curbs:
Occasionally curb rests on first layer of base course. See typical sections.



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 Cone 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



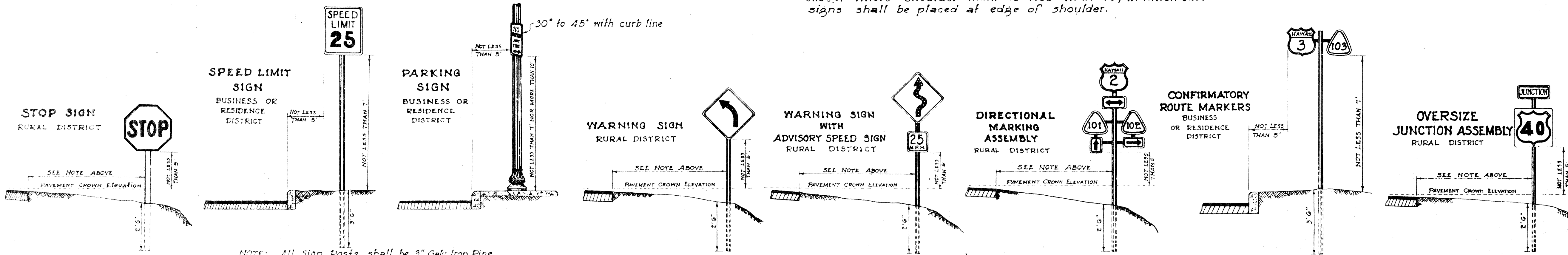
DATE: _____
DRAWN BY: _____
CHECKED BY: _____
NOTED BY: _____
ORIGINAL PLAN: _____
NOTE BOOK: _____

APPROVED: _____
DATE: 6-23-53
TERRITORIAL HIGHWAY ENGINEER

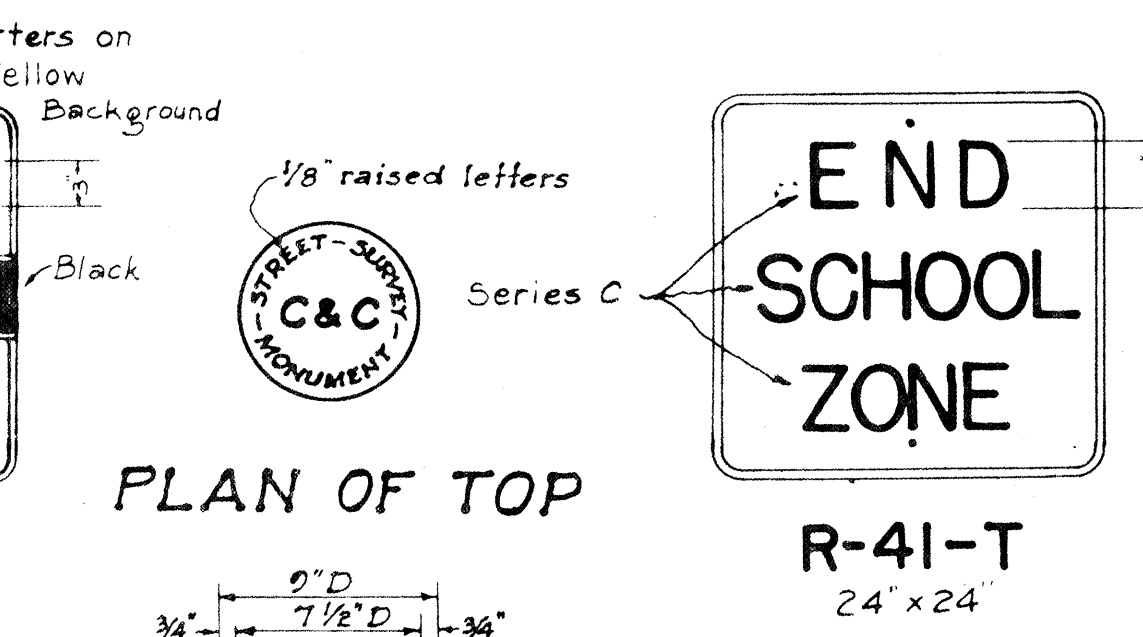
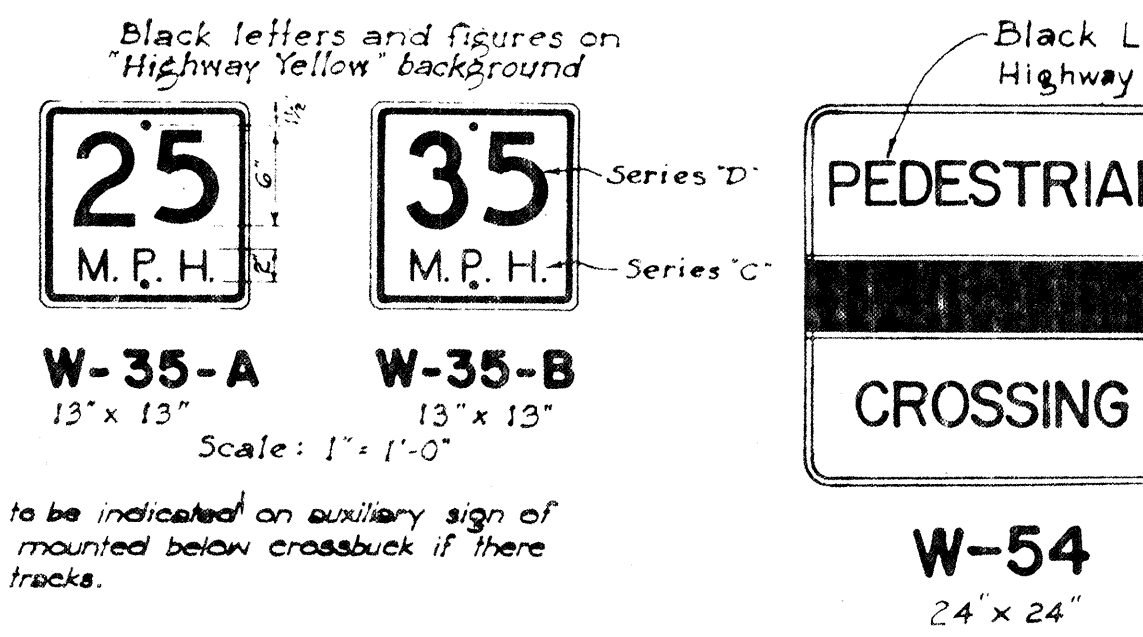
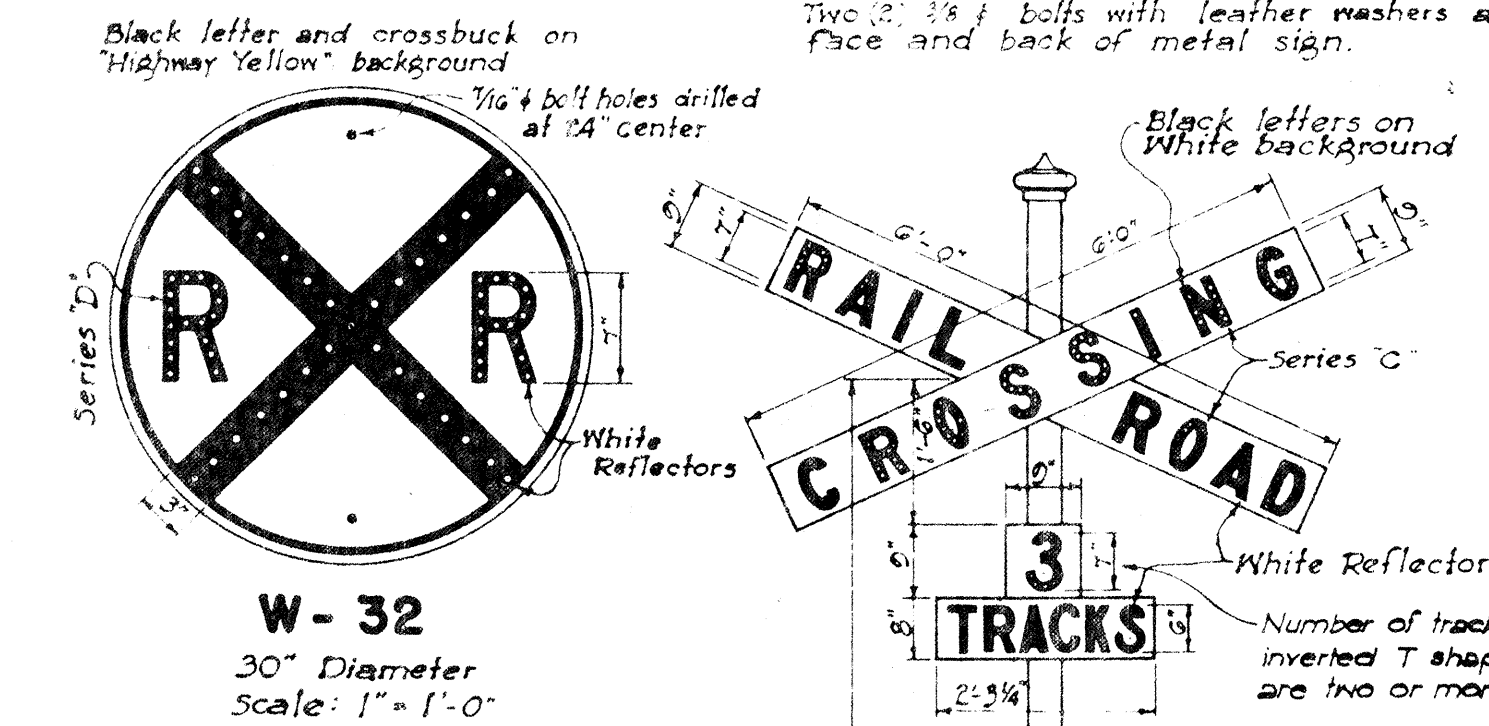
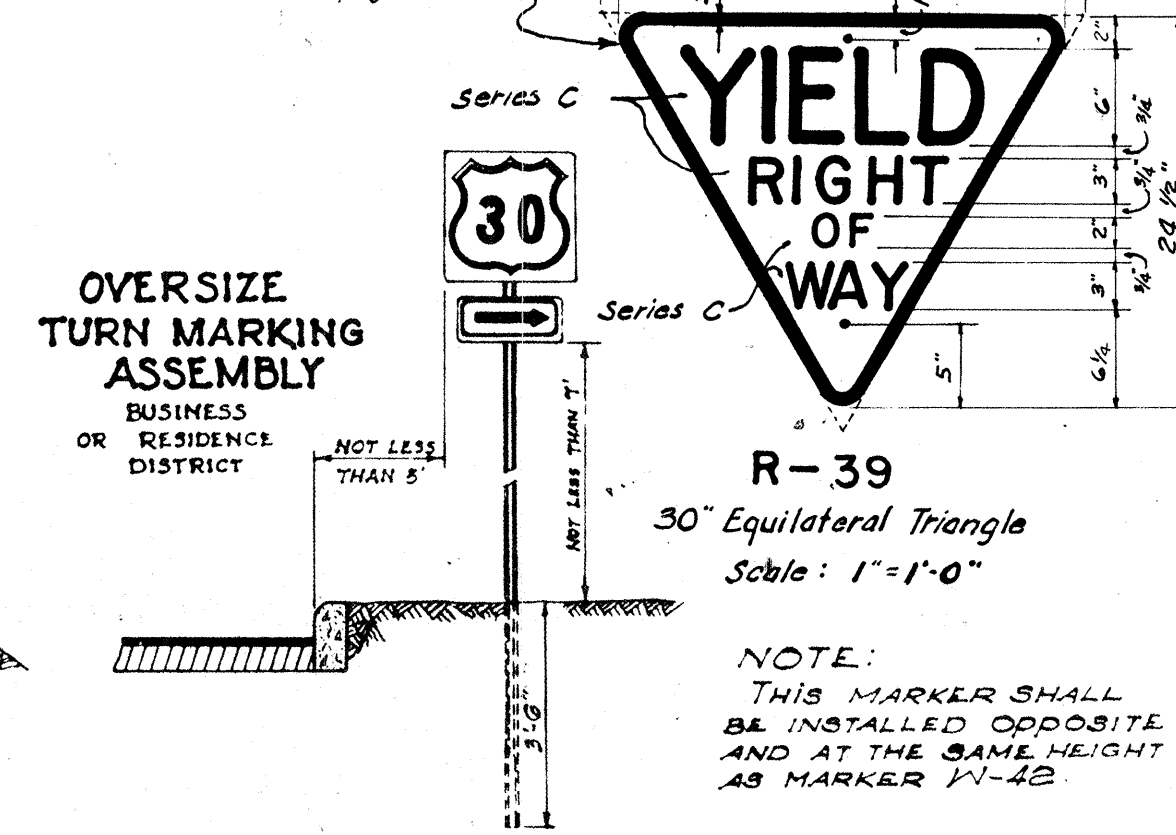
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
STANDARD DETAILS
CONCRETE CURBS,
CONCRETE CURBS & GUTTERS
SCALES AS NOTED
SHEET No 1 OF 6 SHEETS

NOTE: All signs shall be placed 10' from edge of pavement except where shoulder width is less than 10', in which case signs shall be placed at edge of shoulder.

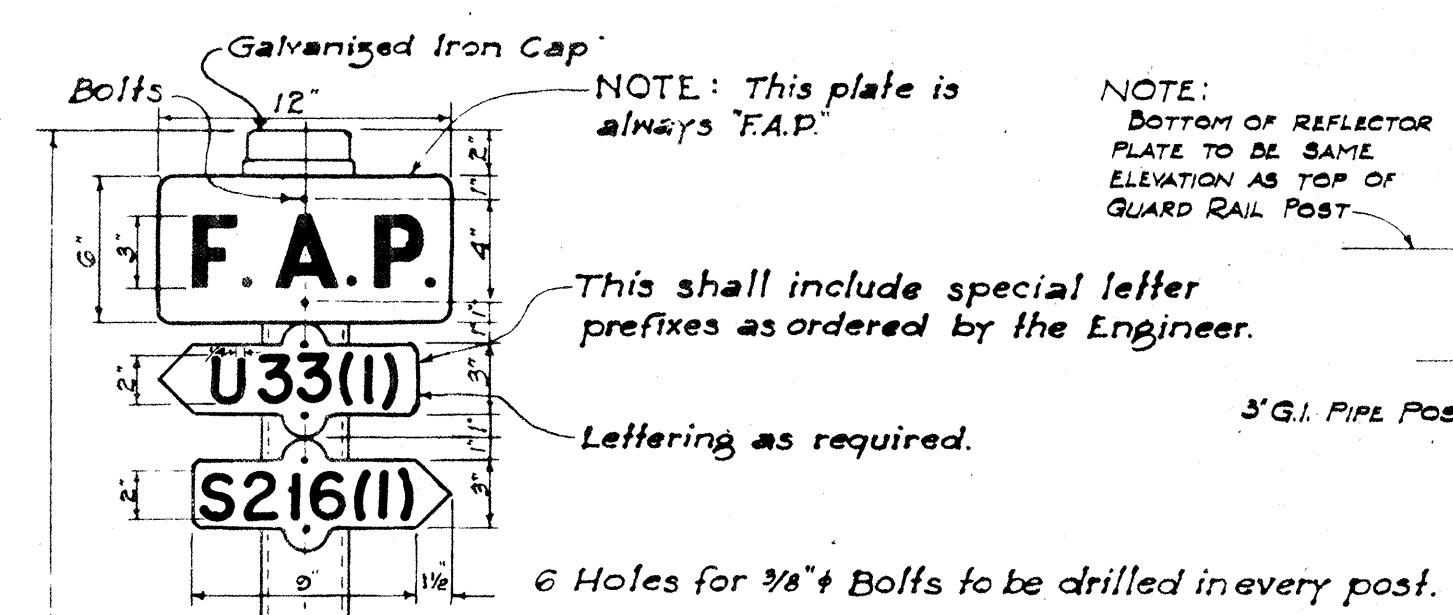
NOTE: For R-39, Black Border and Letters on Yellow Background.



HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATIONS
Scale: 1" = 3'-0"

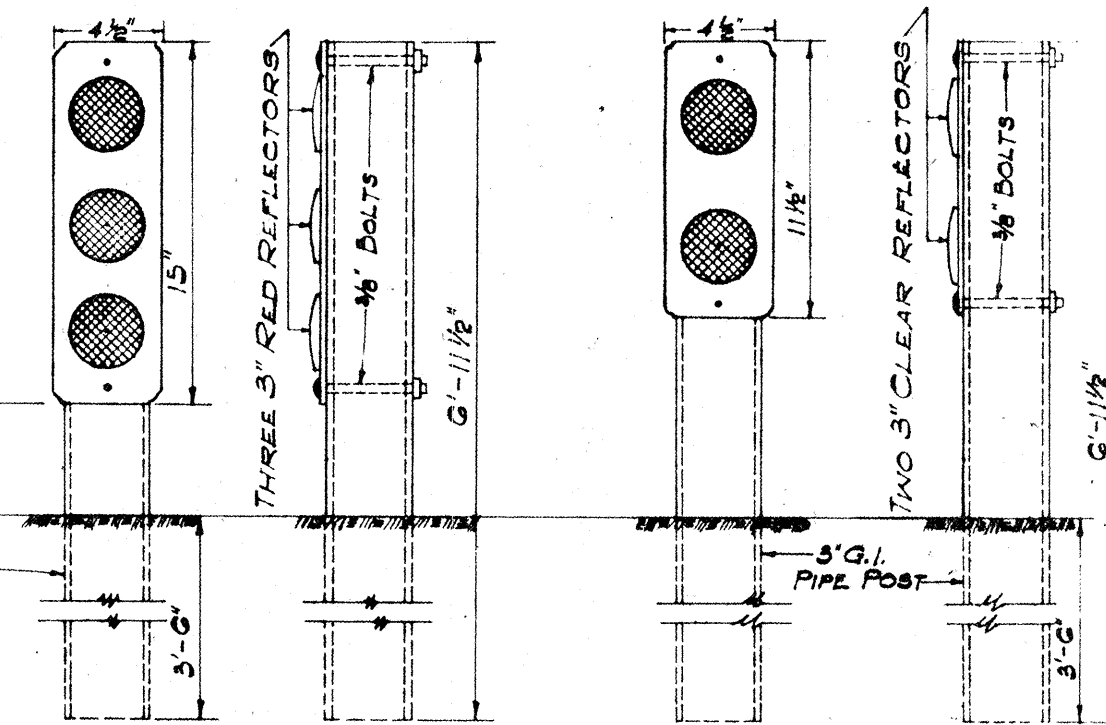


PLAN OF TOP

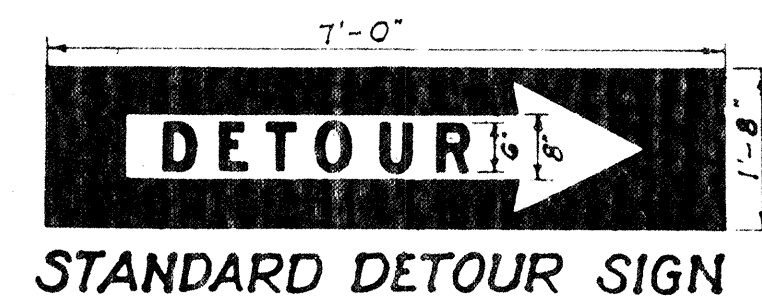


ARRANGEMENT OF MARKERS

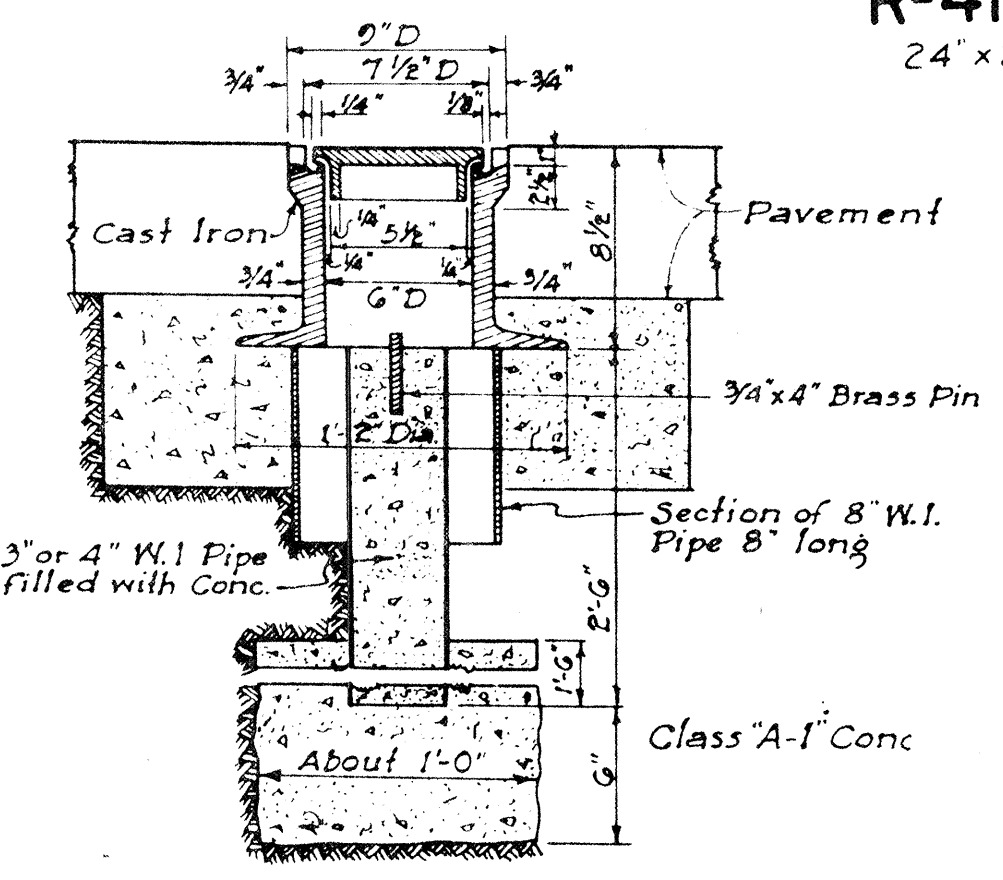
One F.A.P. Marker and one plate shall be placed at the beginning and end of each isolated F.A. Project. Where two F.A. Project adjoin, a single marker and two Number plates shall be placed, each Number plate pointing in the direction of the project to which it refers.



W-42 W-43

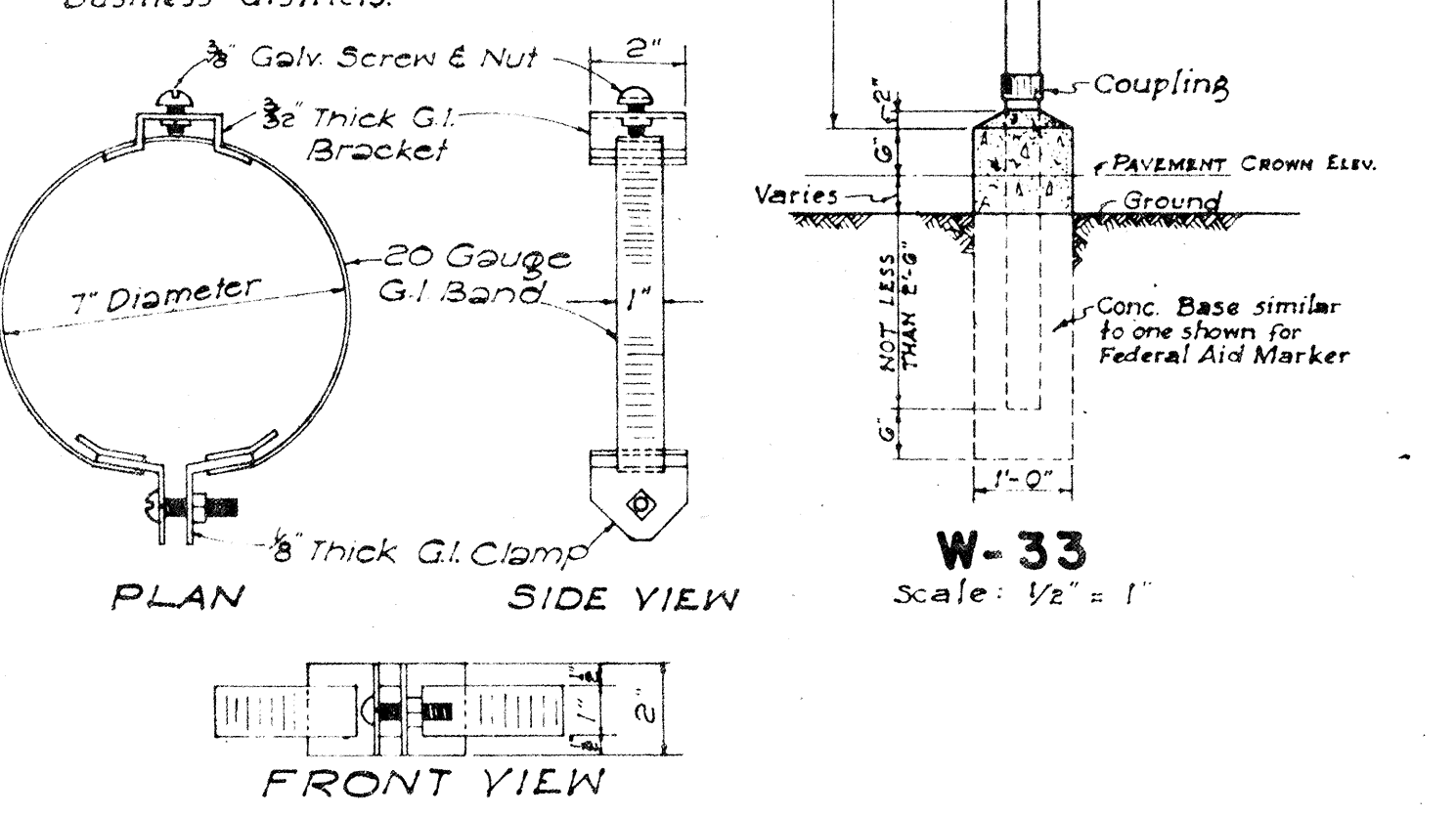


STANDARD DETOUR SIGN



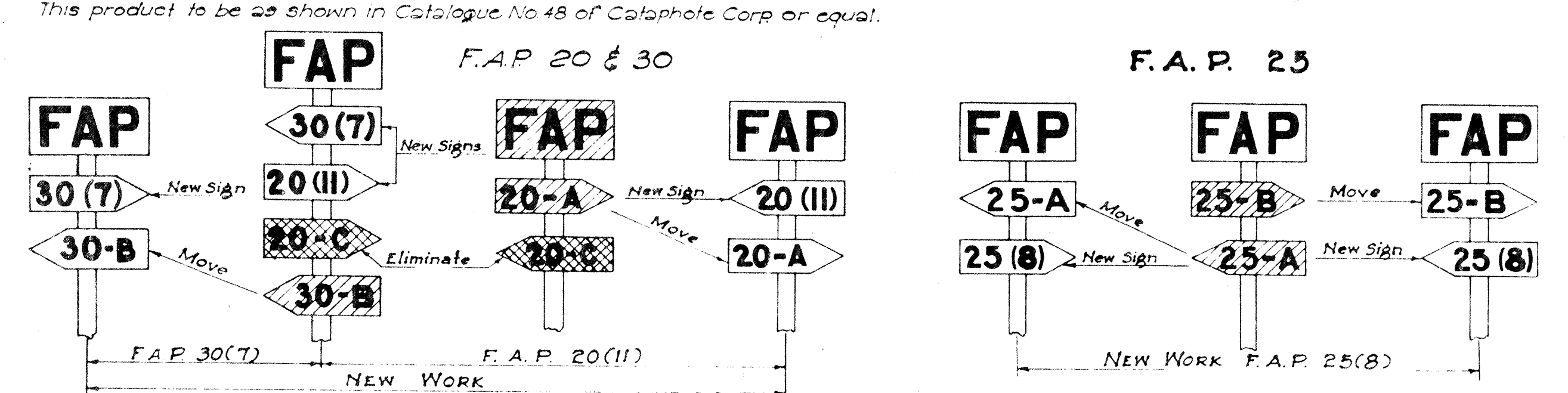
STANDARD C&C STREET SURVEY MONUMENT

CENTER LINE MONUMENT
Scale: 1/2" = 1'-0"

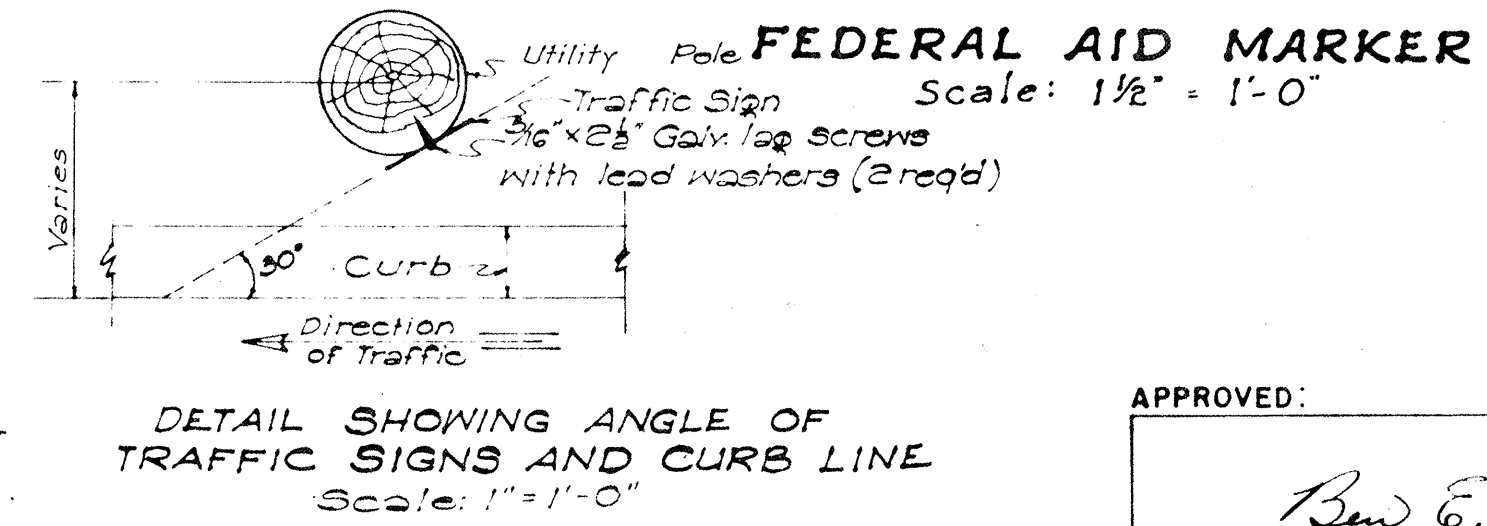


W-33
Scale: 1/2" = 1'-0"

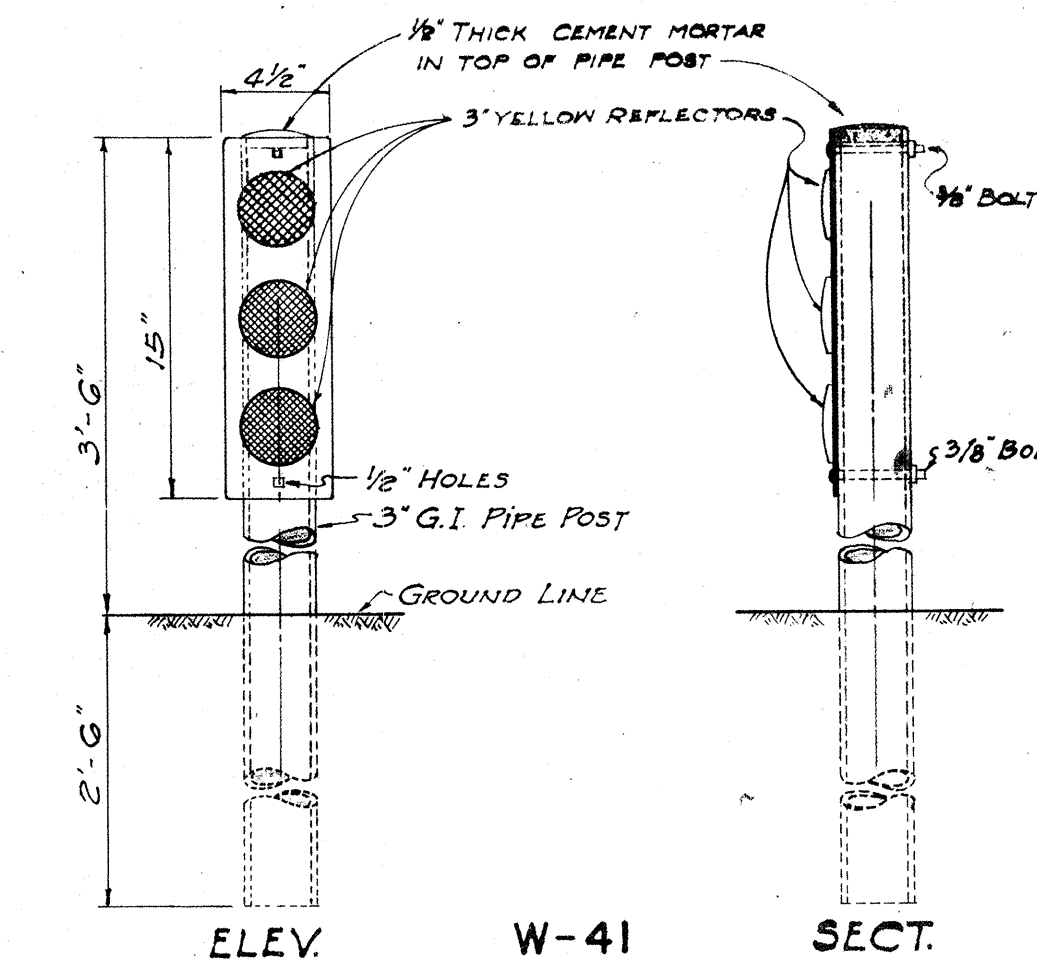
ADJUSTABLE BAND BRACKET FOR SUPPORTING TRAFFIC SIGNS ON MONOTUBE LIGHTING STANDARDS
Scale: 3/4" = 1'-0"



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



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

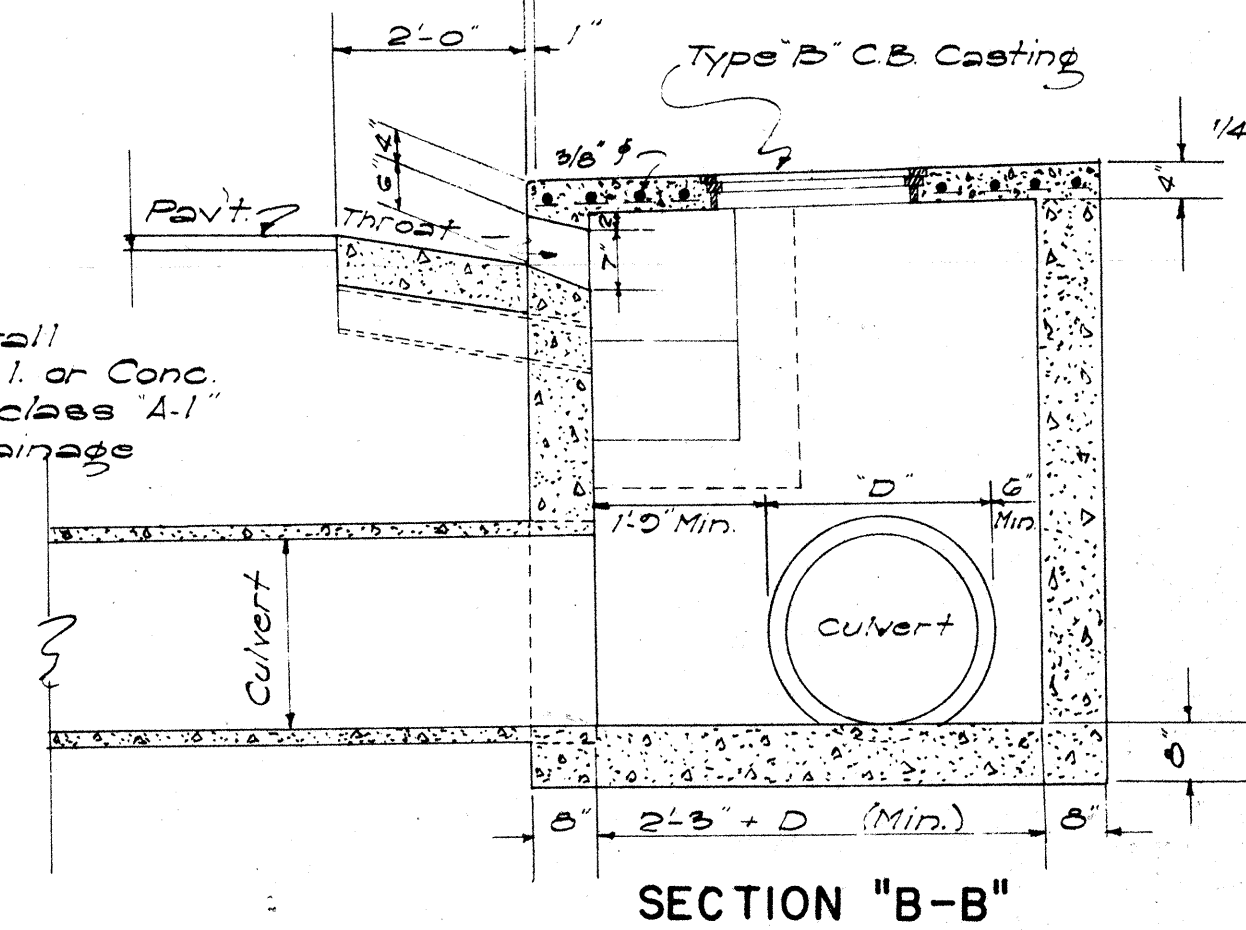


DETAIL OF SIGNS
Scale: 1 1/2" = 1'-0"

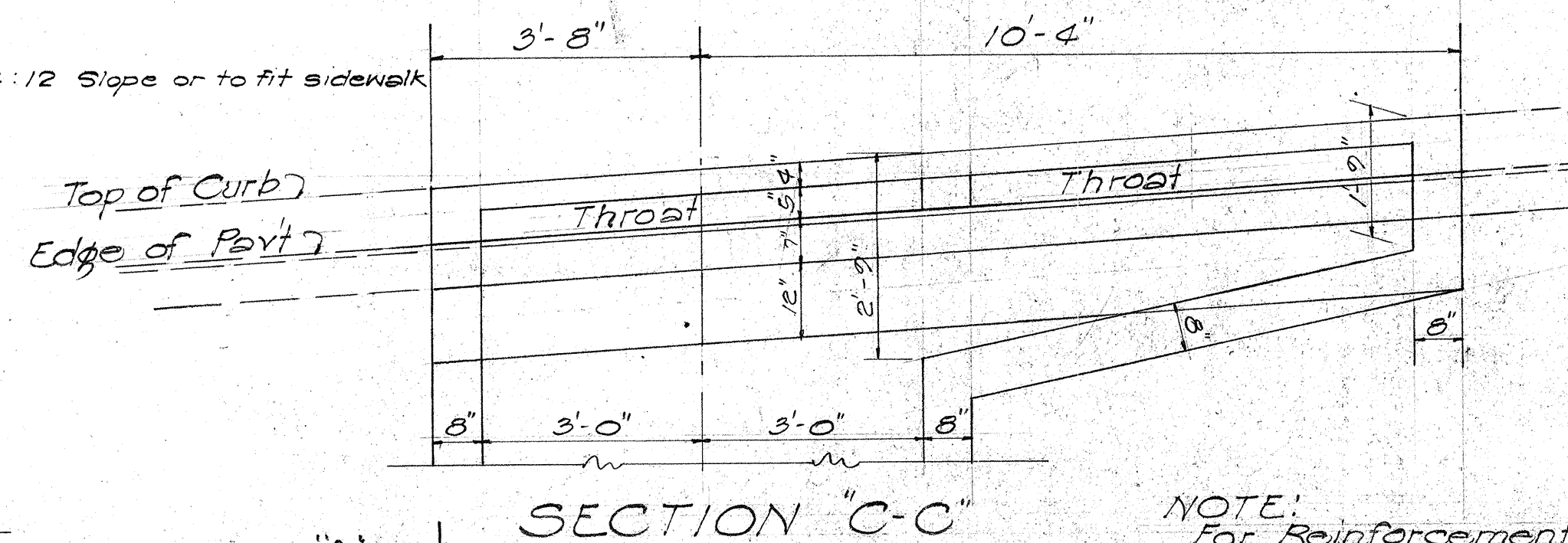
APPROVED: _____ DATE: 6-23-53
TERRITORIAL HIGHWAY ENGINEER

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
STANDARD DETAILS
F.A. MARKERS, MONUMENTS
SIGNS & LOCATION OF SIGNS
SCALES AS NOTED

NOTE:
Provide Manhole Rungs where necessary.

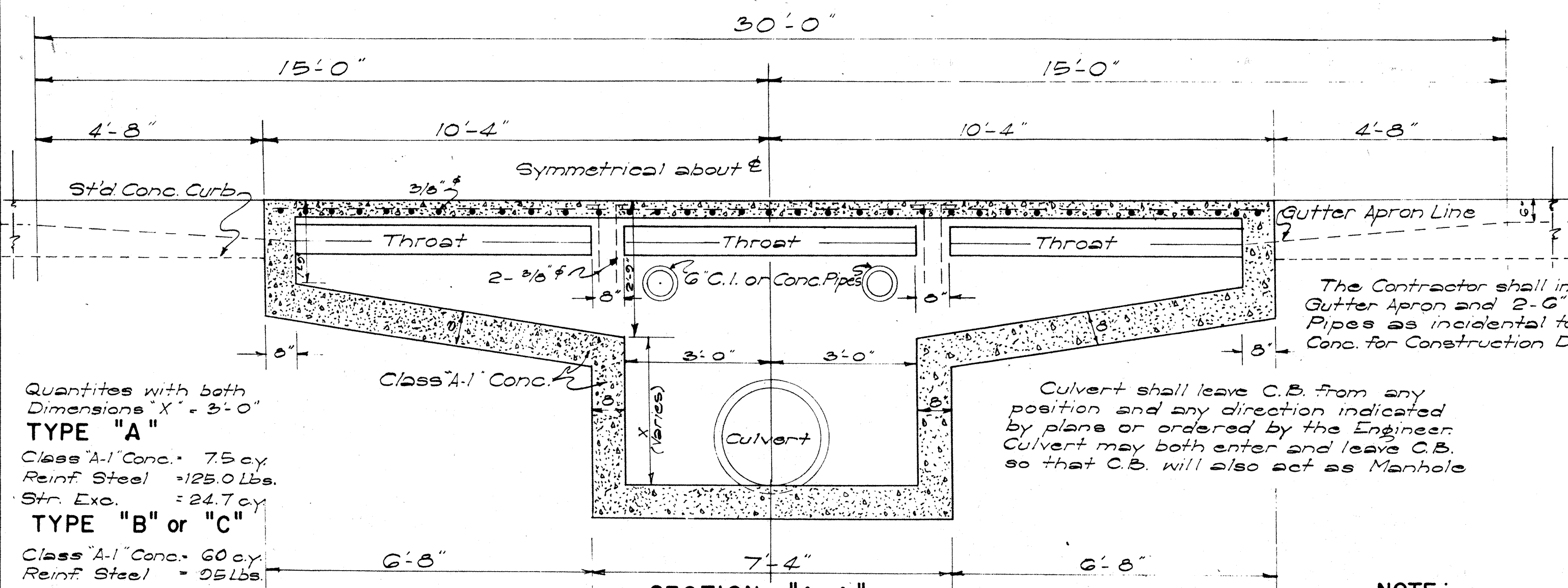


SECTION "B-B"



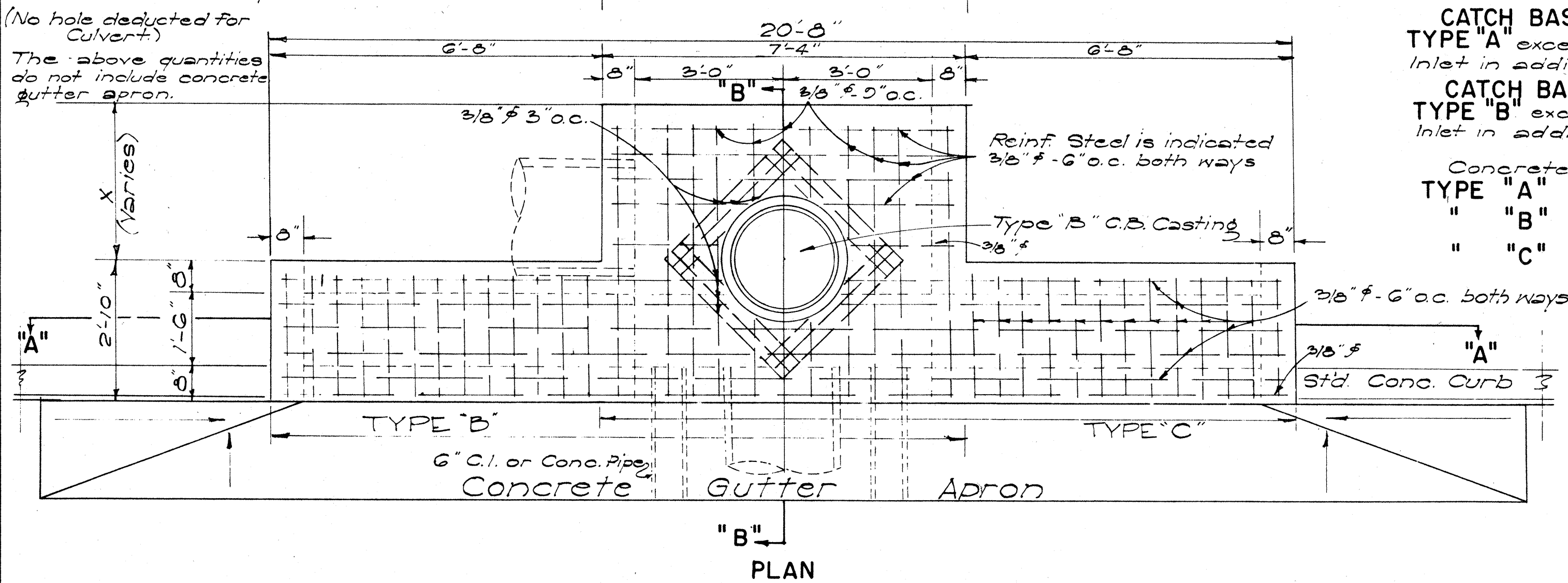
SECTION "C-C"

NOTE:
For Reinforcement see Standard at Left.
Provide smooth transition between tops of Sidewalk and Catch Basin.



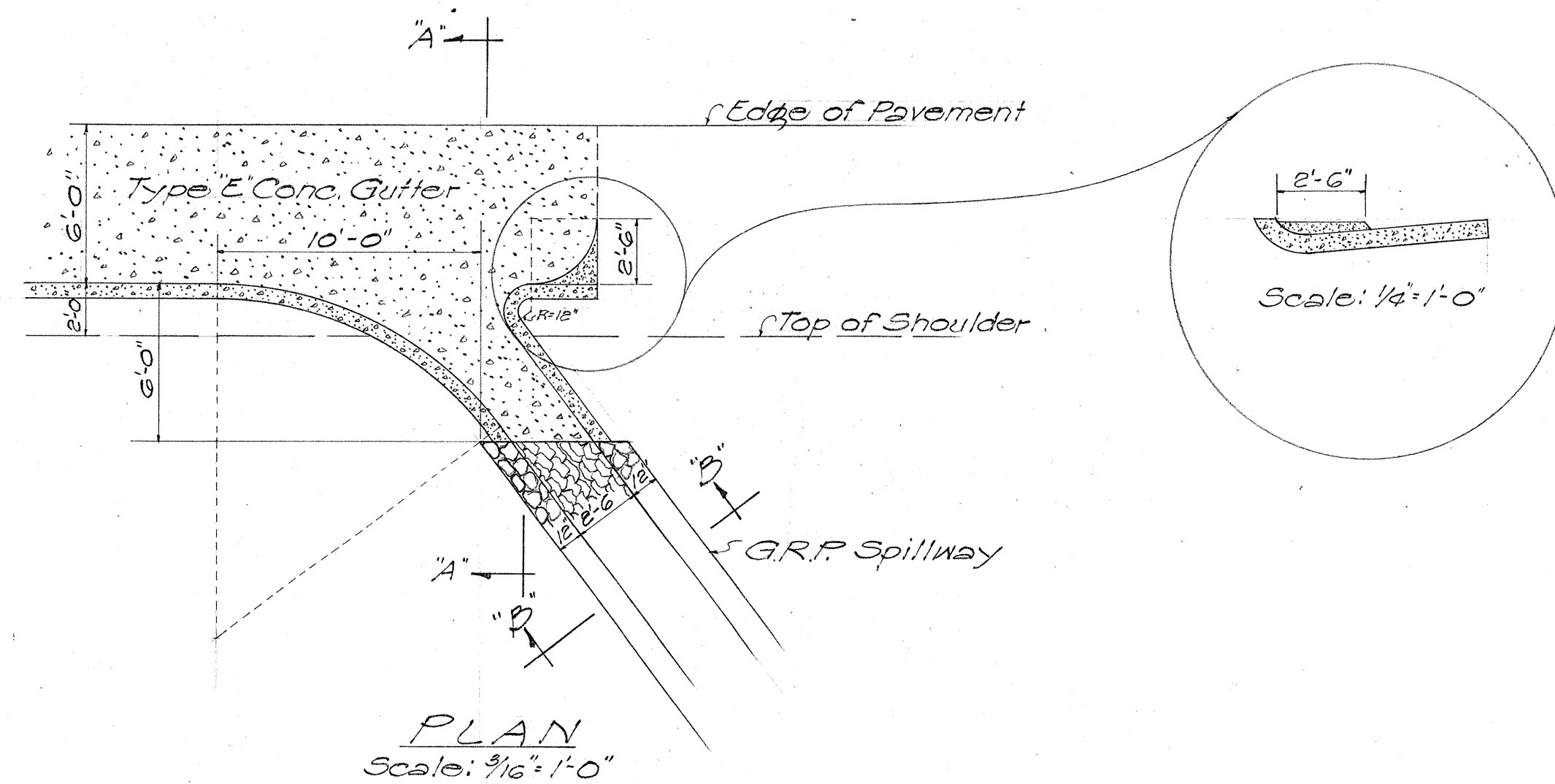
SECTION "A-A"

NOTE:
CATCH BASIN TYPE "B" similar to TYPE "A" except it has only Left Side Inlet in addition to the Main Box.
CATCH BASIN TYPE "C" similar to TYPE "B" except it has only Right Side Inlet in addition to the Main Box.
Concrete Gutter Length:
TYPE "A" = 30'-0"
" "B" = 23'-4"
" "C" = 23'-4"



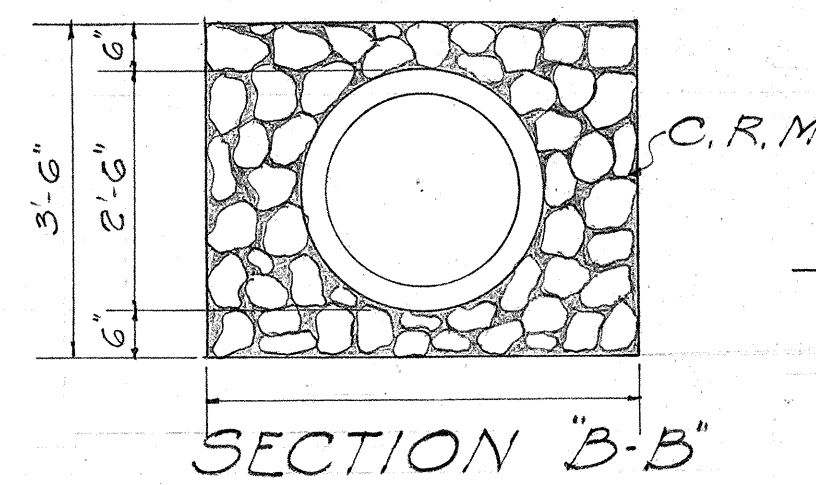
PLAN

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

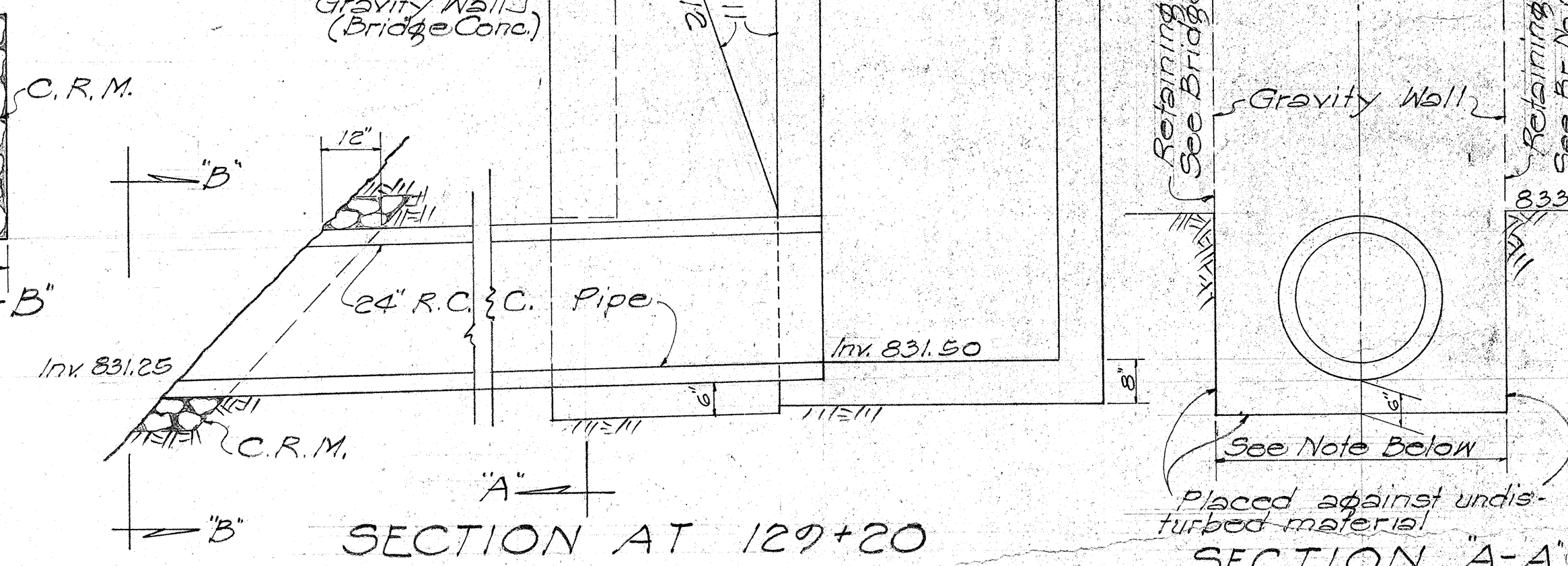


PLAN
Scale: 3/16" = 1'-0"

DETAIL OF SPILLWAY
Scales: As Noted



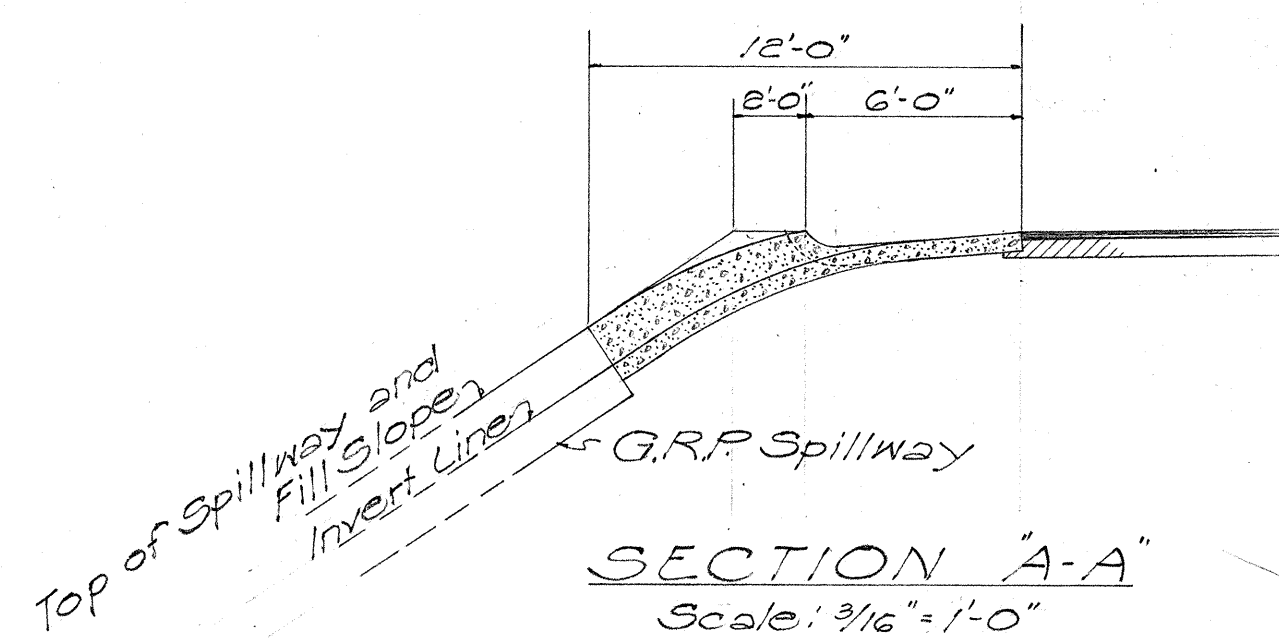
SECTION "B-B"



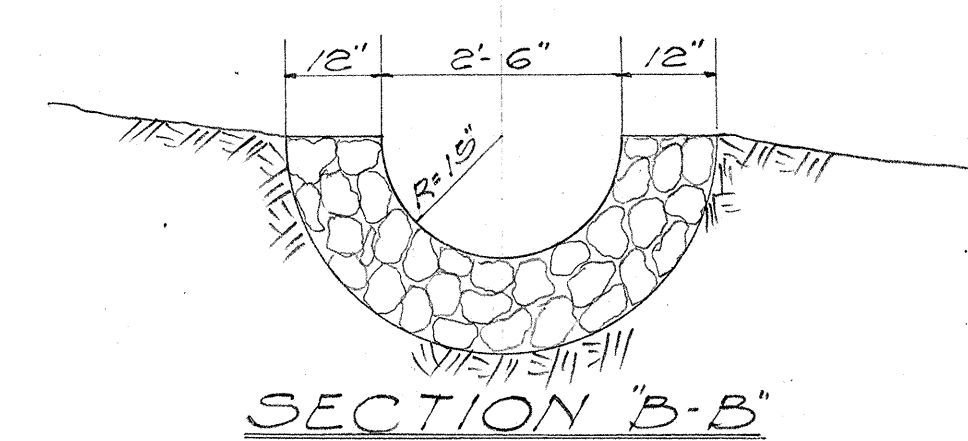
SECTION AT 129+20

DETAIL OF TYPE "C" CATCH BASIN AND GRAVITY WALL AT 129+20
Scale: 1/8" = 1'-0"

NOTE:
1. Gravity Wall and Retaining Wall shall be poured monolithically.
2. The length of the Gravity Wall shall correspond to the excavation of the deep portion of the Catch Basin.



SECTION "A-A"
Scale: 3/16" = 1'-0"



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

APPROVED: *Rev. E. Hutter*
TERRITORIAL HIGHWAY ENGINEER

DATE 6-23-53

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
STANDARD DETAILS
CATCH BASINS
AND
DETAIL OF SPILLWAY
SCALES AS NOTED

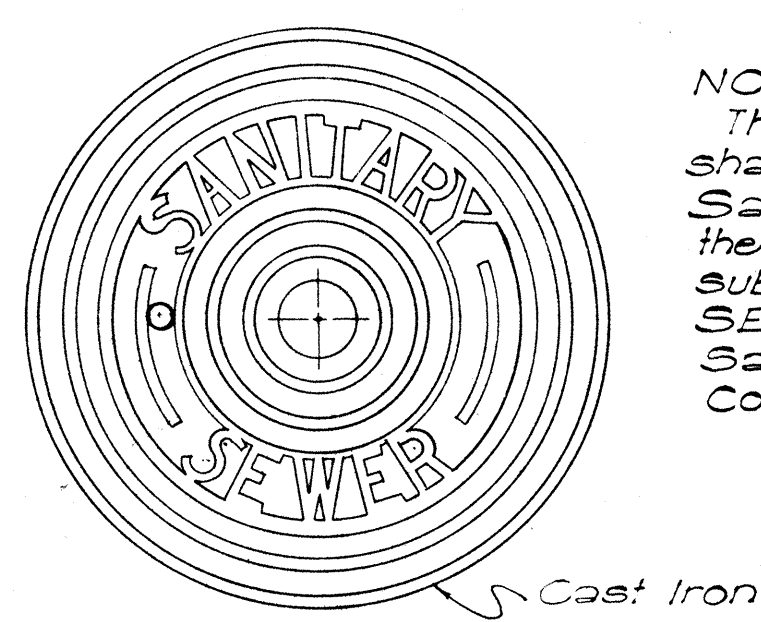
SHEET NO 3 OF 6 SHEETS

5752-11

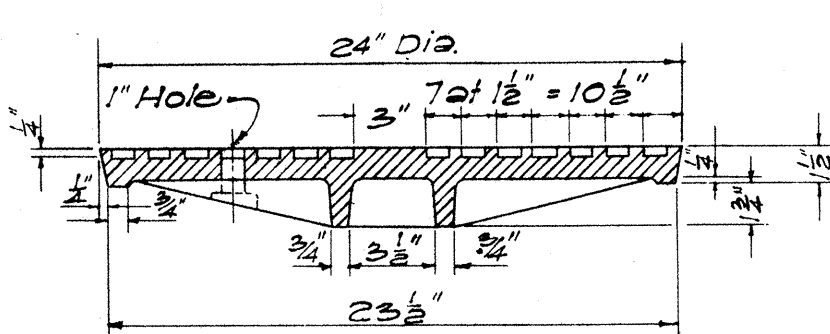
DATE: _____
DESIGNED BY: _____
DRAWN BY: _____
CHECKED BY: _____
NOTE BOOK No. _____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	5-061011	1955	12	34

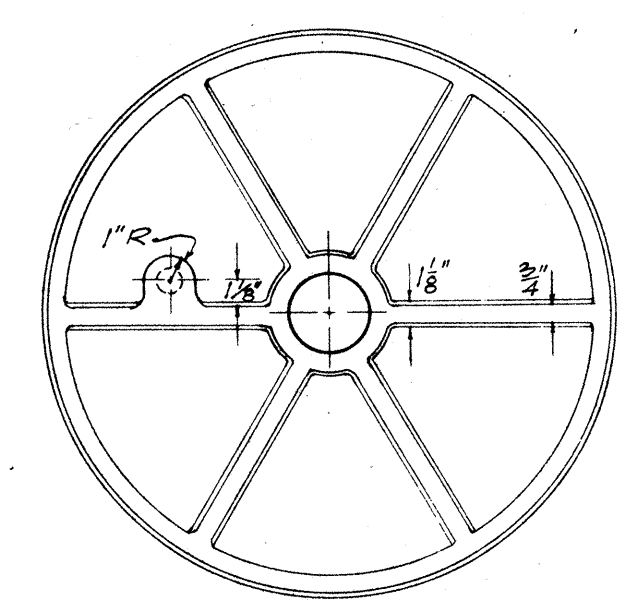
NOTE: Stock Pattern From Novelty Foundry Honolulu



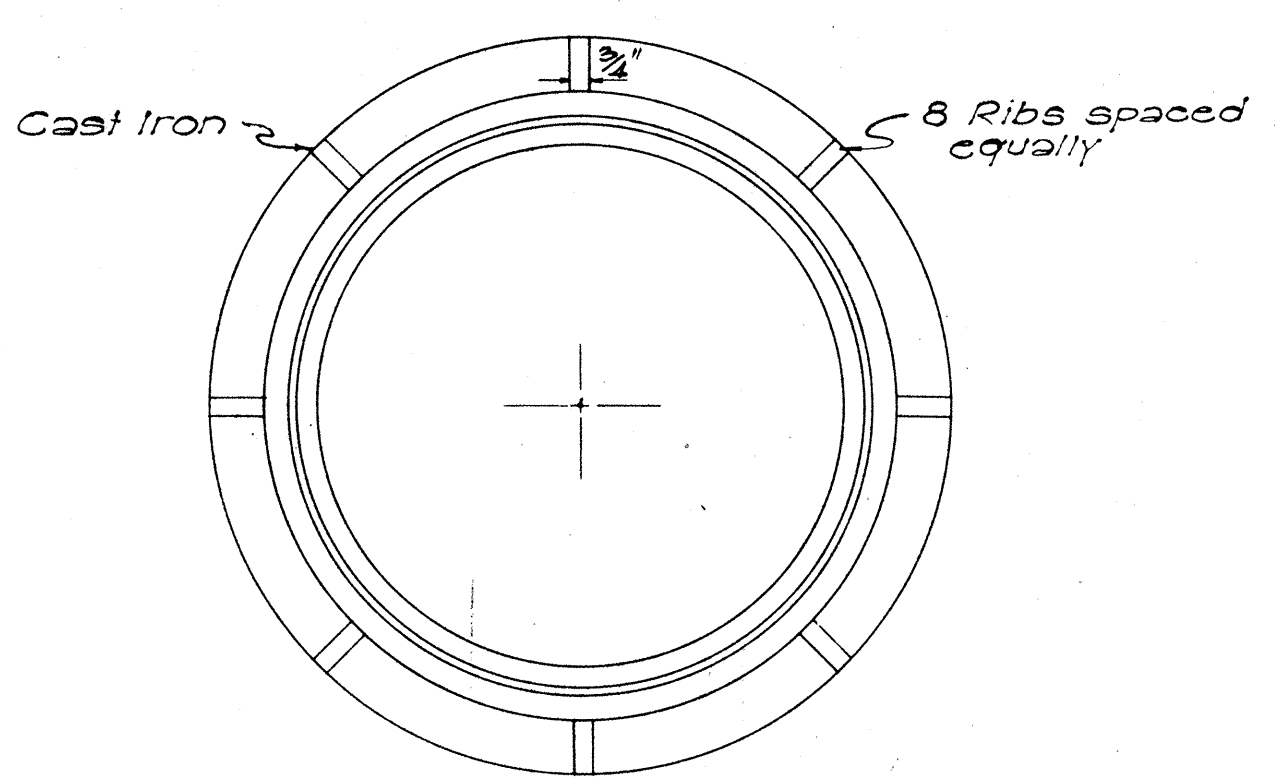
TOP VIEW OF COVER



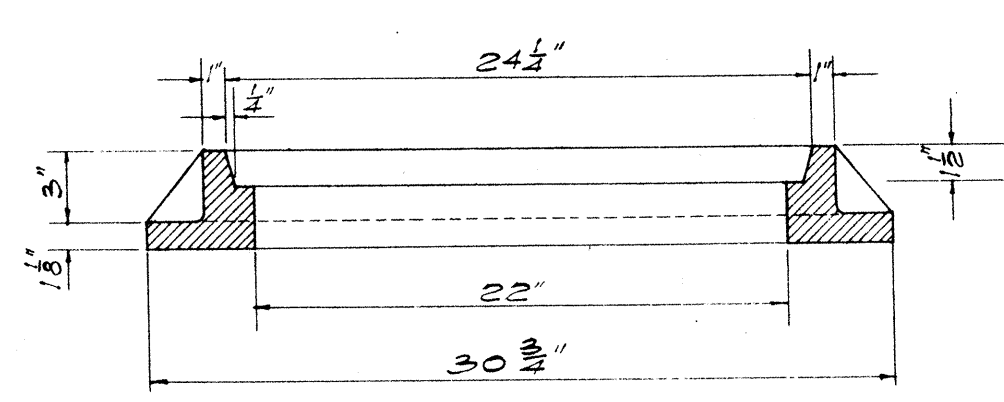
SECTION



BOTTOM VIEW OF COVER



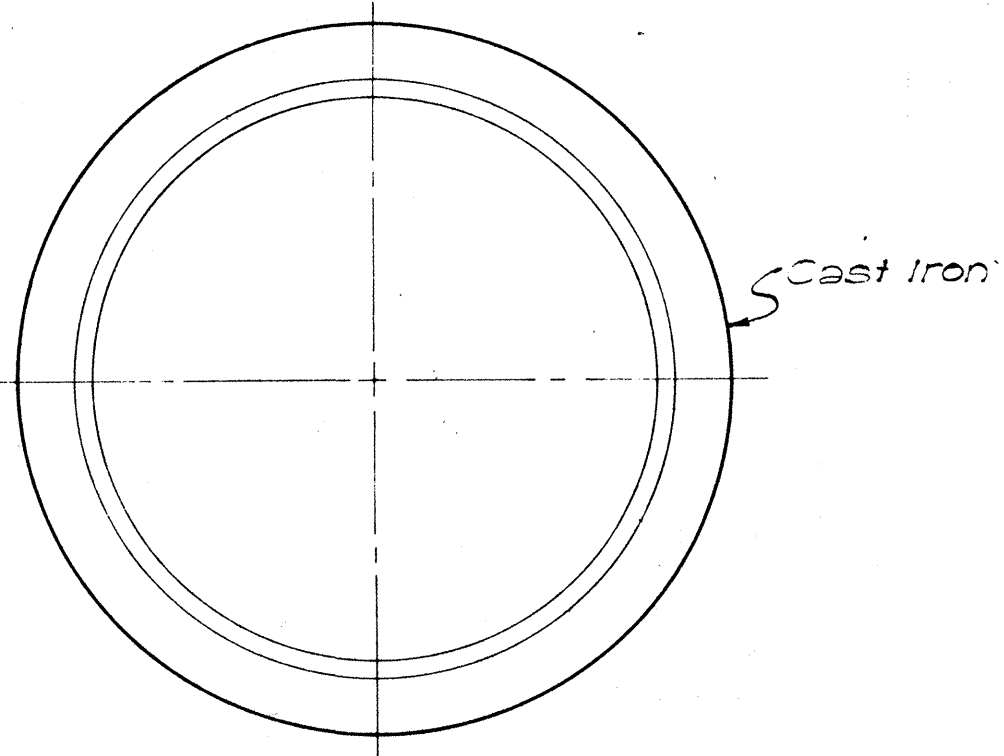
PLAN OF RIM



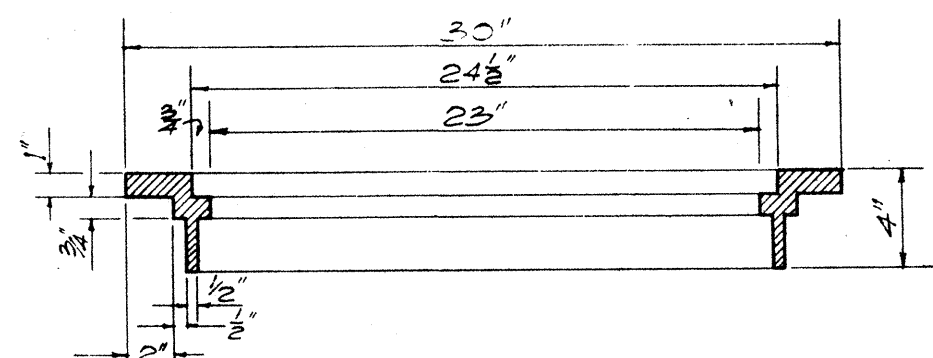
SECTION OF RIM
DETAILS OF TYPE "C"
MANHOLE CASTINGS

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

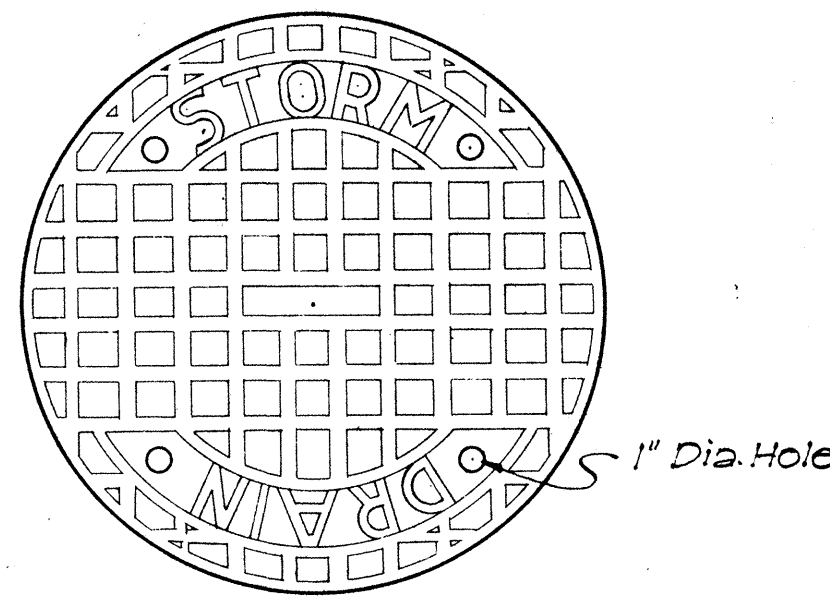
NOTE: The Cover for Water Manhole shall be the same as for Sanitary Sewer except that the word "WATER" shall be substituted for "SANITARY SEWER". The frames for Sanitary Sewer and Water Covers shall be the same.



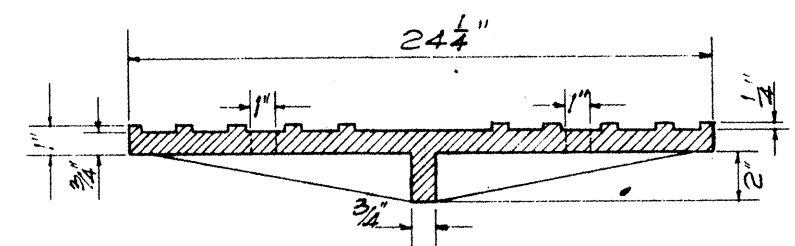
PLAN OF RIM



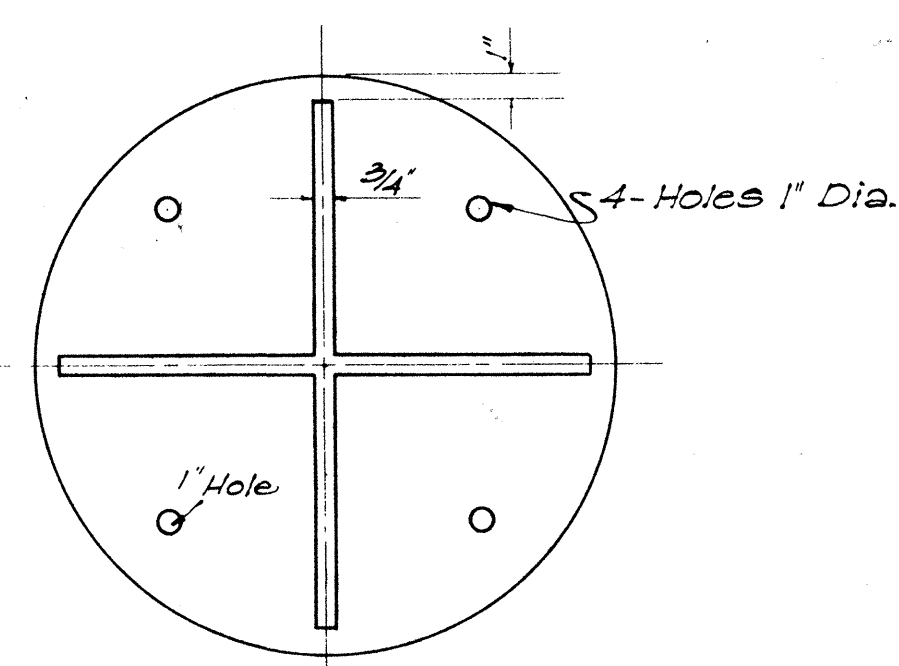
SECTION OF RIM



TOP VIEW OF COVER



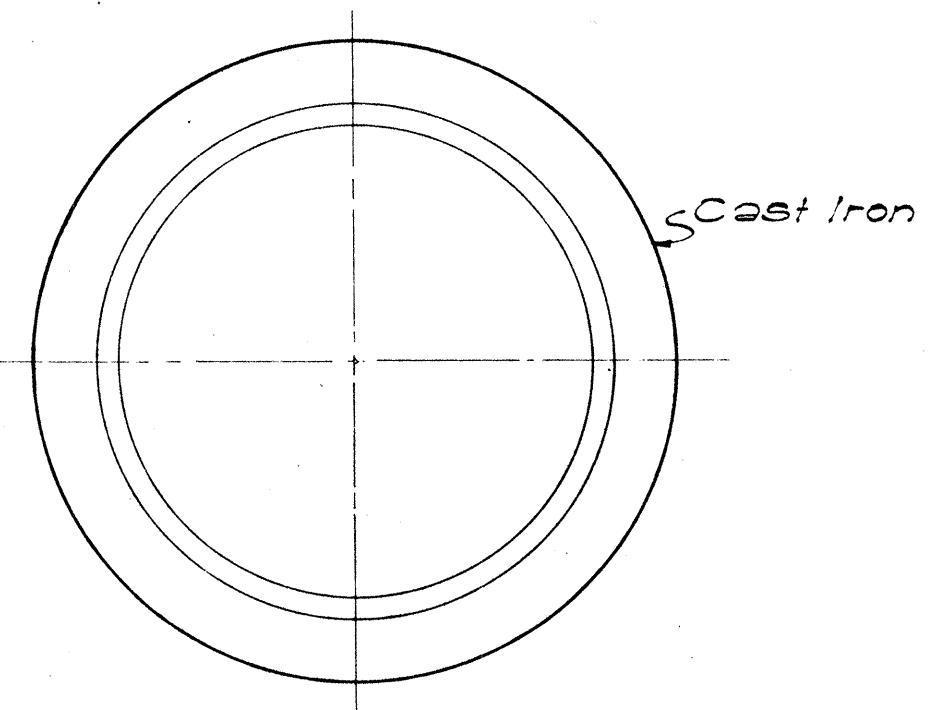
SECTION



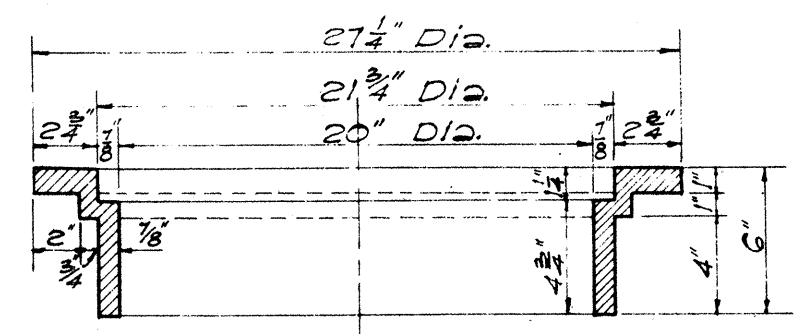
BOTTOM VIEW OF COVER

DETAILS OF TYPE "B"
CATCH BASIN CASTINGS

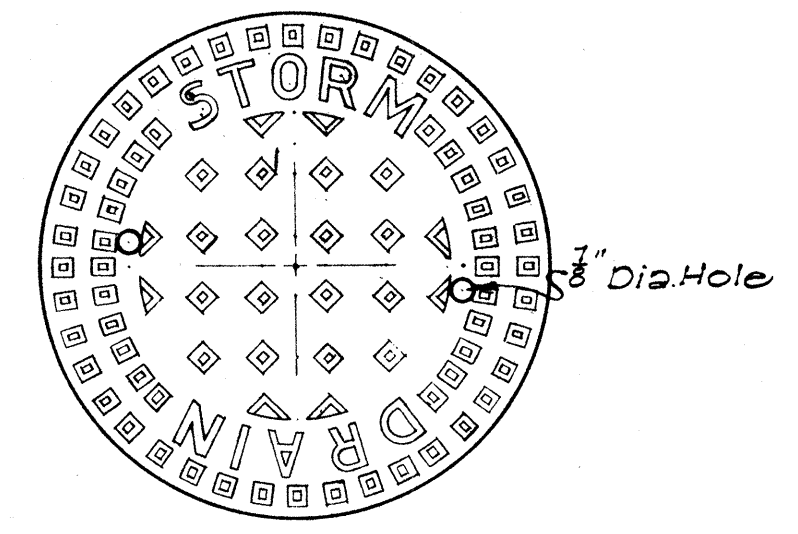
SCALE: 1-1/2" = 1'-0"



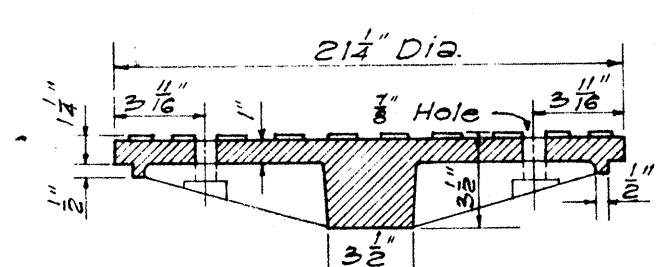
PLAN OF RIM



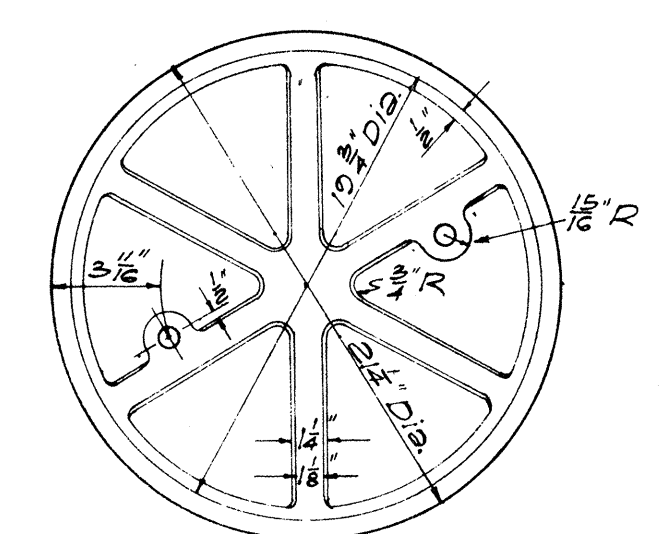
SECTION OF RIM



TOP VIEW OF COVER



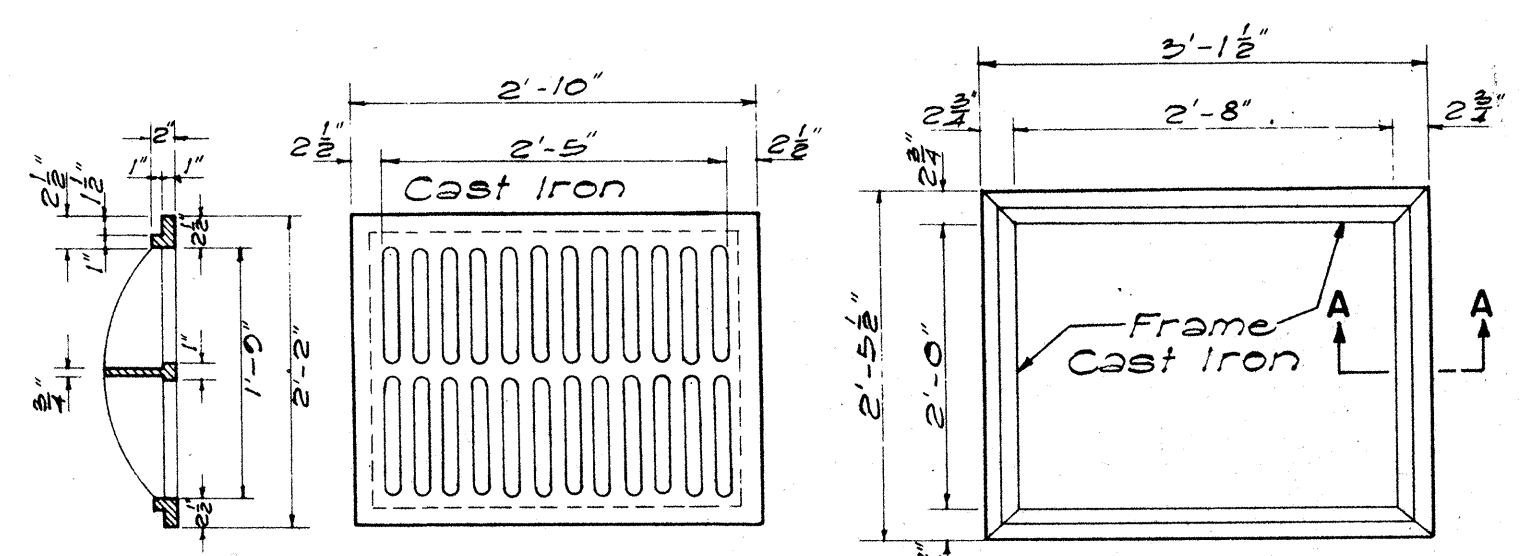
SECTION



BOTTOM VIEW OF COVER

DETAILS OF TYPE "A"
MANHOLE CASTINGS

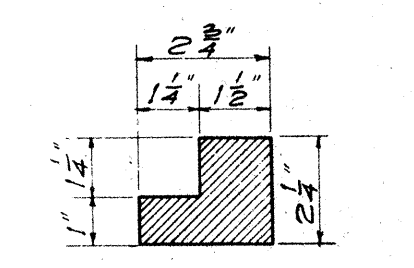
SCALE: 1-1/2" = 1'-0"



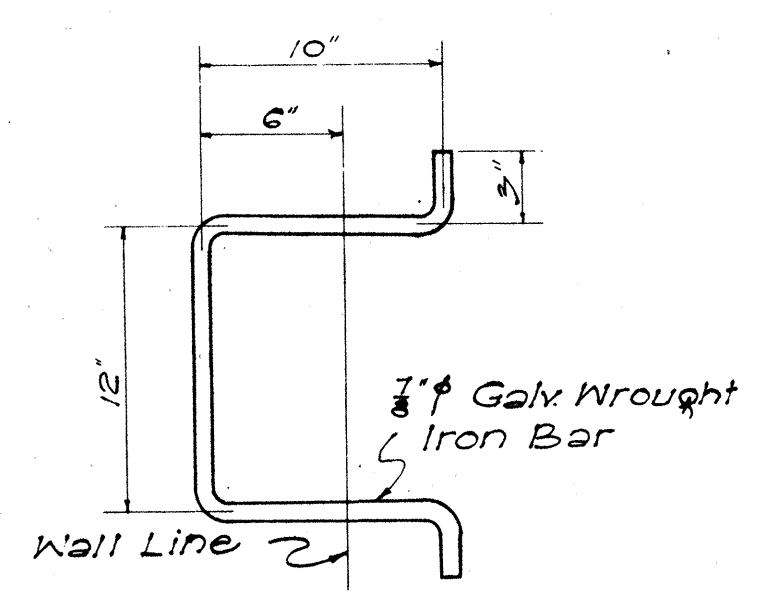
SECTION TOP VIEW TOP VIEW

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"

ORIGINAL PLAN	DESIGNED BY	DATE
NOTE BOOK	TRACED BY	
	QUANTITIES BY	
	CHECKED BY	

APPROVED: *Ben E. Hutter*
TERRITORIAL HIGHWAY ENGINEER

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
STANDARD DETAILS
CATCH BASIN AND
MANHOLE CASTINGS
SCALES AS NOTED
SHEET No 4 OF 6 SHEETS

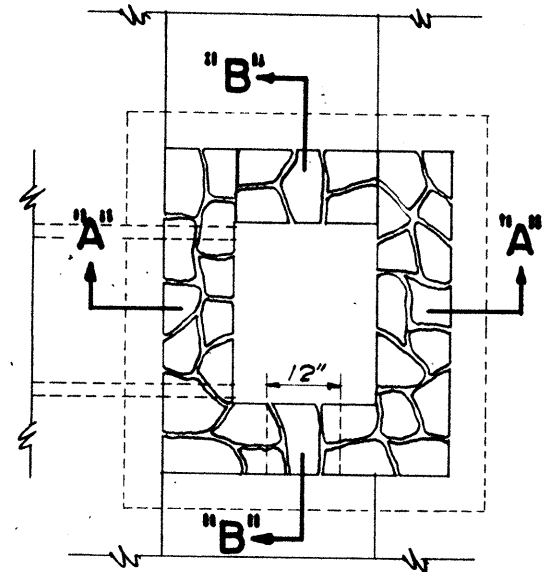
5752-12

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'-6"	5'-0"	
36"	36"	3'-0"	6'-0"	

DETAIL OF OUTLET DITCH
Scale: 1/2" = 1'-0"

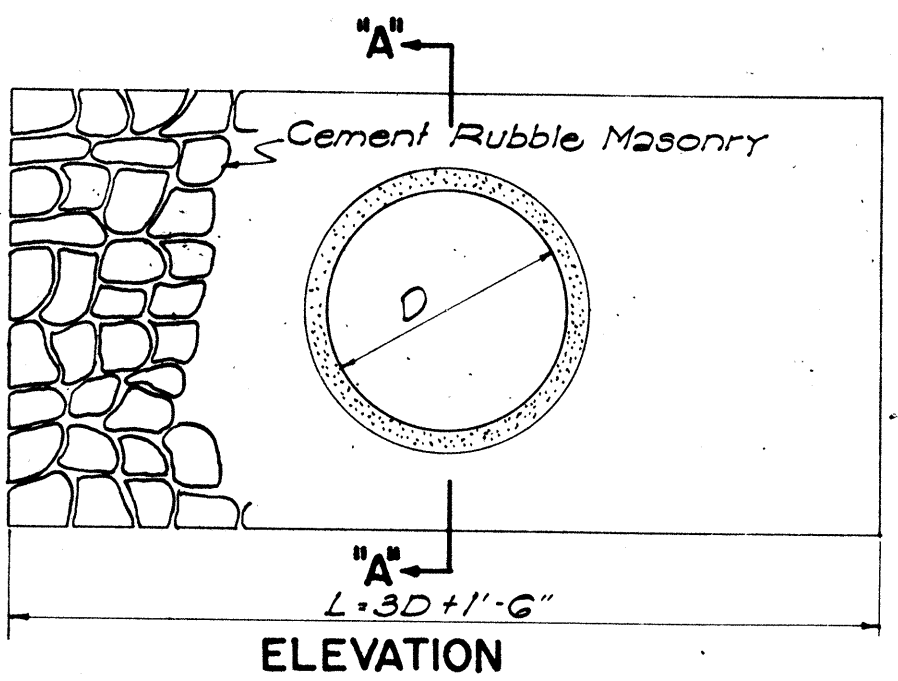
DATA FOR MASONRY DROP INTAKE					Where Variables Equal
D	D	L=D+G	Cu. Yds.		
23"	18"	2'-5"	3.02	4'-6"	
30"	24"	3'-0"	3.61	5'-0"	
37"	30"	3'-7"	4.21	5'-6"	
44"	36"	4'-2"	4.85	6'-0"	

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

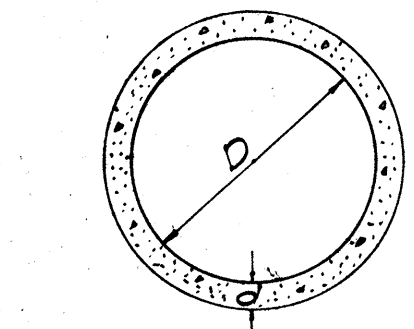


DETAIL OF MASONRY DROP INTAKE
Scale: 3/8" = 1'-0"

DATA - MASONRY HEADWALL				Cast-in-Place Conc. Culvert	Conc. Pipe Culvert	Corrugated Pipe Culvert
D	H	B	L	Cu. Yds.	Cu. Yds.	Cu. Yds.
18"	3'-6"	1'-0"	6'-0"	0.85	0.95	0.93
24"	4'-0"	2'-0"	7'-0"	1.28	1.45	1.41
30"	4'-6"	2'-3"	8'-0"	1.83	2.06	2.00
36"	5'-0"	2'-6"	10'-0"	2.40	2.84	2.72

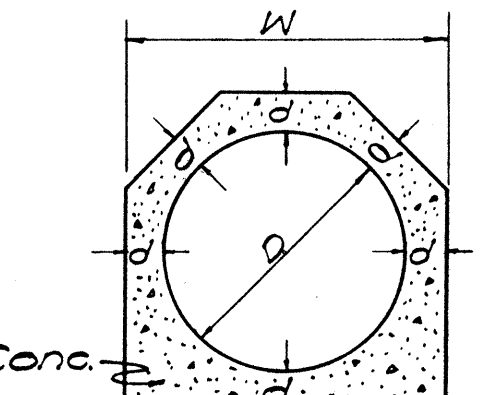


DETAIL OF MASONRY HEADWALL
Scale: 1/2" = 1'-0"



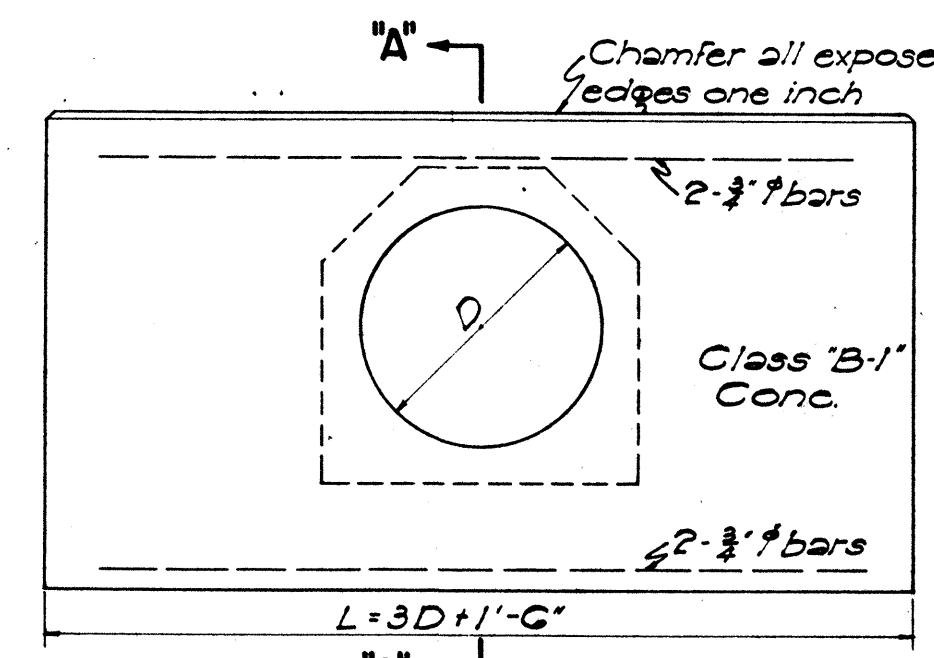
SECTION CONC. PIPE CULVERT

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



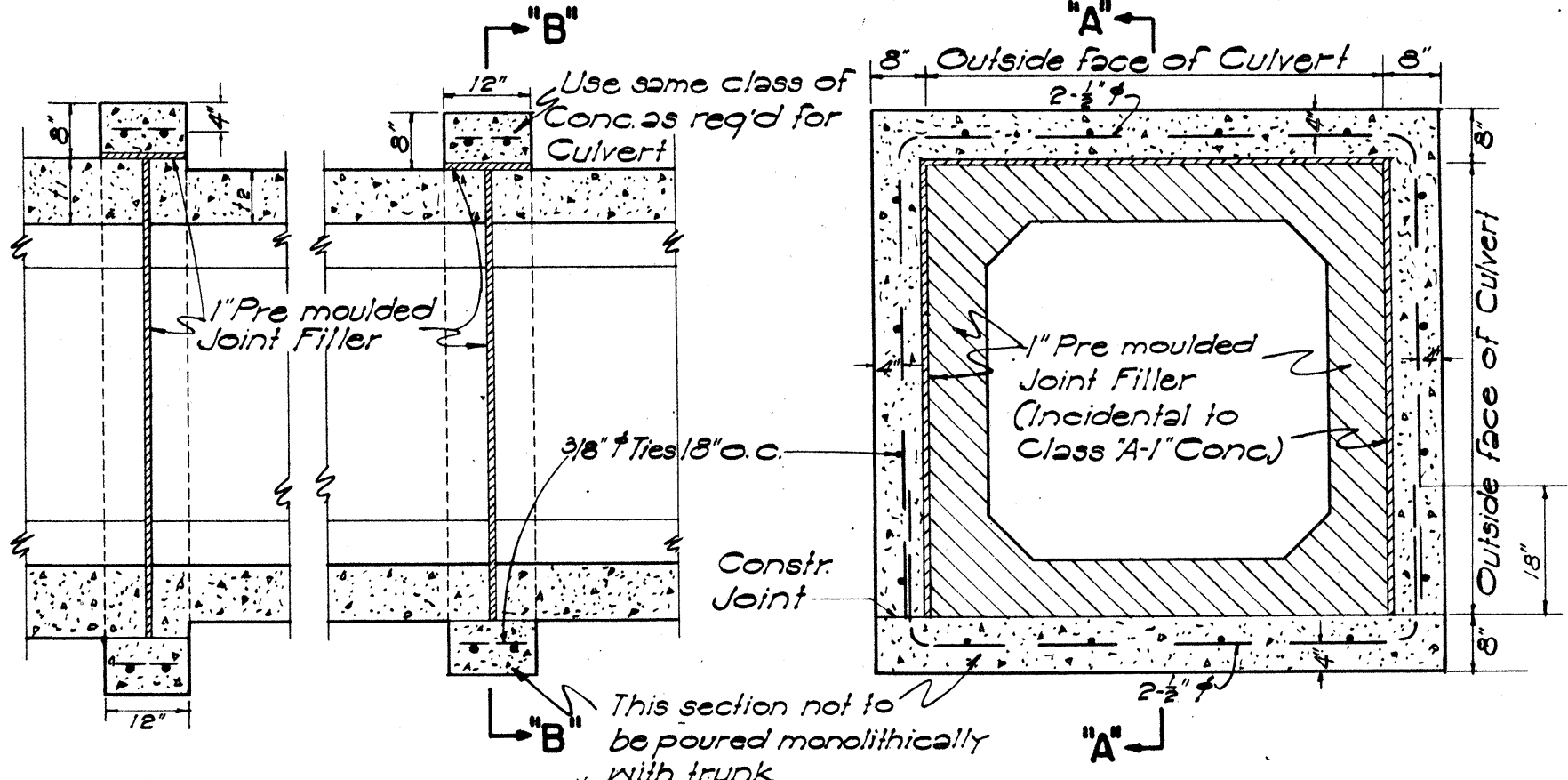
SECTION CAST-IN-PLACE CONC. CULVERT

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

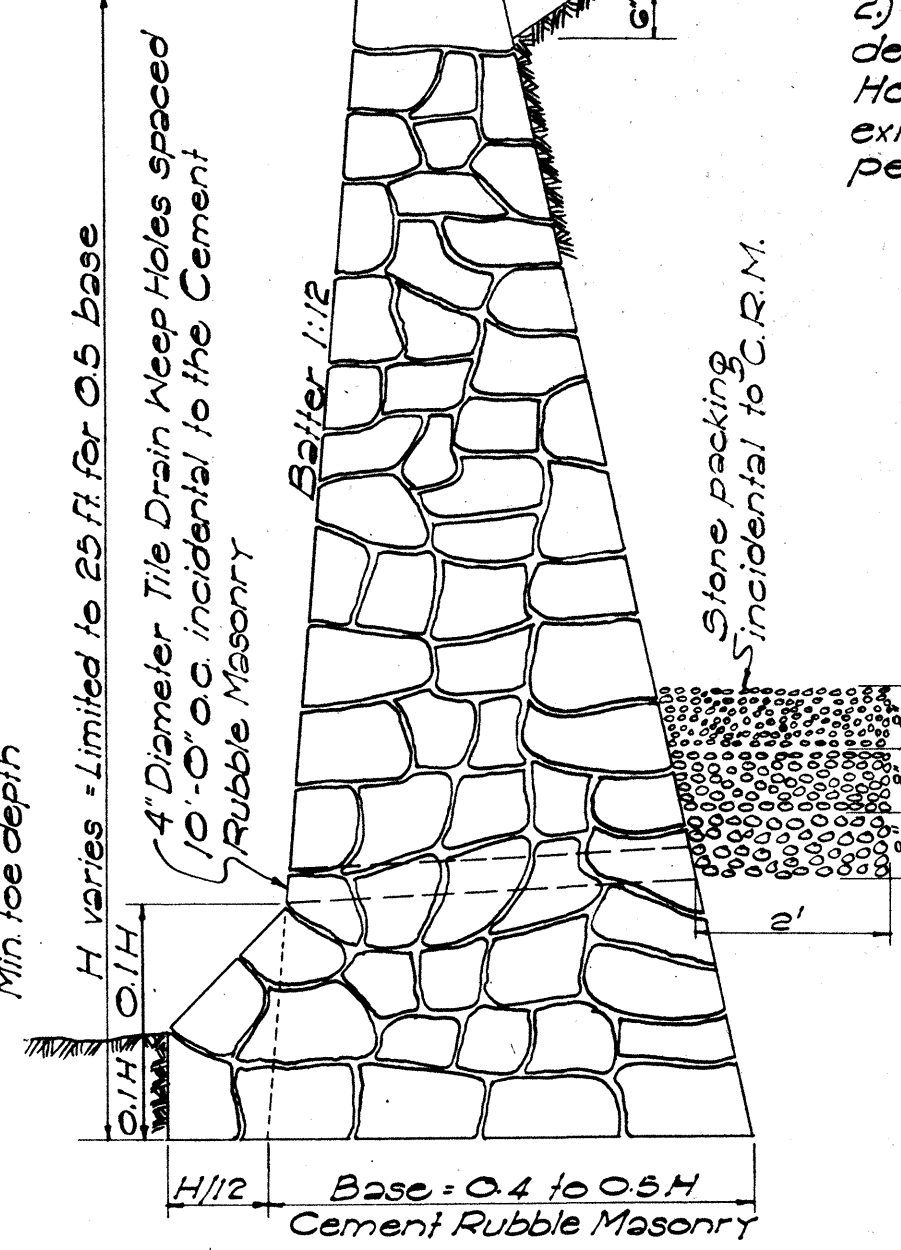
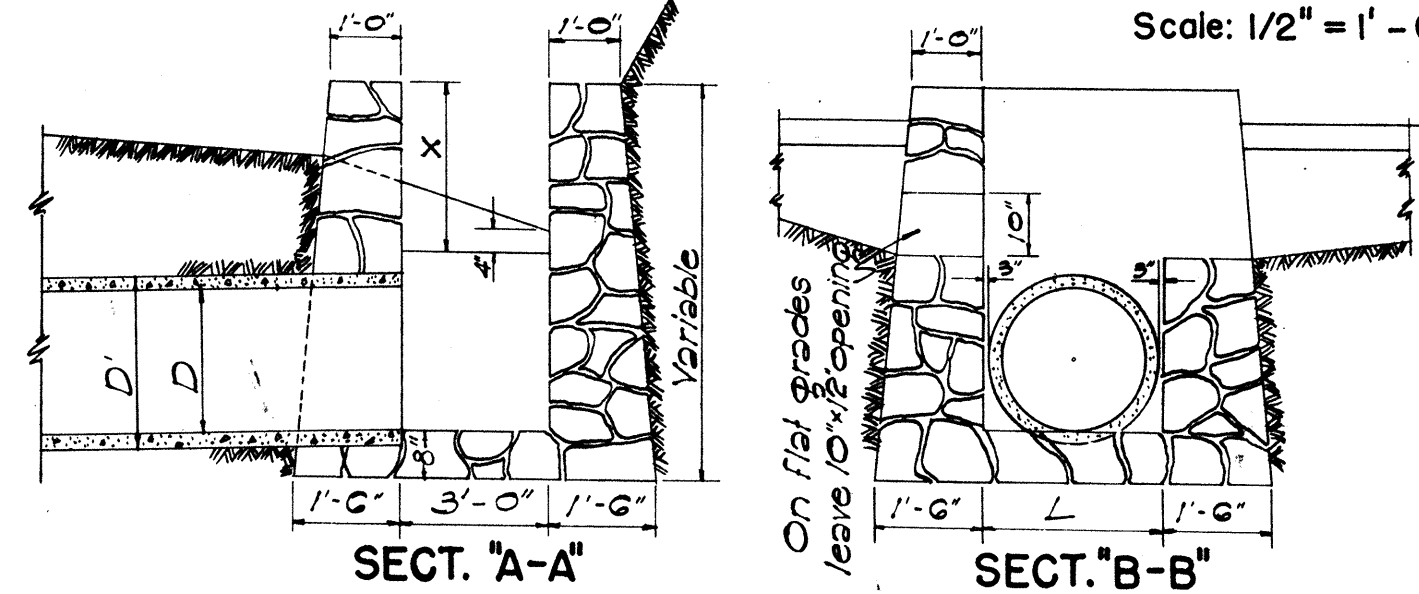


DETAIL OF CONCRETE HEADWALL
Scale: 1/2" = 1'-0"

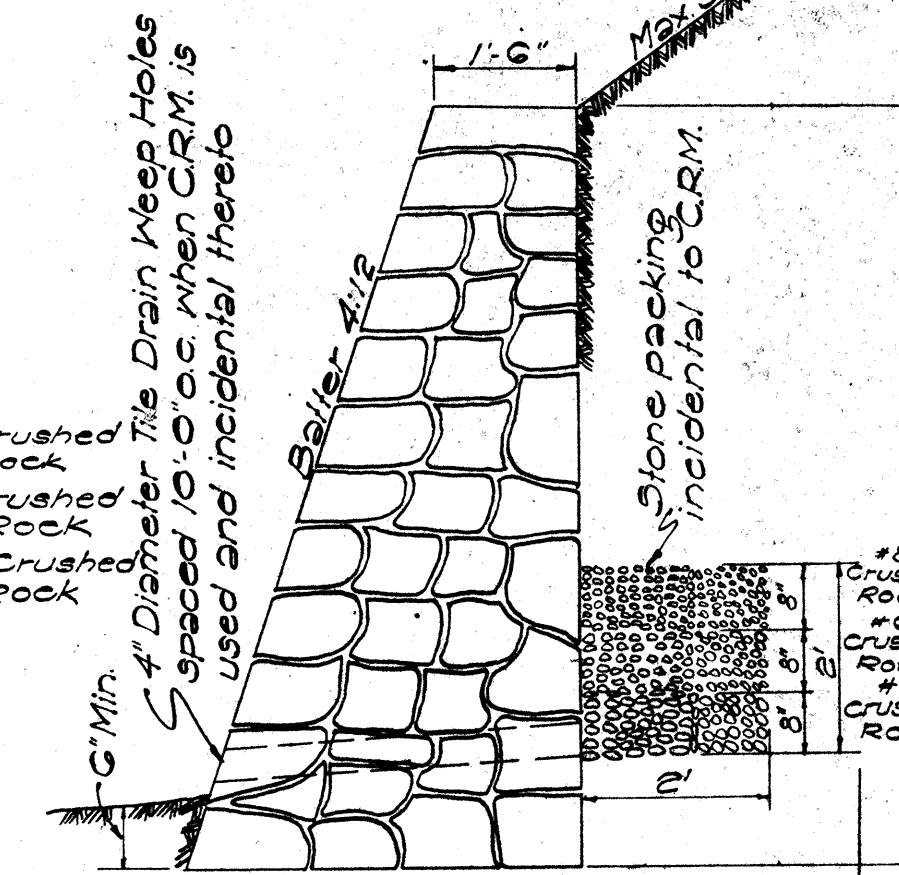
DATA FOR CONC. HEADWALL				Cast-in-Place Conc. Culvert	Conc. Pipe Culvert	Steel For One Headwall
D	B	L	H	Cu. Yds.	Cu. Yds.	No. of Bars Size Length Lbs.
18"	1'-6"	6'-0"	4'-0"	0.82	1.00	4 #4 7'-0" 33
24"	1'-6"	7'-0"	4'-6"	1.25	1.38	4 #4 7'-0" 42
30"	2'-0"	8'-0"	5'-0"	1.85	2.17	4 #4 8'-0" 51
36"	2'-0"	10'-0"	5'-6"	2.45	2.74	4 #4 10'-0" 60
42"	2'-6"	12'-0"	6'-0"	3.87	4.66	4 #4 11'-0" 60
48"	2'-6"	13'-6"	6'-6"			4 #4 13'-0" 78



SECTION "A-A" SECTION "B-B" CONC. COLLAR FOR CONC. BOX CULVERT
Scale: 1/2" = 1'-0"



SECTION OF HIGH CEMENT RUBBLE MASONRY RETAINING WALL OR SEAWALL

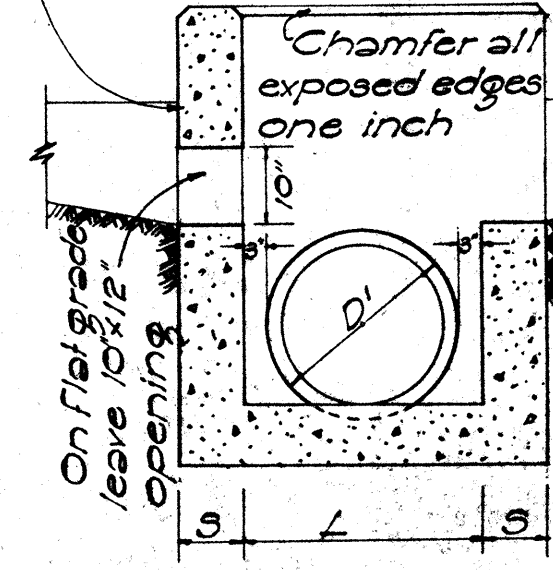


SECTION OF LOW MASONRY RETAINING WALL OR SEAWALL

DATA - CONC. DROP INTAKE					Where Variables Equal
D	D	L=D+G	S	Cu. Yds.	
23"	18"	2'-5"	8'	1.41	4'-6"
30"	24"	3'-0"	8'	1.72	5'-0"
37"	30"	3'-7"	9'	2.32	5'-6"
44"	36"	4'-2"	9'	2.73	6'-0"
51"	42"	4'-9"	10'	3.54	6'-6"
58"	48"	5'-4"	10'	4.01	7'-0"

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

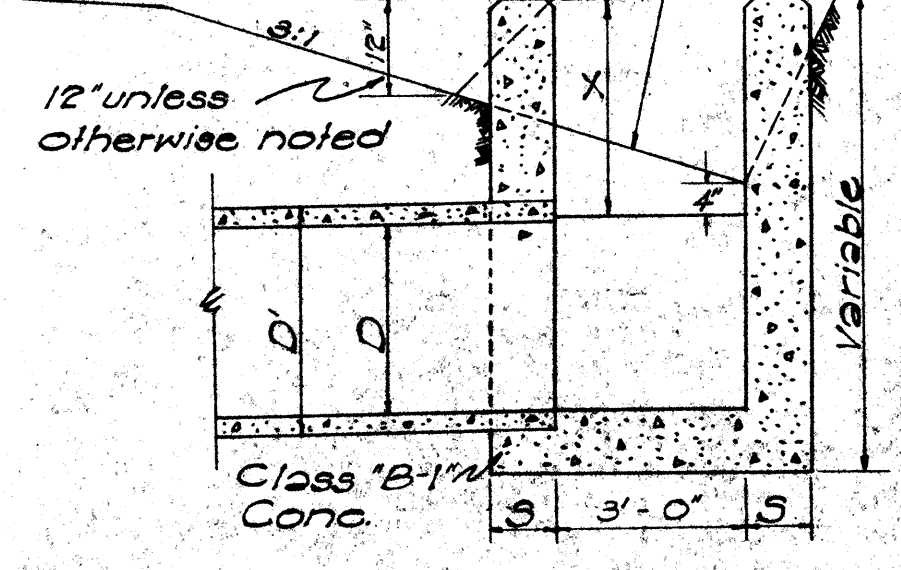
Note: This type of structure shall also be used for the Drop Intakes of Siphons connected with Irrigation Ditches or Flumes with appropriate changes to dimensions. In this case all joints must be made water tight.



SECTION "B-B"

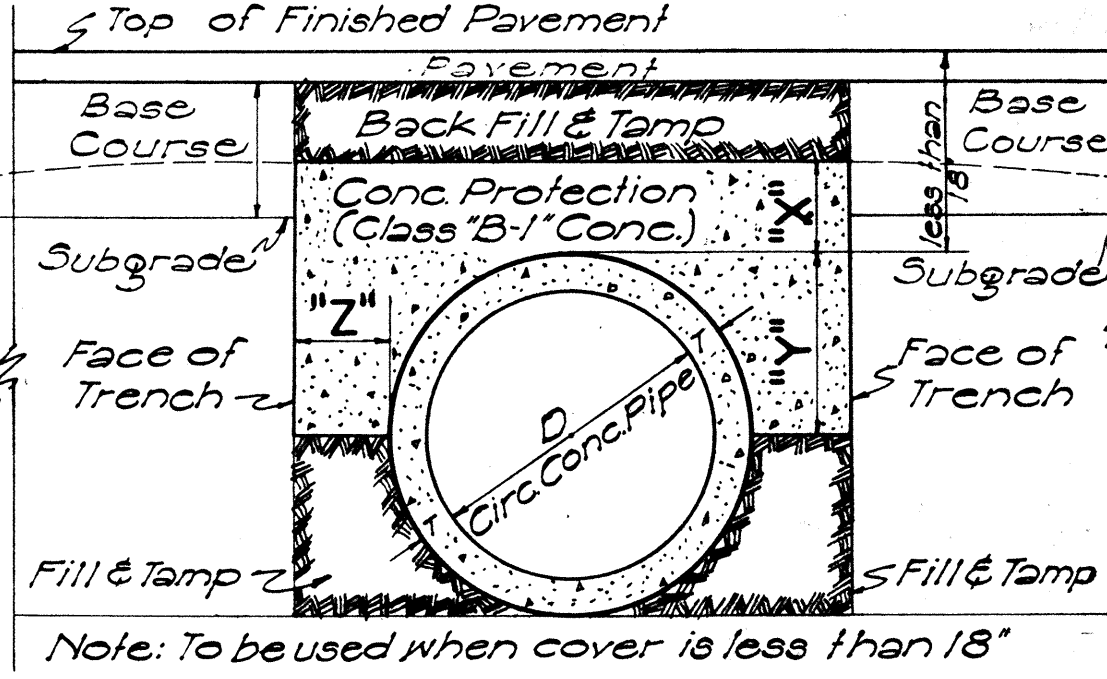
Where drainage comes from both sides lower this wall to same elevation as shown for opposite wall.

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"

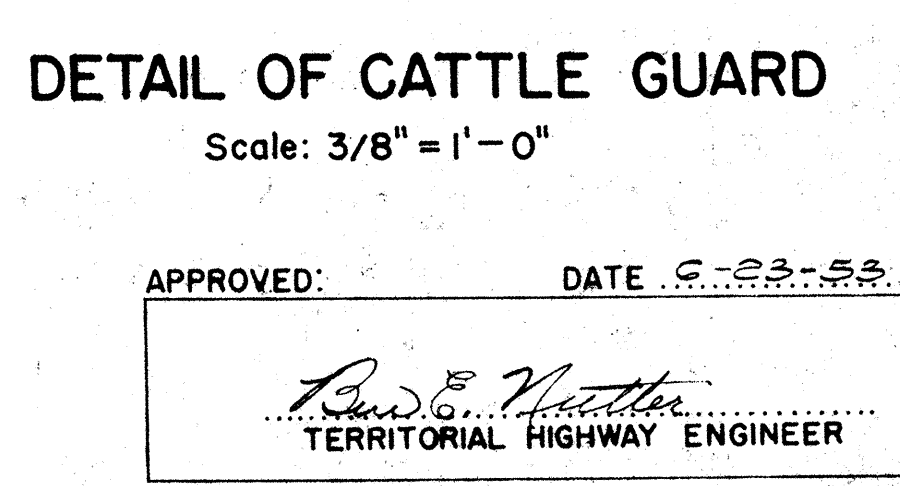
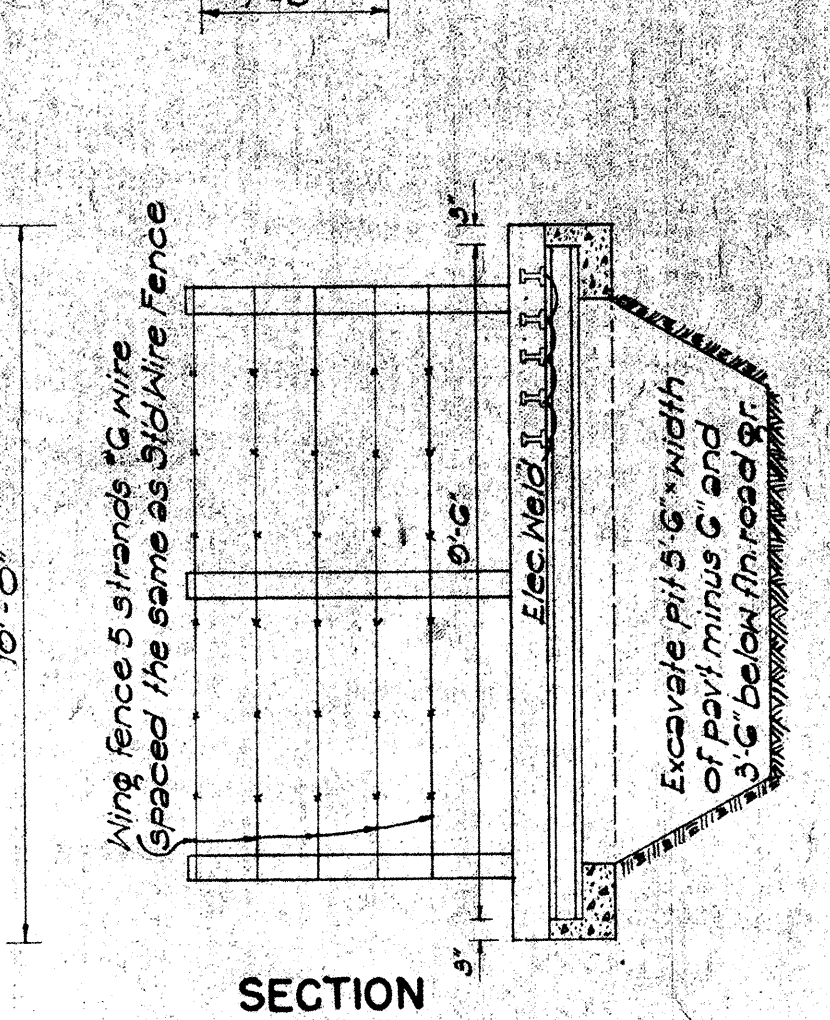
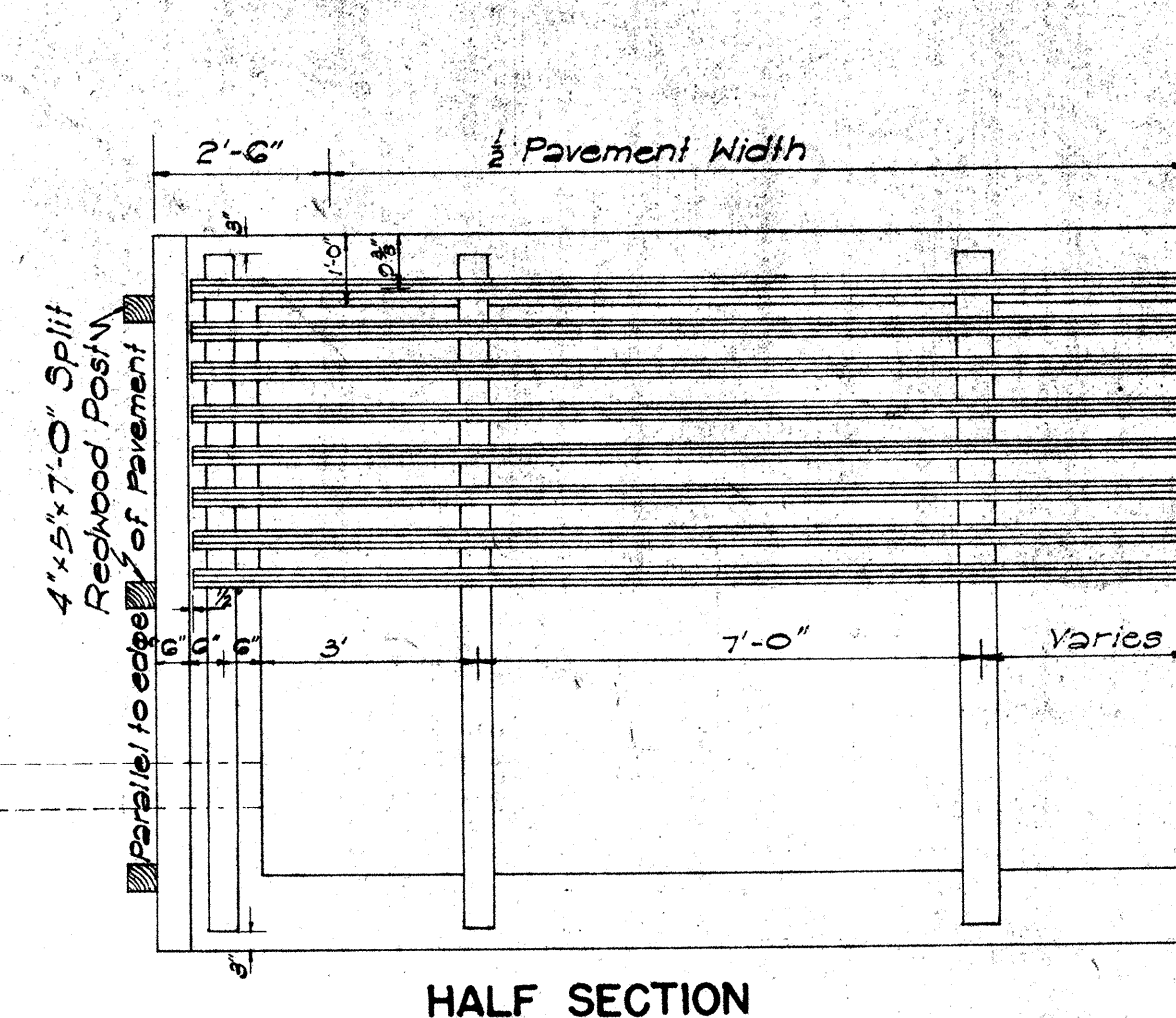
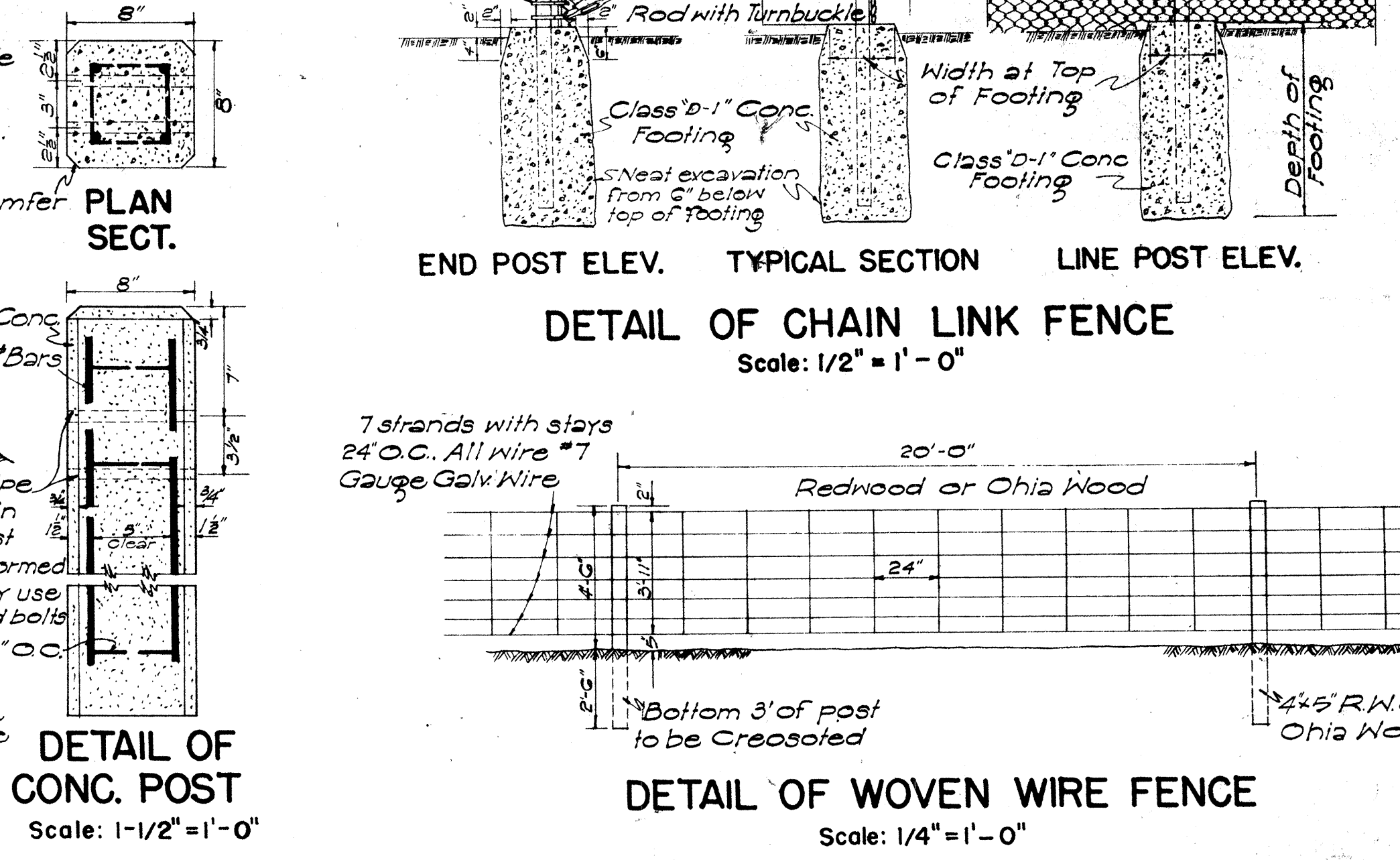
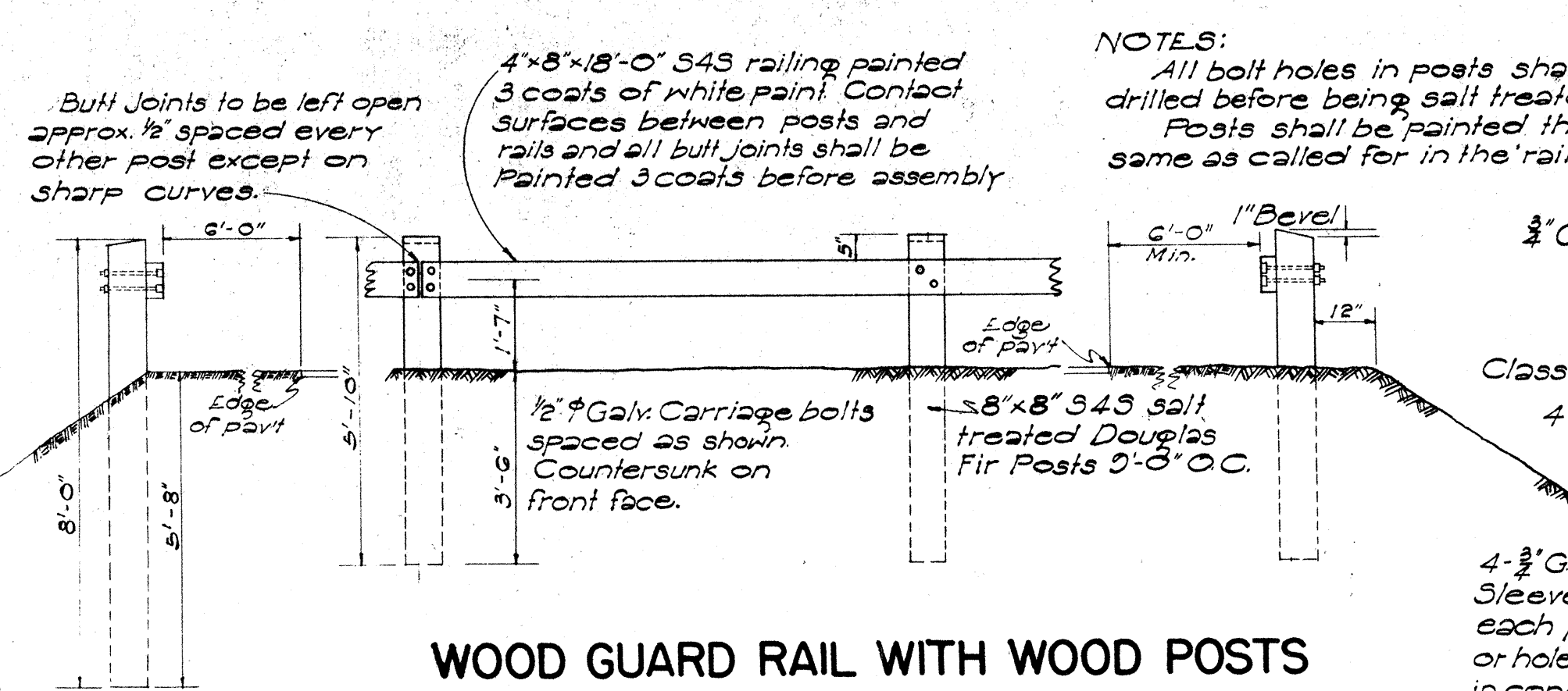
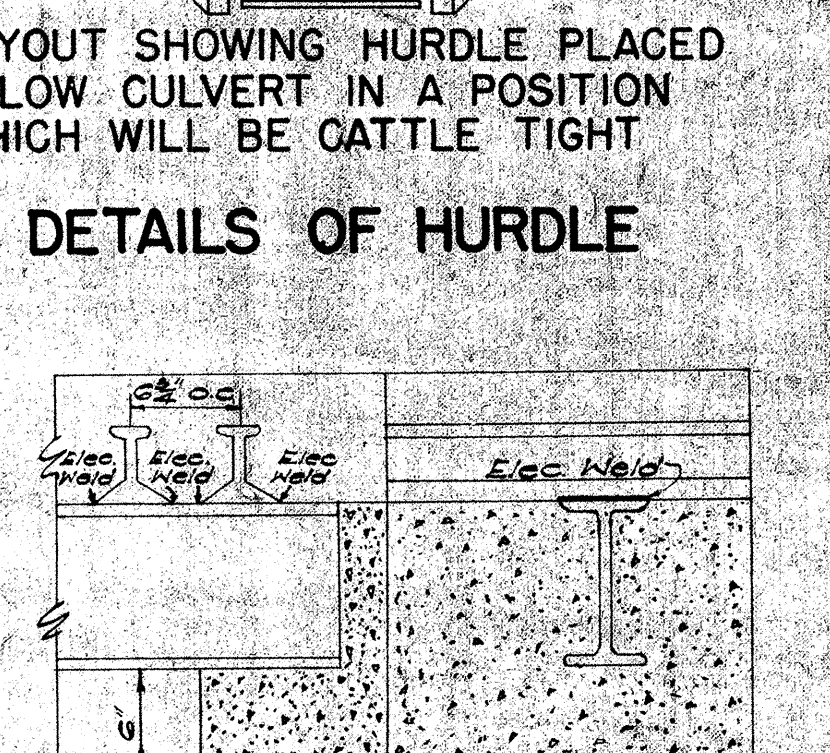
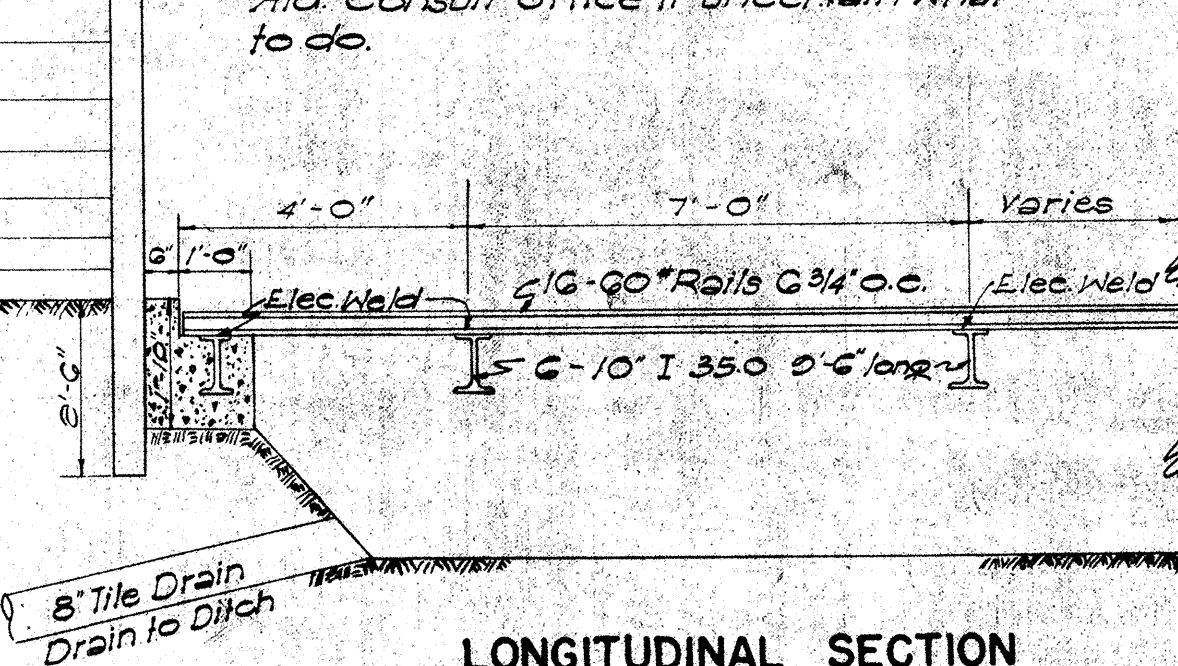
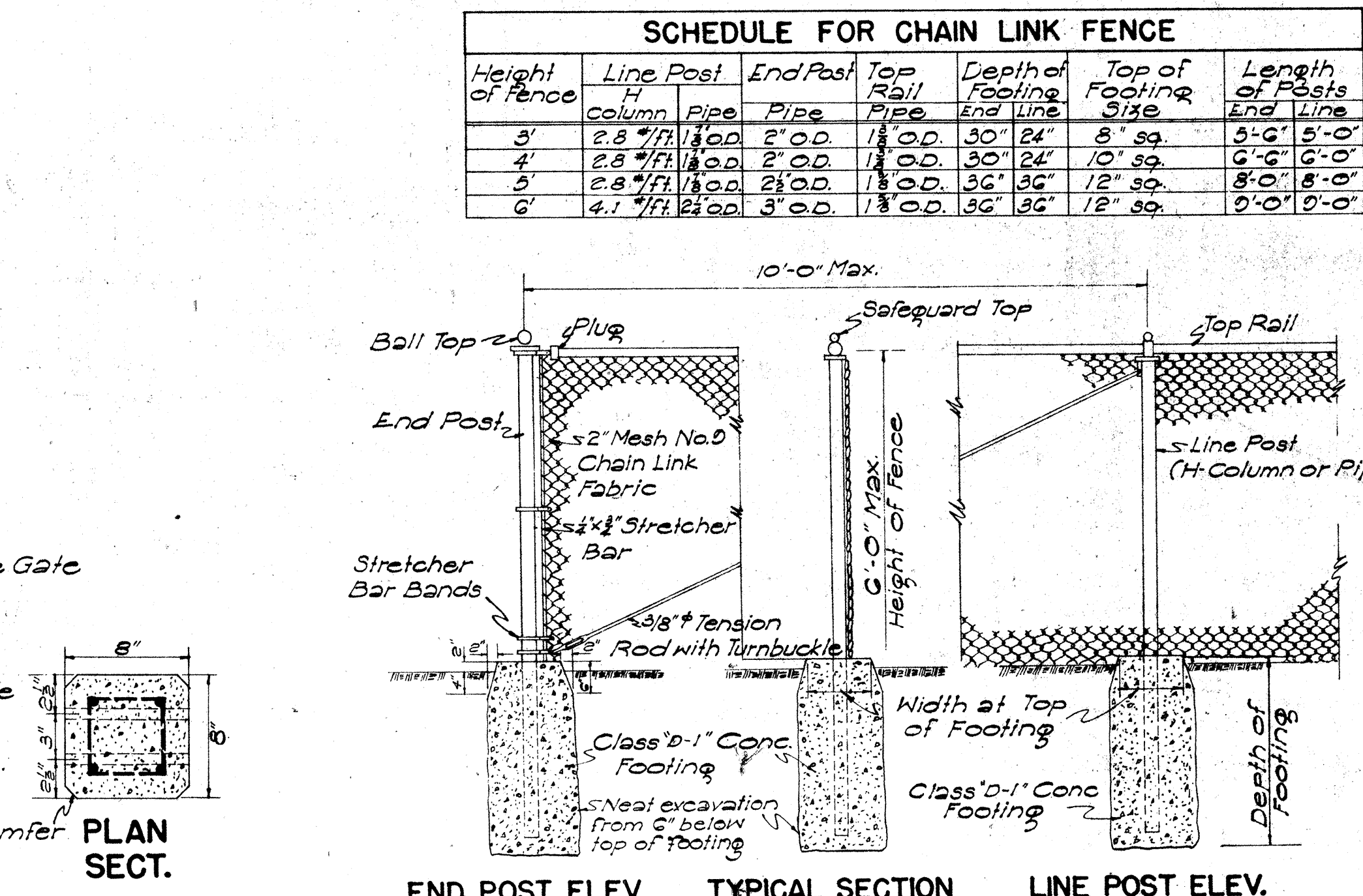
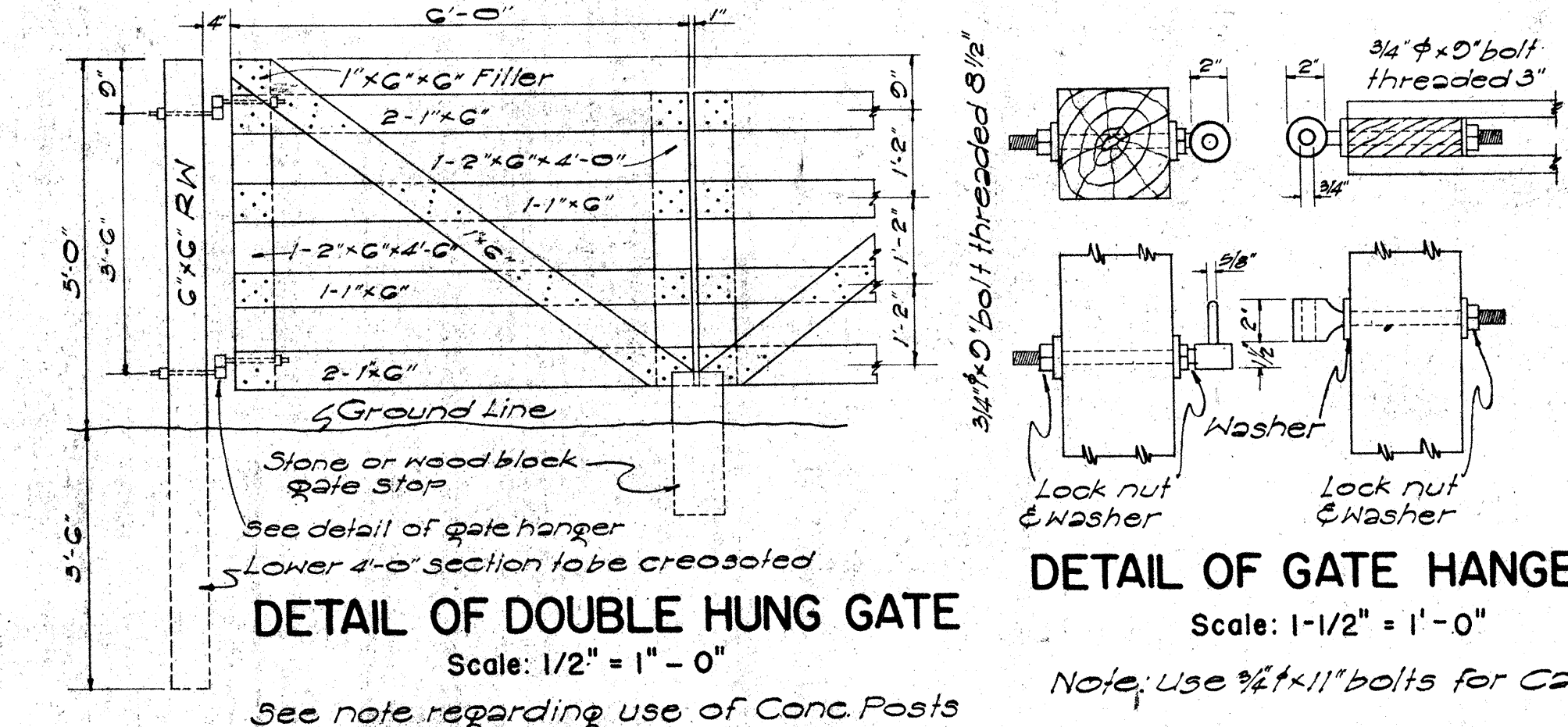
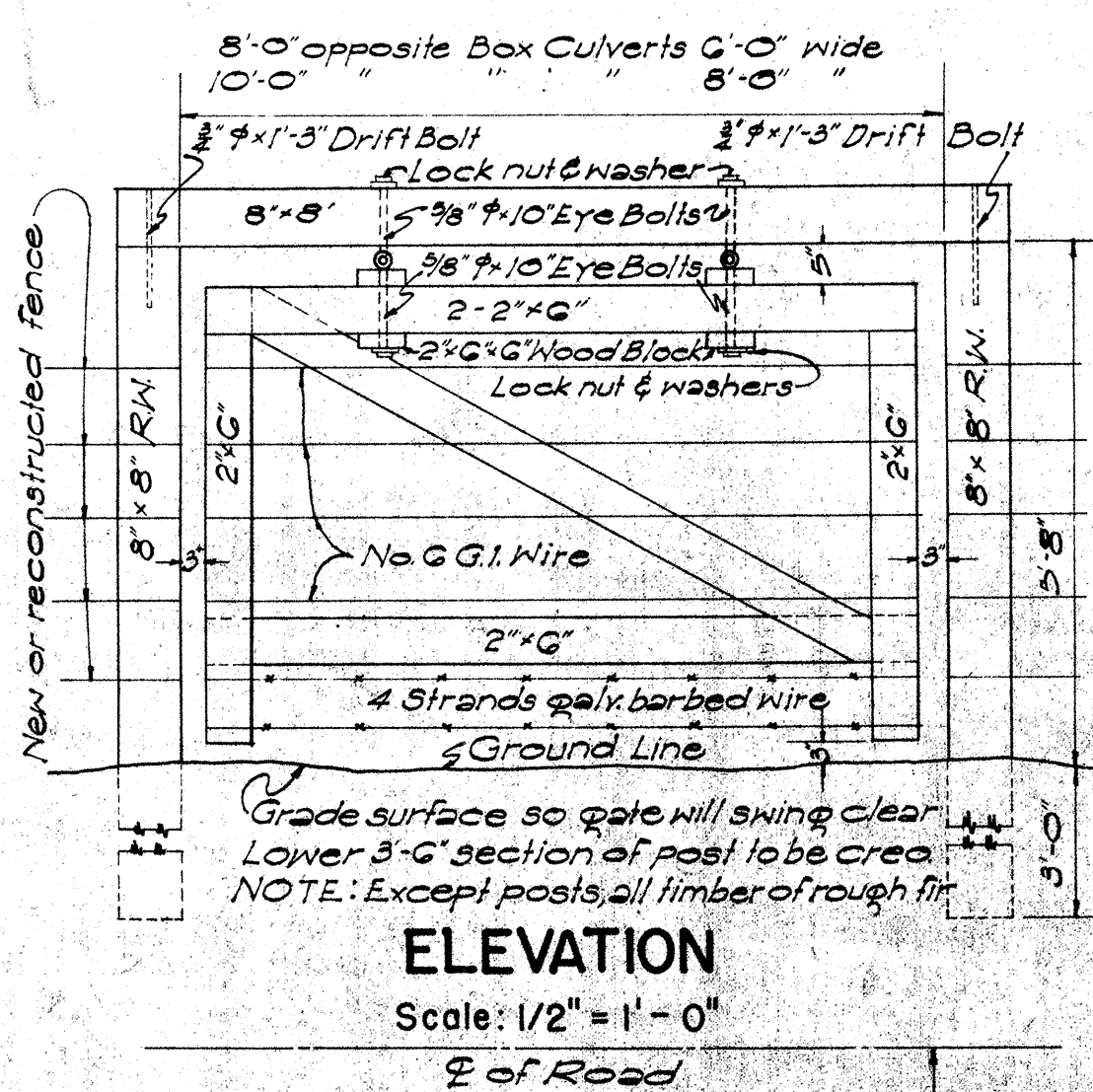
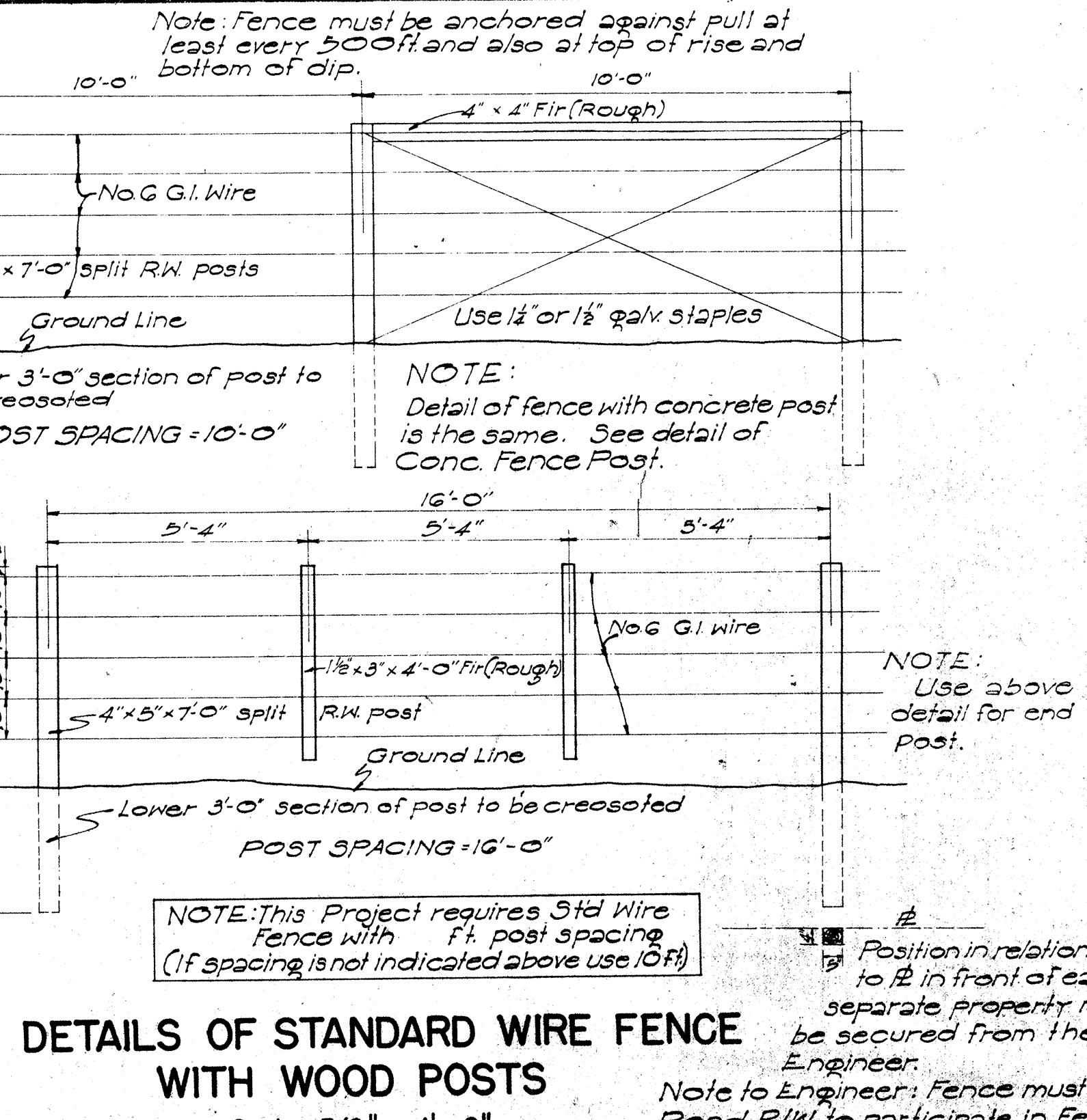
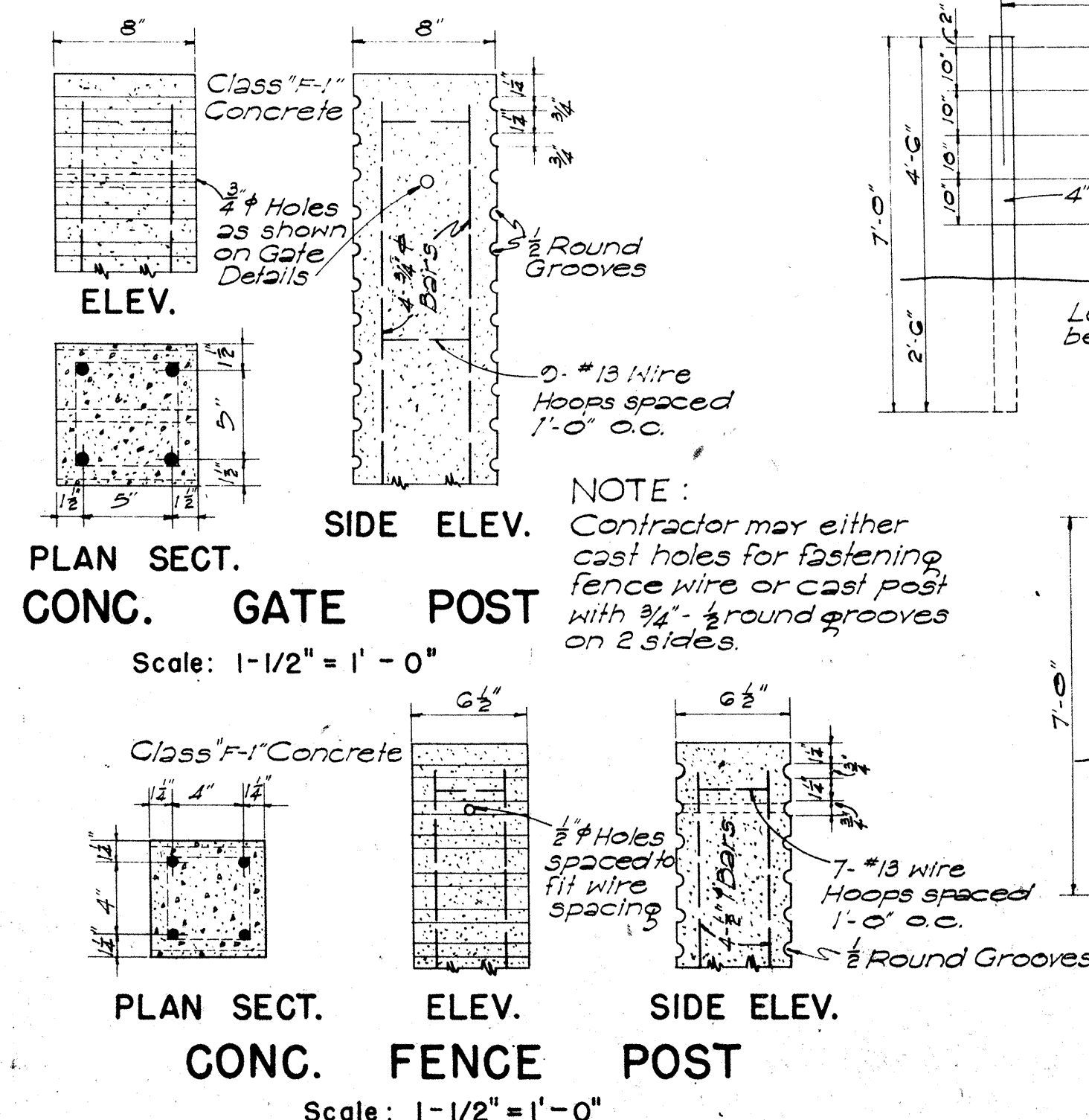
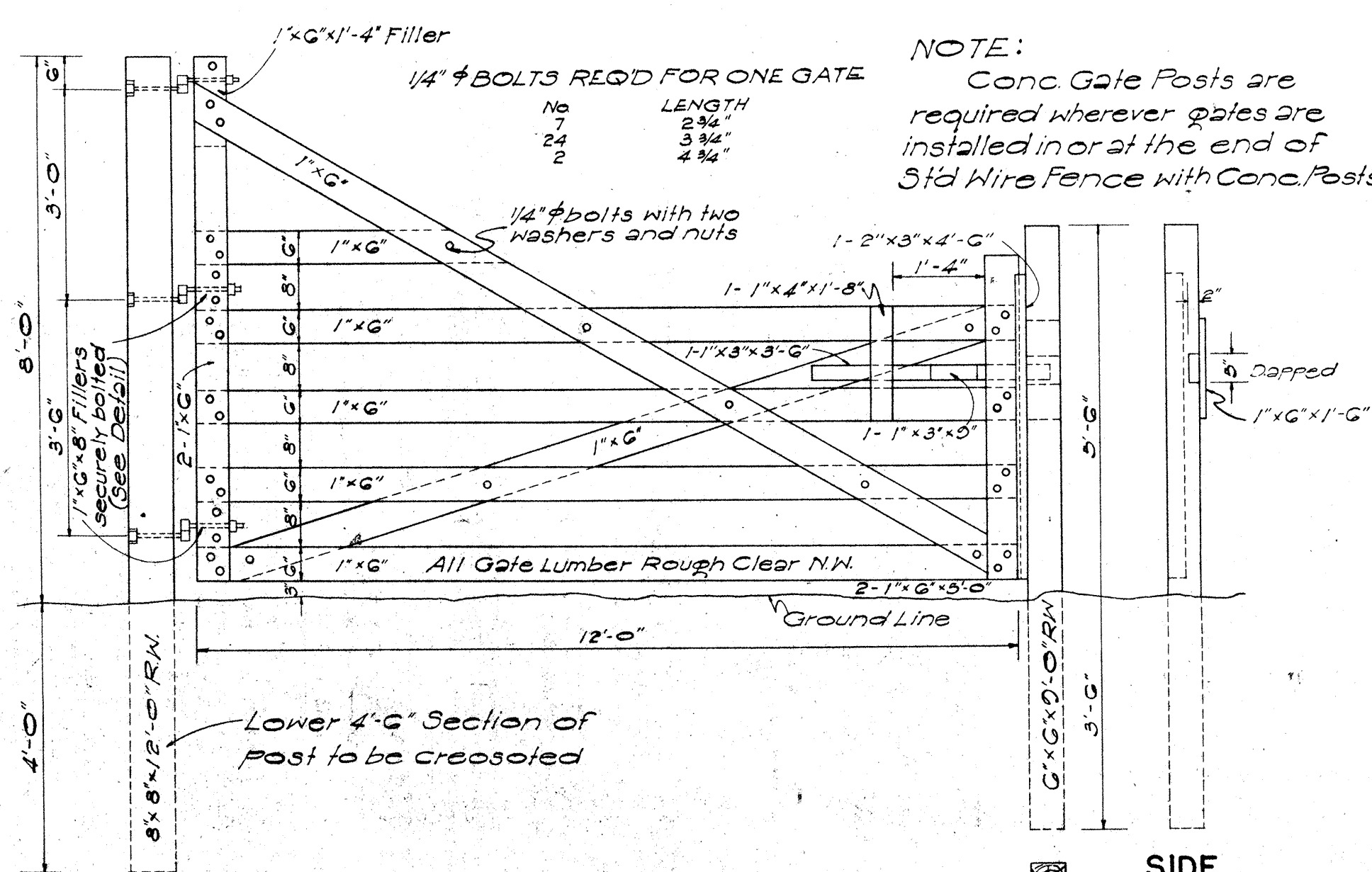


DATA FOR CONCRETE PROTECTION OVER CULVERTS		
X	Y	Z
6" for 18"D		Z must be from pipe to face of trench
7" " 24"D		
8" " 30"D		
9" " 36"D		
10" " 42"D	D/2 + T	Minimum = X
11" " 48"D		Maximum pay quantity will be Z = 12"
12" " 54"D		

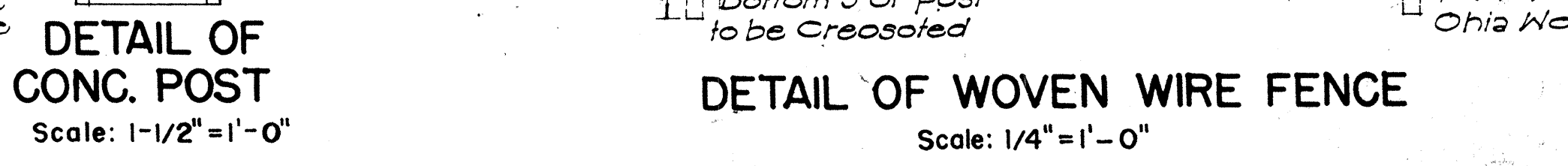
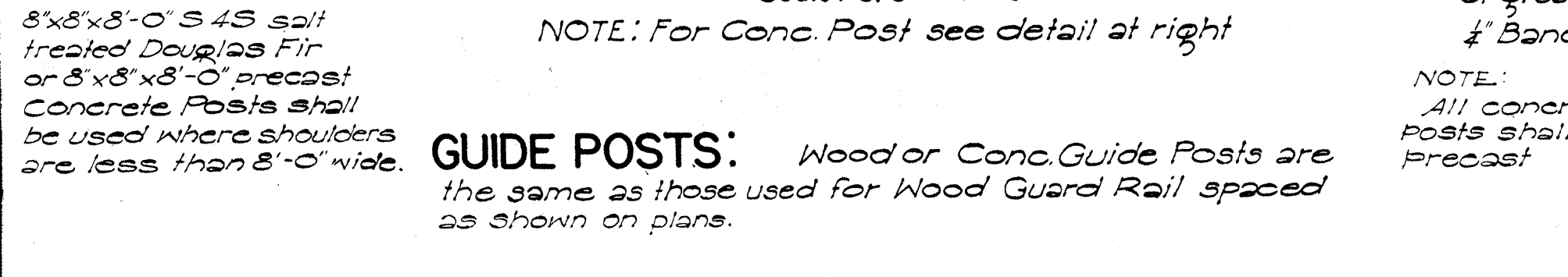
SECT. OF CULVERT WITH CONC. PROTECTION
Scale: 1" = 1'-0"

APPROVED: DATE 6-22-55
TERRITORIAL HIGHWAY ENGINEER

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



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



APPROVED: DATE 6-23-55
TERRITORIAL HIGHWAY ENGINEER