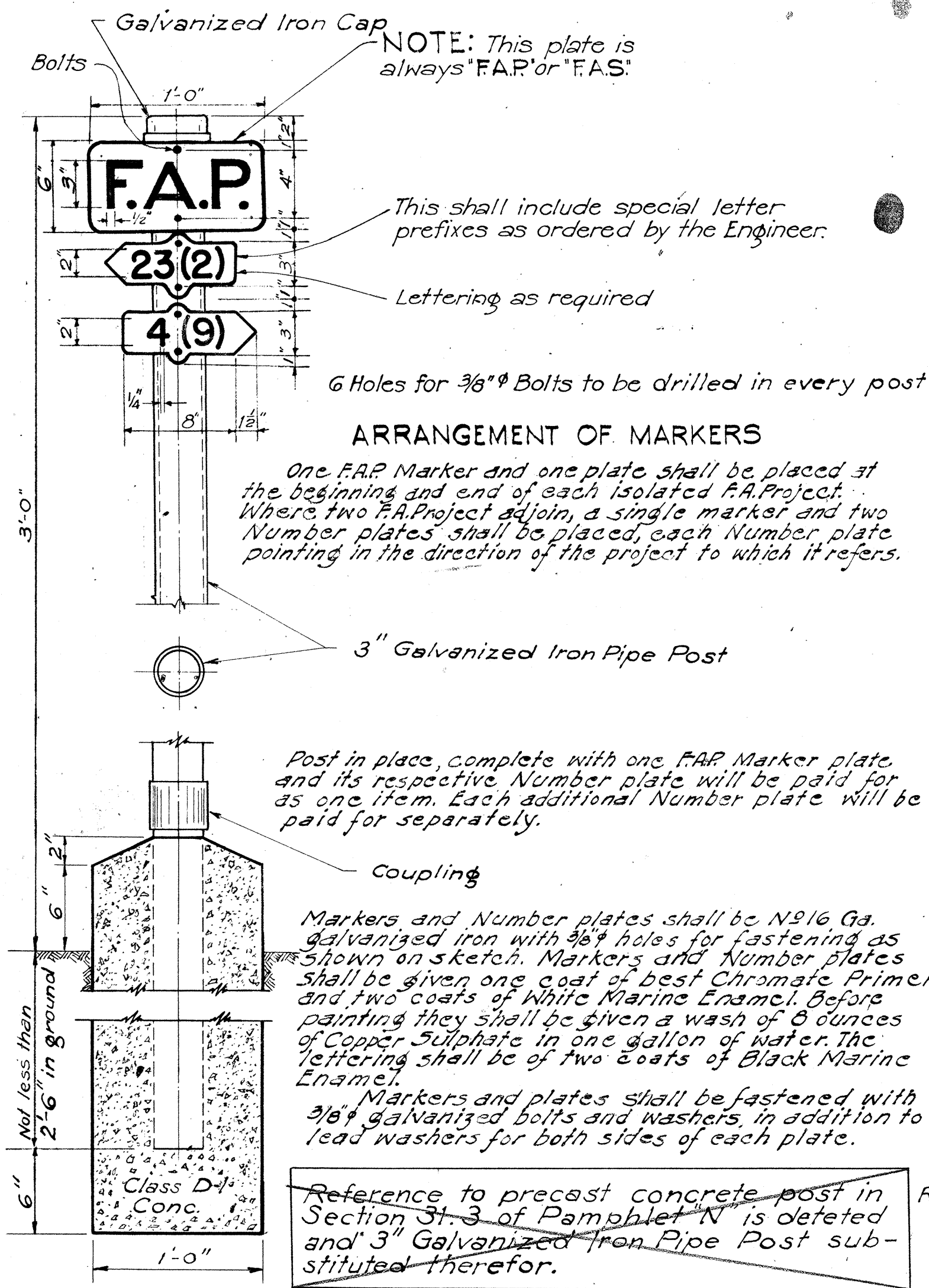
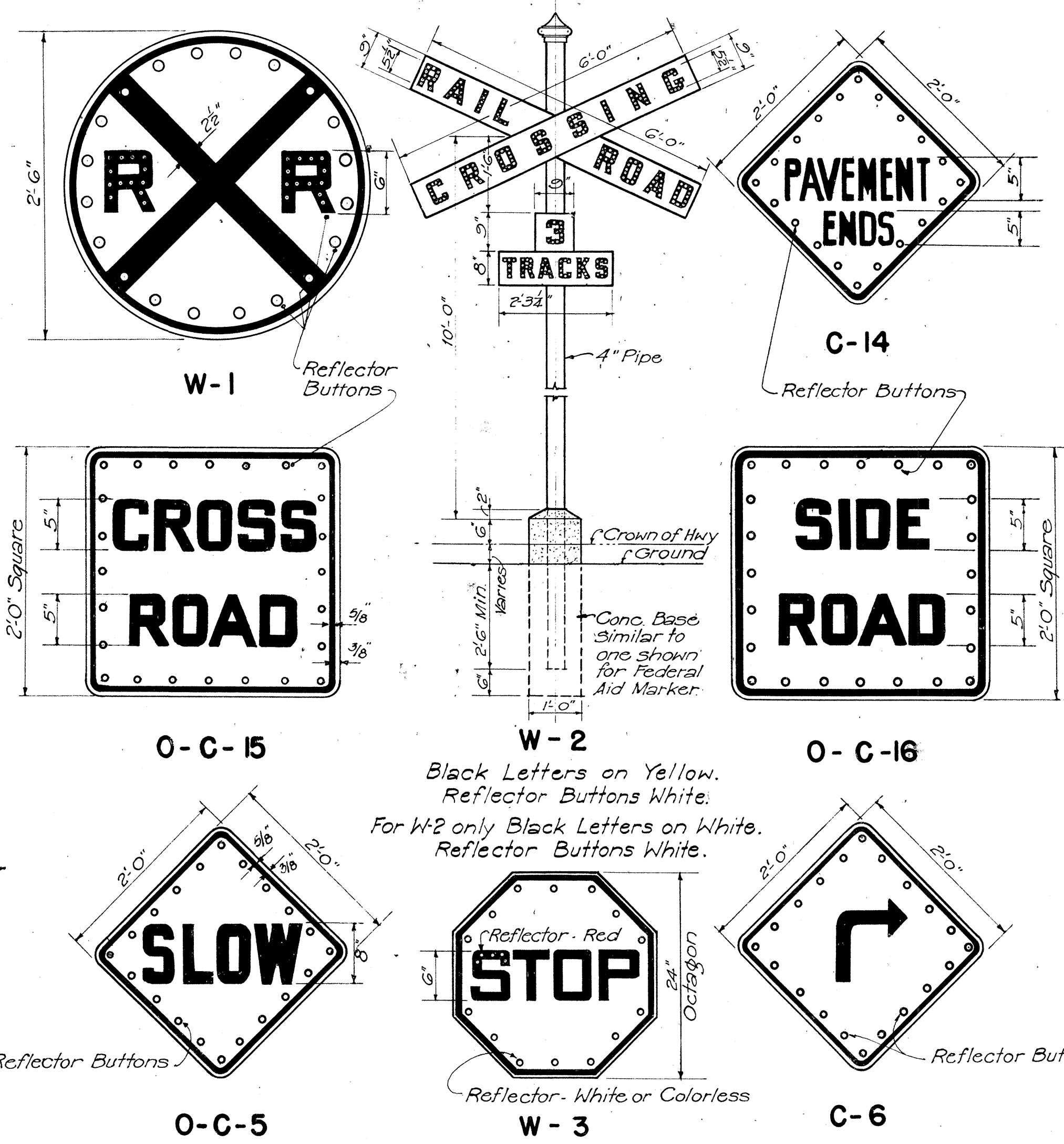


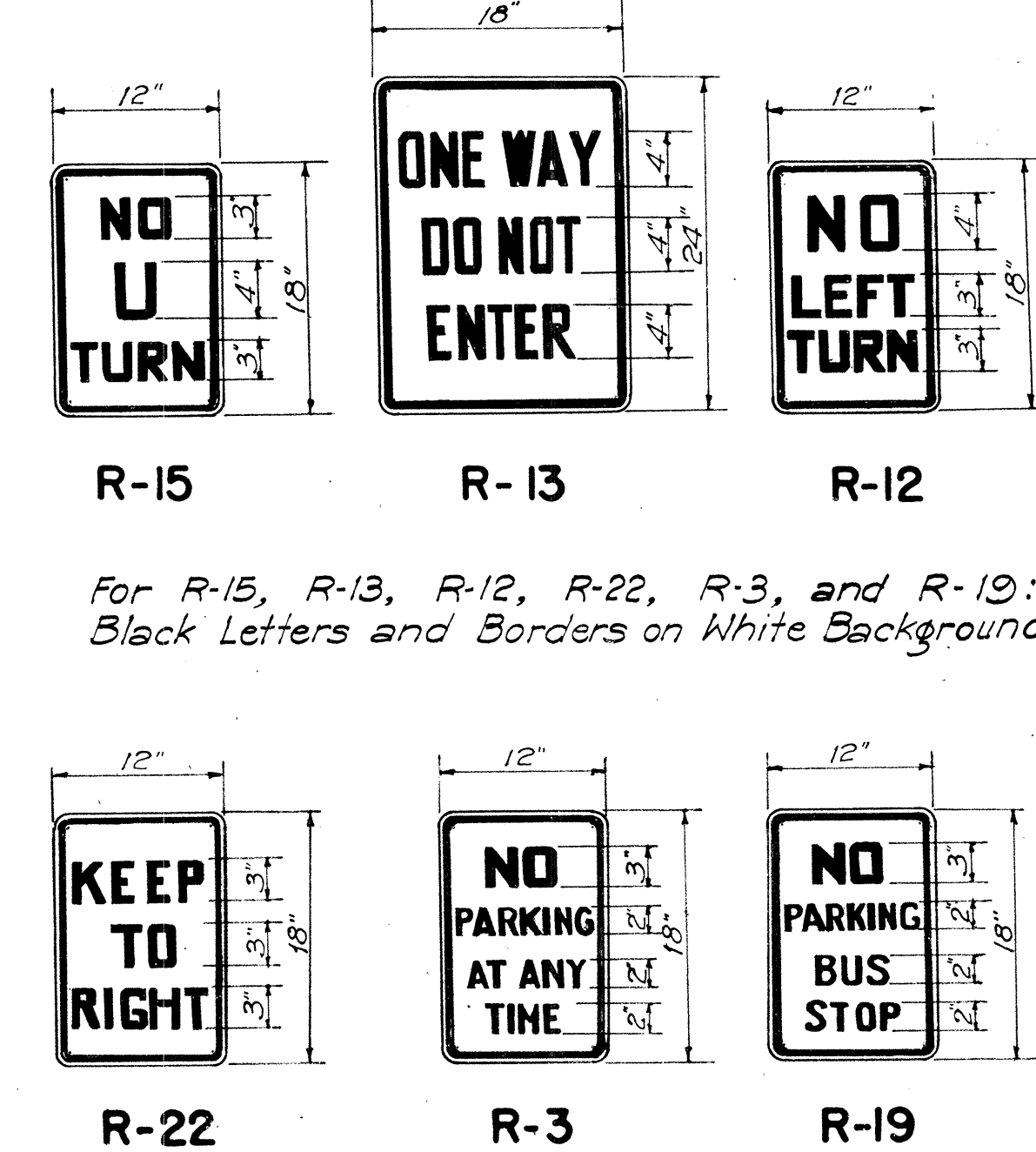


FEDERAL AID MARKER
Scale: 1-1/2" = 1'-0"

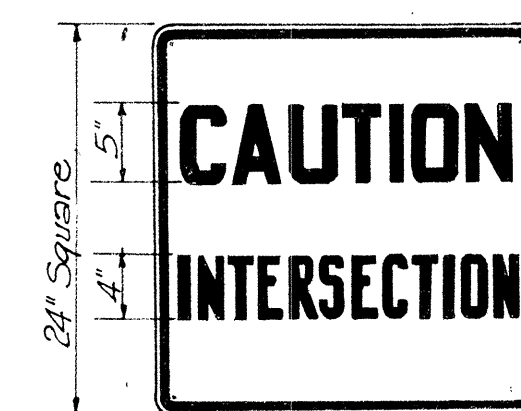


WARNING AND CAUTION SIGNS

NOTE: Each sign, except W-2, is to be mounted on 3" Galv. Pipe in the same manner as detailed for Regulatory Sign.

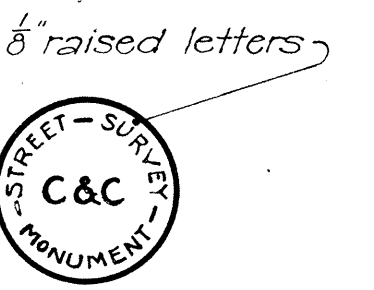


For NS-R33: Black Letters and Borders on Yellow Background.

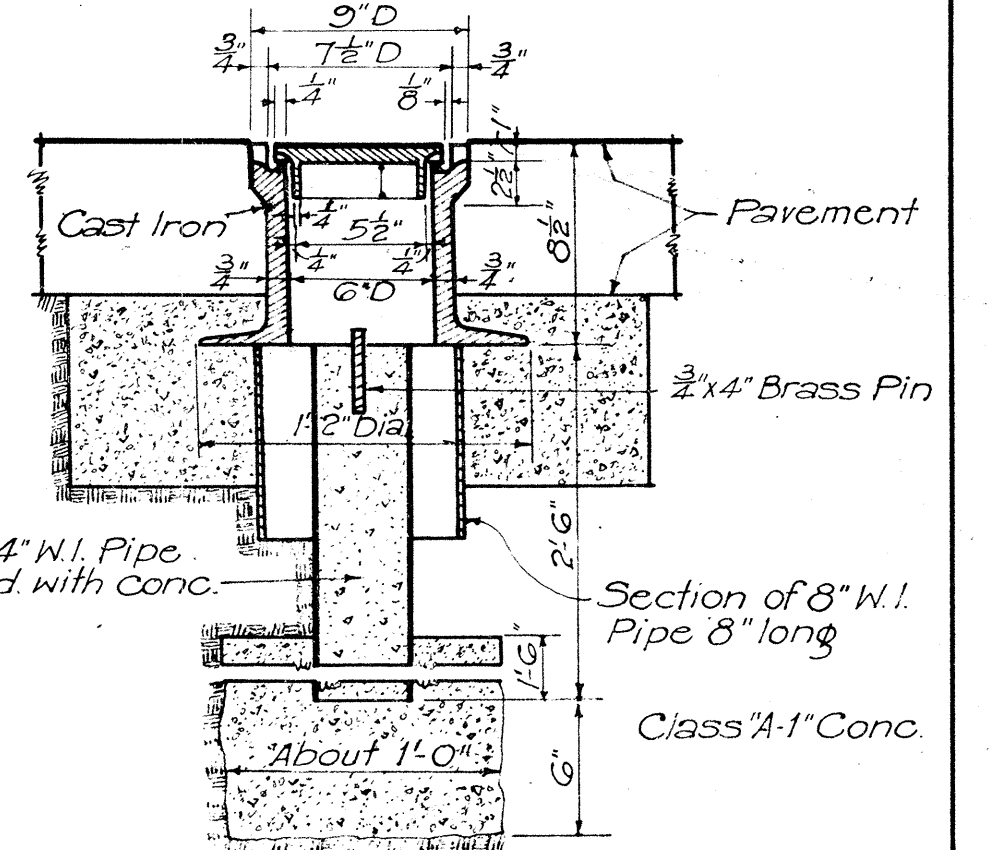


NS-R33

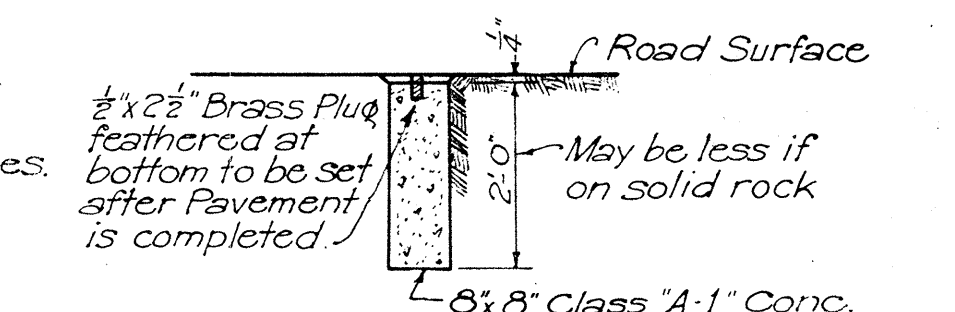
DETAILS OF REGULATORY SIGNS
Scale: 1" = 1'-0"



PLAN OF TOP

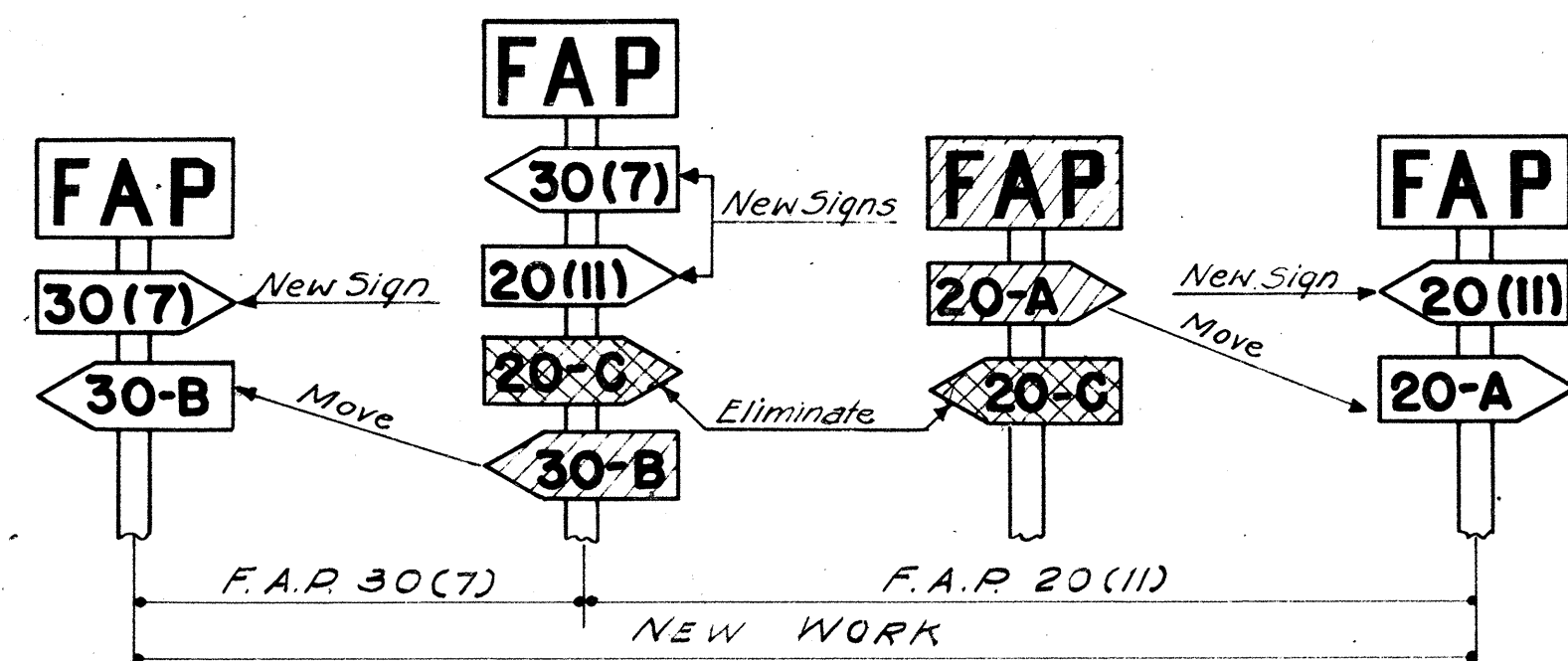


STD. C&C STREET SURVEY MONUMENT



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

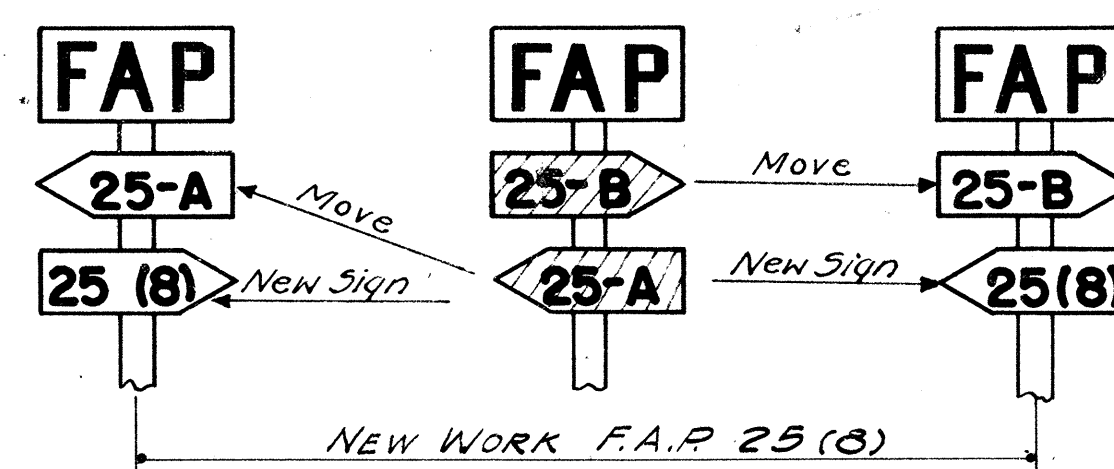
F.A.P. 20 & 30



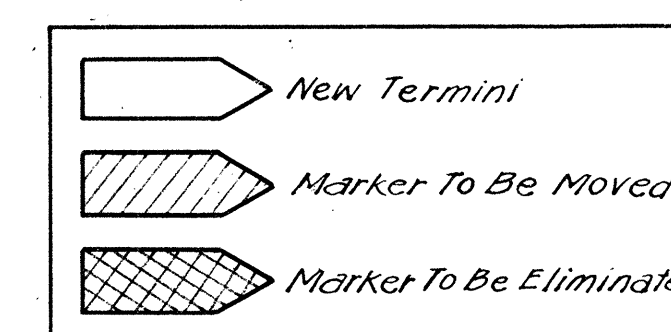
NOTE: Federal Aid markers should be placed at the termini of suffix designated sections. Intermediate letter designated markers

of adjacent sections located within the limits of new improvements should be moved to the termini of the new work.

F.A.P. 25

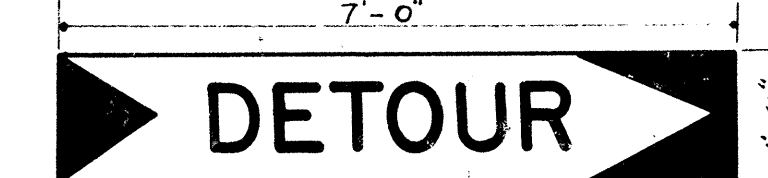


The same procedure would be followed on each successive improvement until all markers for letter designated sections are eventually eliminated.



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

Note: Letters to be 12" high and 1/2" thick. Secondary detour and direction signs necessary to be at least 1/2 the above size. Detour signs shall be placed at the location ordered by the Engineer.



STANDARD DETOUR SIGN

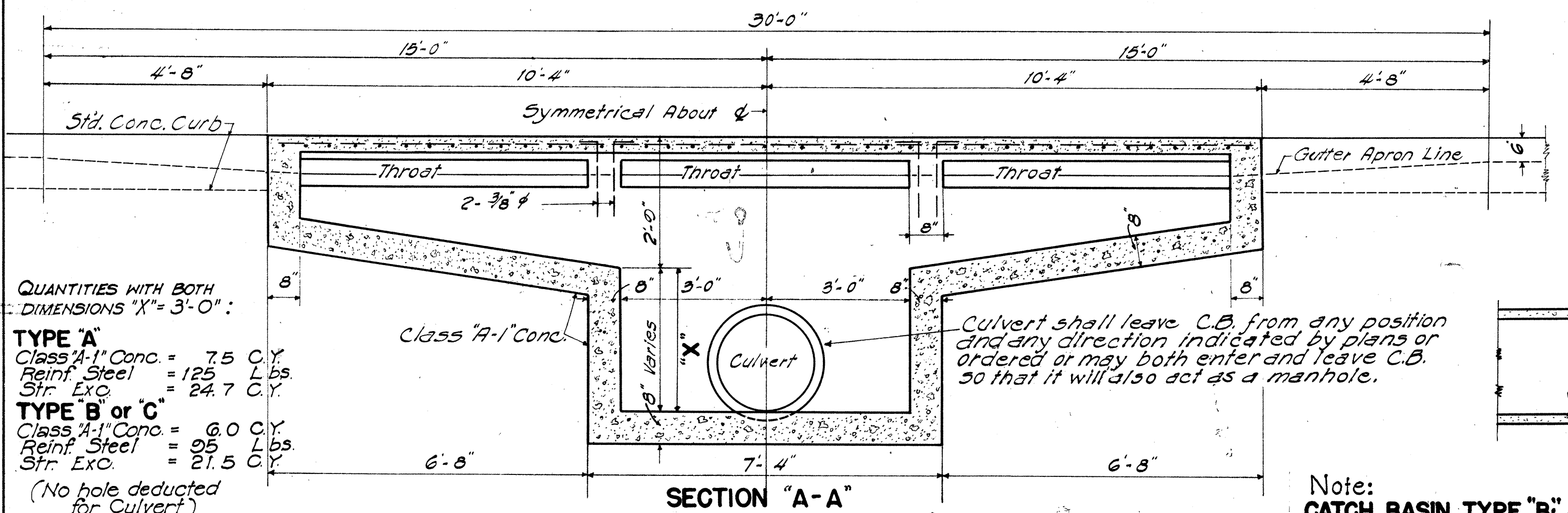
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

STANDARD DETAILS

SCALES AS NOTED Apr. 15, 1948

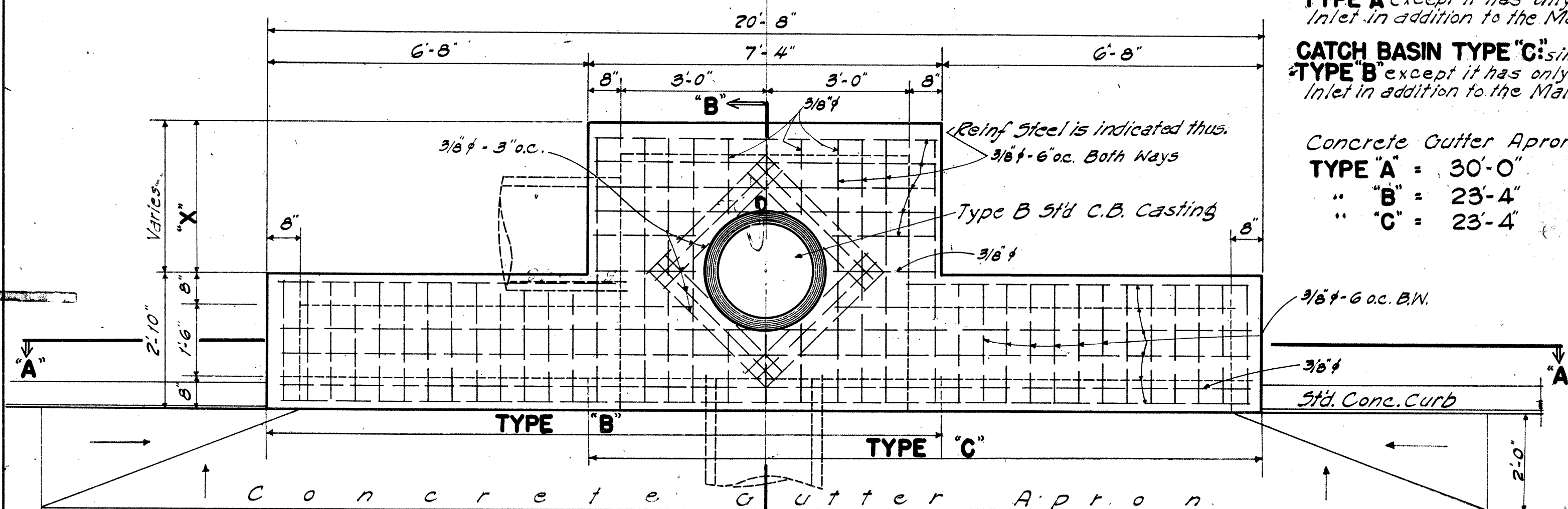
APPROVED: *[Signature]*
Territorial Highway Engineer

SHEET No 2 OF 4 SHEETS



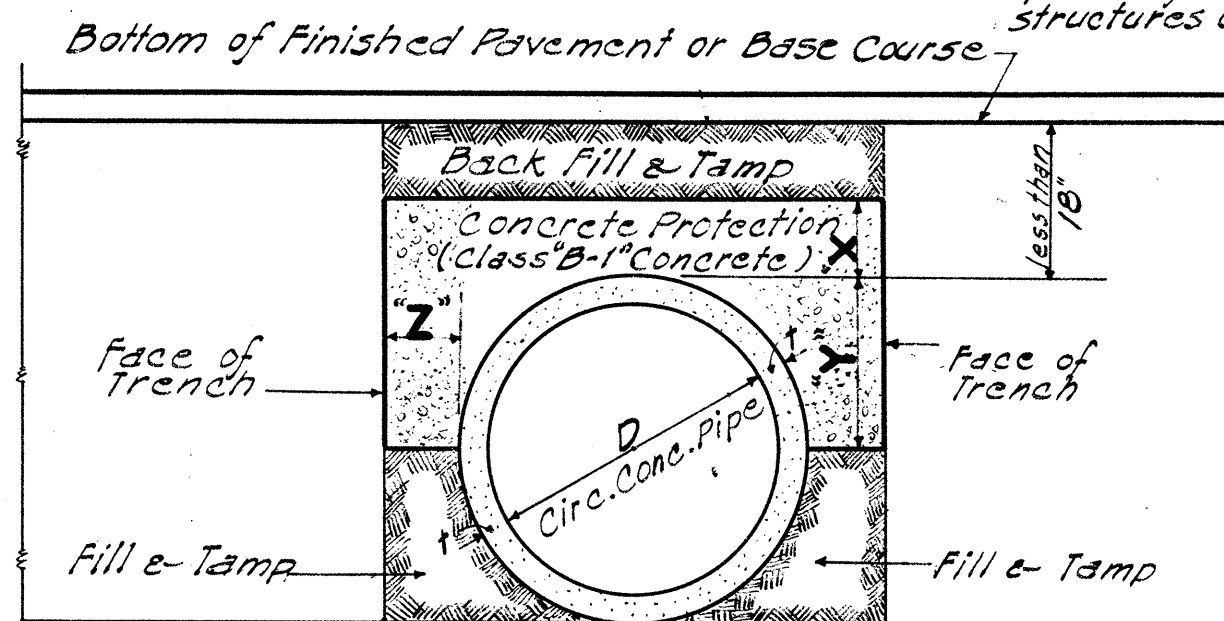
Note:
CATCH BASIN TYPE "B" similar to **TYPE "A"** except it has only Left Side Inlet in addition to the Main Box.
CATCH BASIN TYPE "C" similar to **TYPE "B"** except it has only Right Side Inlet in addition to the Main Box.

Concrete Gutter Apron Length:
TYPE "A" = 30'-0"
"B" = 23'-4"
"C" = 23'-4"



STANDARD CONCRETE CATCHBASIN

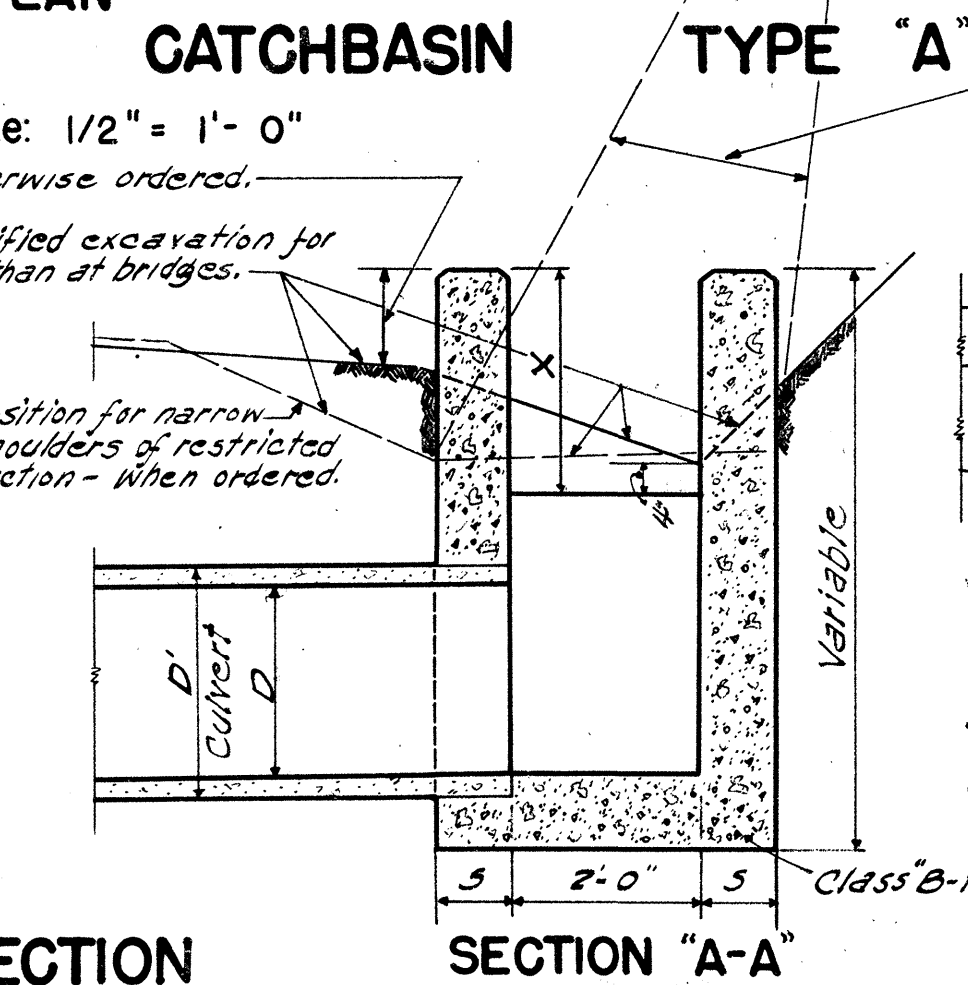
Scale: 1/2" = 1'-0"



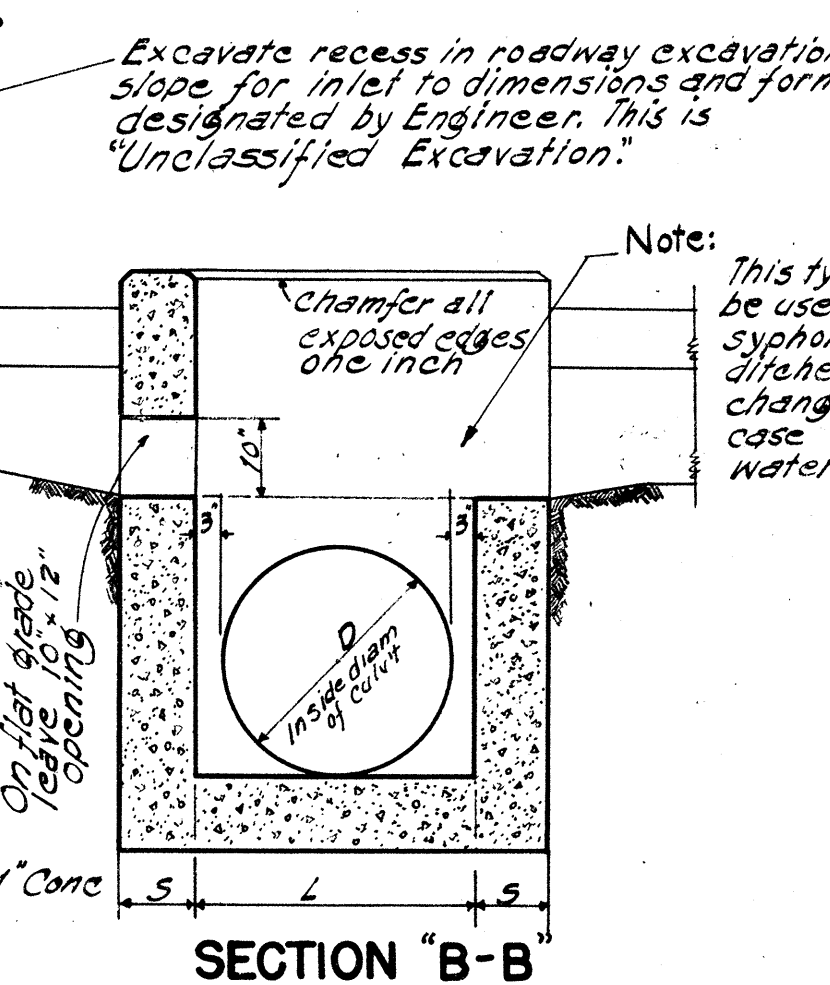
TYP. SECT. OF CULVERT WITH CONG. PROTECTION
 (To be used when cover is less than 18")

DATA: CONCRETE PROTECTION OVER CULVERTS		
X	Y	Z
6" for 18" D		
7" " 24" D		
8" " 30" D		
9" " 36" D		
10" " 42" D		
11" " 48" D		
12" " 54" D		

Notes:
 Z must be from pipe to face of trench.
 Minimum = X
 Maximum pay quantity will be be Z = 12"



SECTION "A-A"



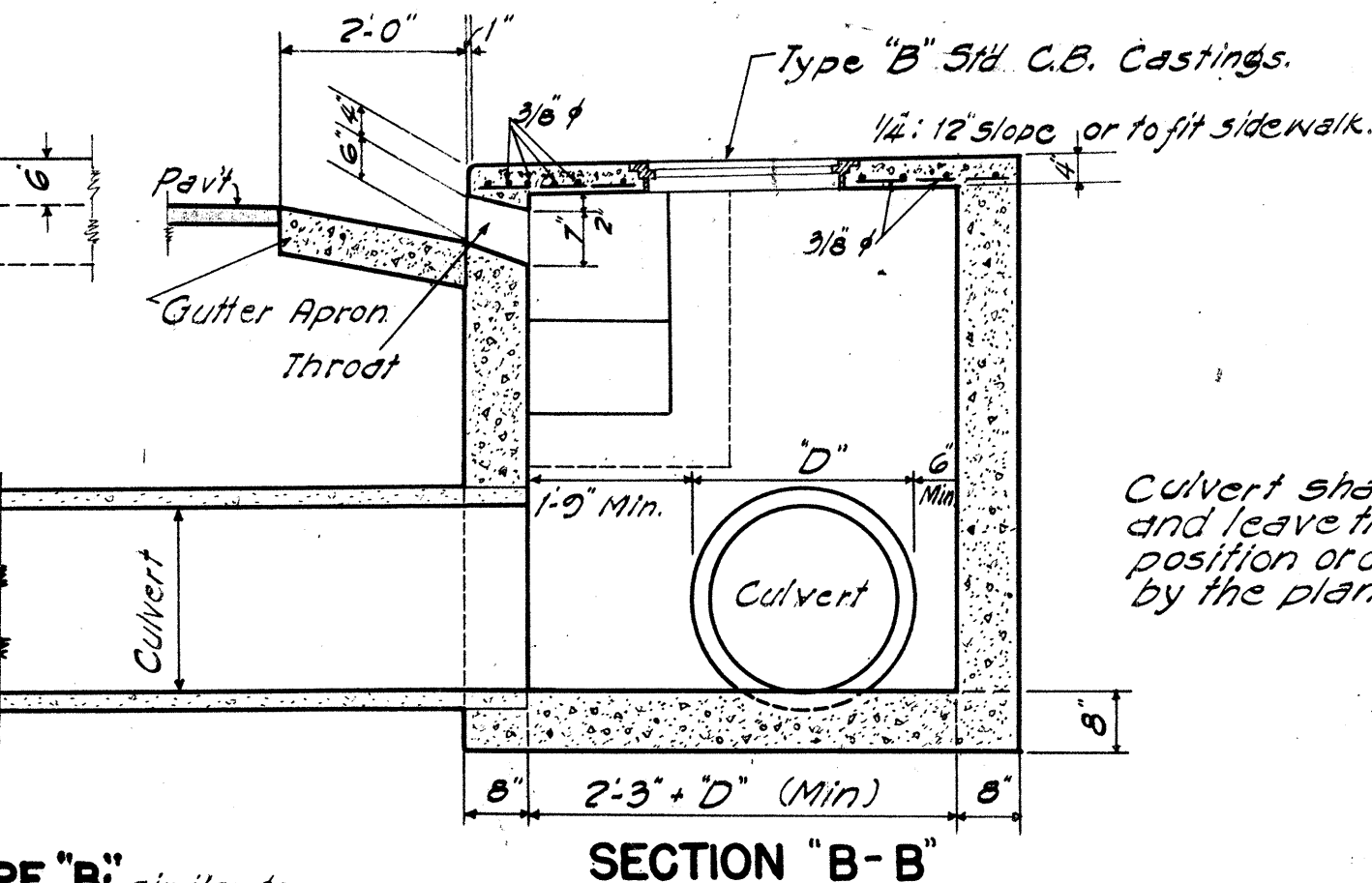
SECTION "B-B"

Data: Standard Drop Intake			
D	L	S	Cu. Yds.
22 1/2	18	2'-0"	1.10
20	24	2'-6"	1.33
34 1/2	30	3'-0"	1.79
42	36	3'-6"	2.07
48 1/2	42	4'-0"	2.90
55	48	4'-6"	3.27

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

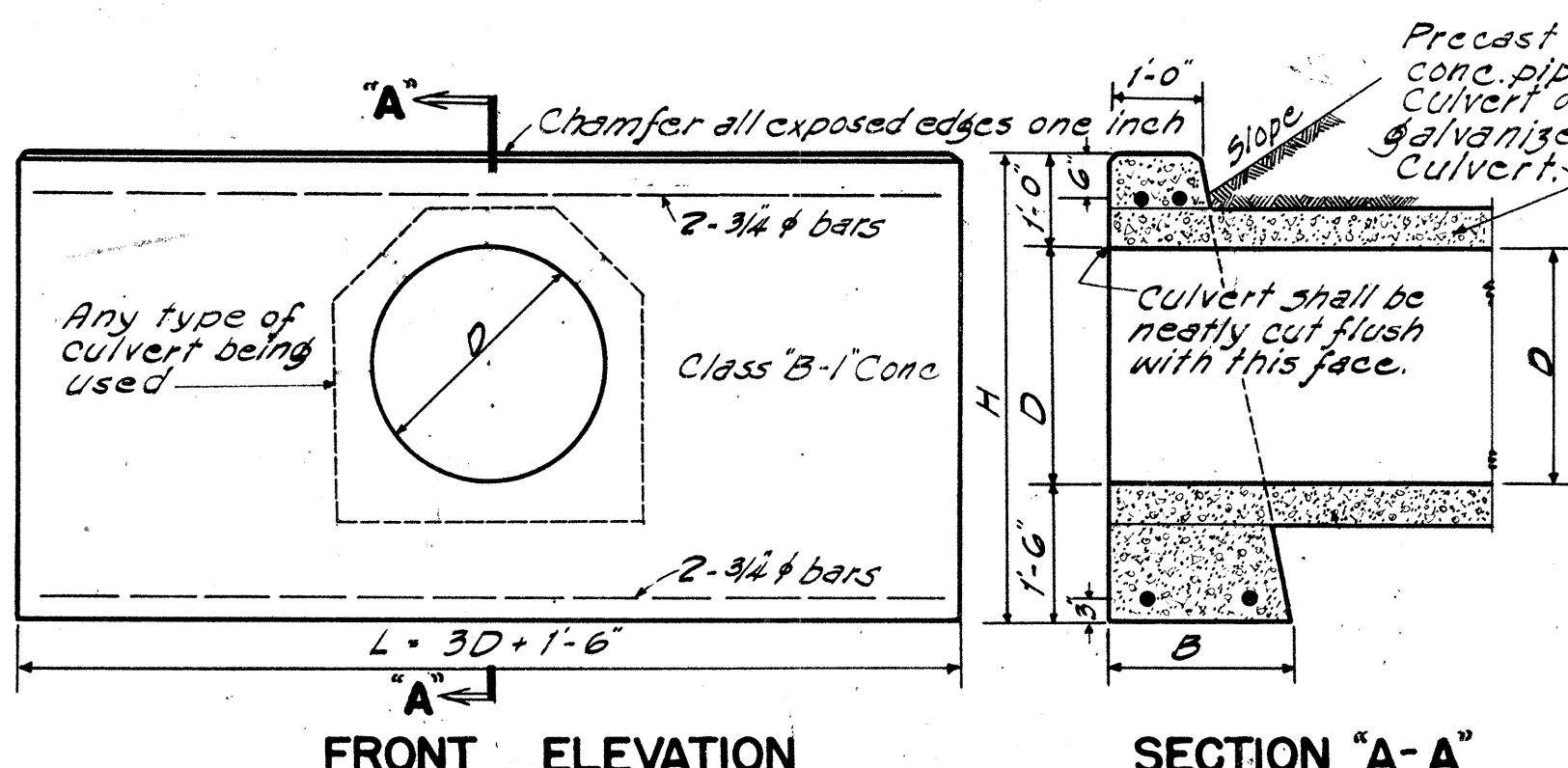
Where drainage comes from both sides lower this wall to same elevation as shown for opposite wall.

ST'D. CONG. DROP INTAKE
 Scale: 1/2" = 1'-0"



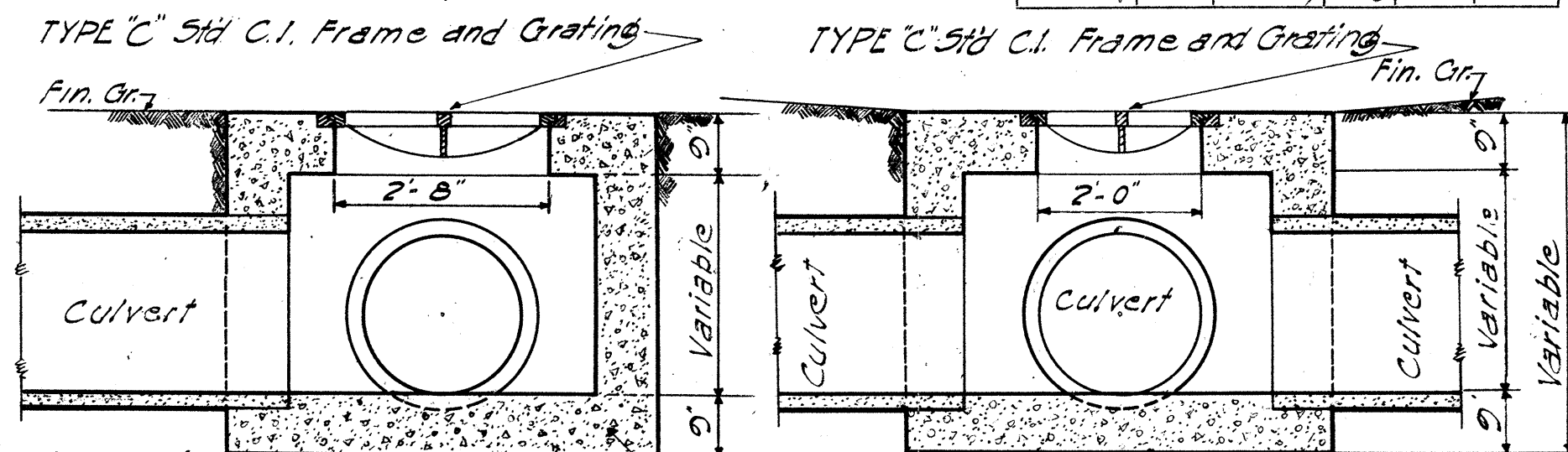
CONC. COLLAR FOR CONG. BOX CULVERT

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



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

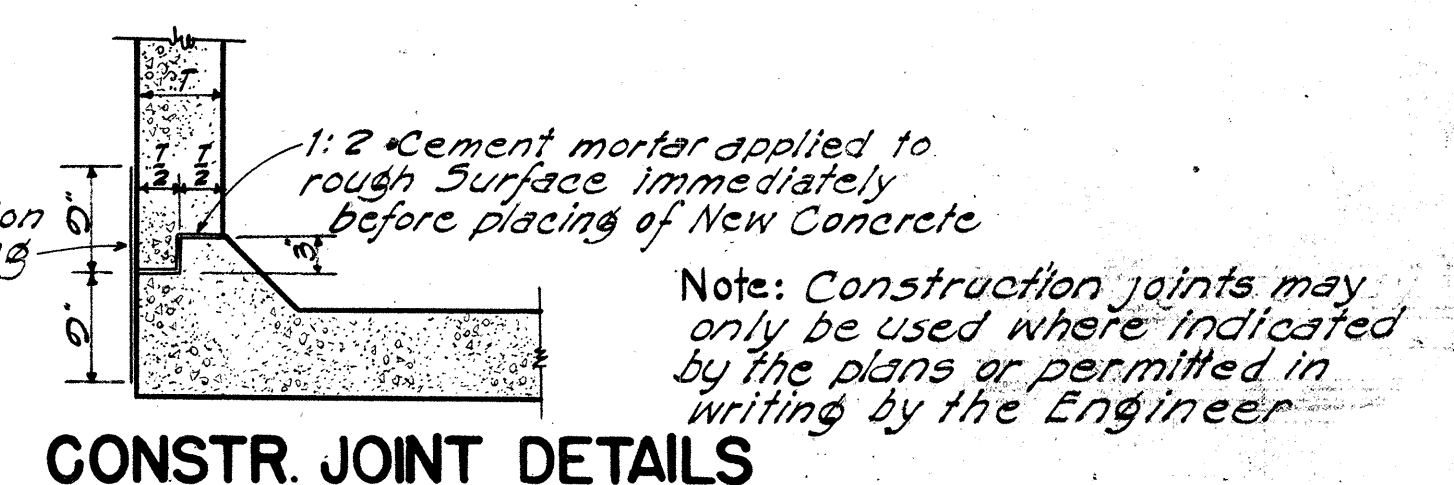
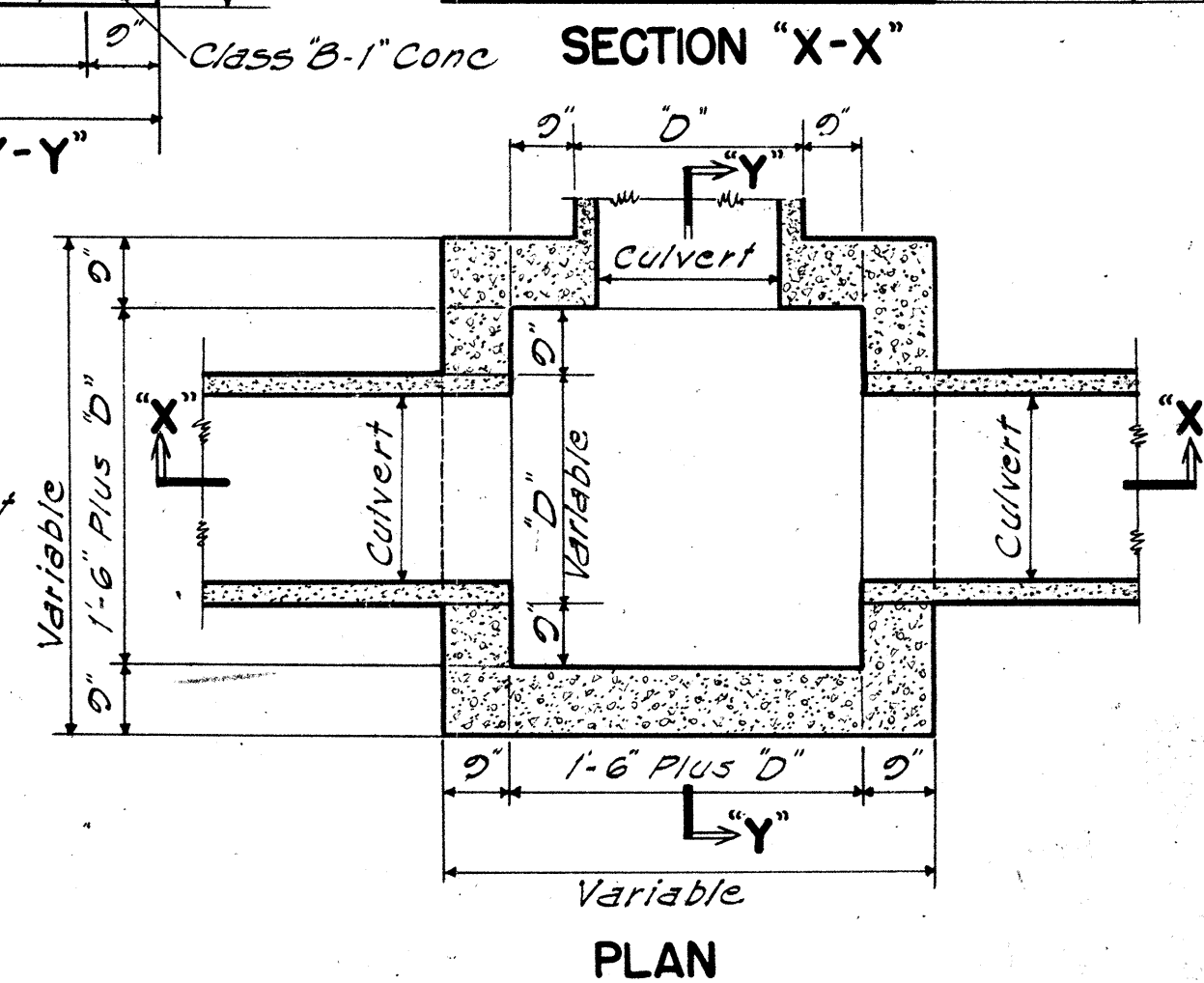
Cast-in-Place Data: Standard Concrete Headwall			
Cu. Yds.	D	B	L
0.02	18	1'-6"	6'-0"
1.23	24	1'-6"	7'-6"
1.93	30	2'-0"	9'-0"
2.43	36	2'-0"	10'-6"



CONC. DROP INTAKE IN MEDIAL STRIPS

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

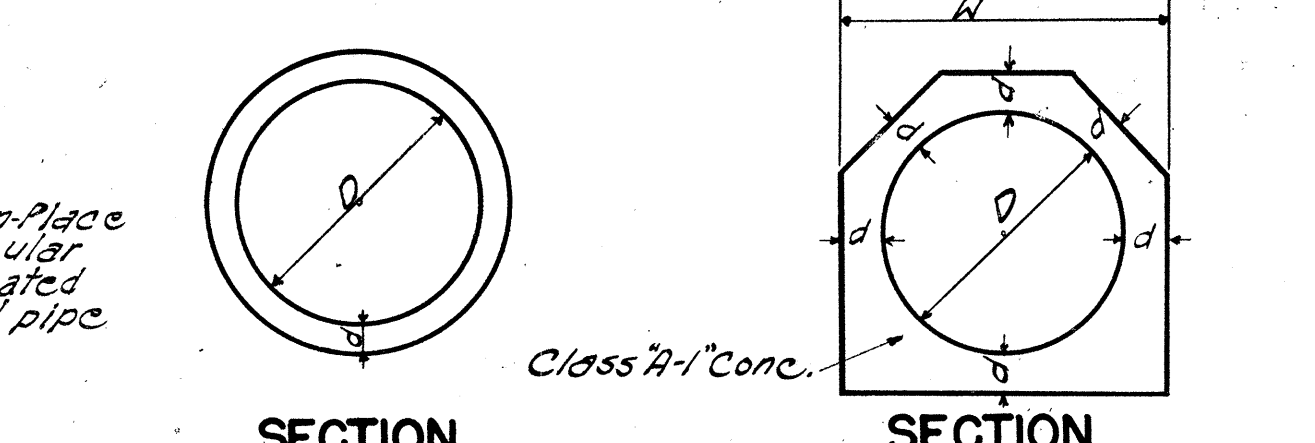
Note: May also be used in pavement and at other places.



CONSTR. JOINT DETAILS

METHOD OF APPLYING CONSTR. JOINT WATERPROOFING

- (1) Map surface either side of joint as required with asphalt 85-100 penetration applied at 200°F.
- (2) Apply one layer of 55-lb composition roofing to hot asphalt.
- (3) Map surface of composition roofing and 3" beyond all around with thick coat of asphalt as specified under (1).



CONC. PIPE CULVERT

Data: Cast-in-Place Conc. Culvt.			
D	d	W	Cu. Yds. per ft.
18	4	2'-2"	0.11
24	4 1/2	2'-9"	0.14
30	5	3'-4"	0.19
36	5 1/2	3'-11"	0.26

Note: Thickness "d" reinforcing and concrete used are to conform with the approved design as provided by the specifications.

CAST-IN-PLACE CONG. CULVERT

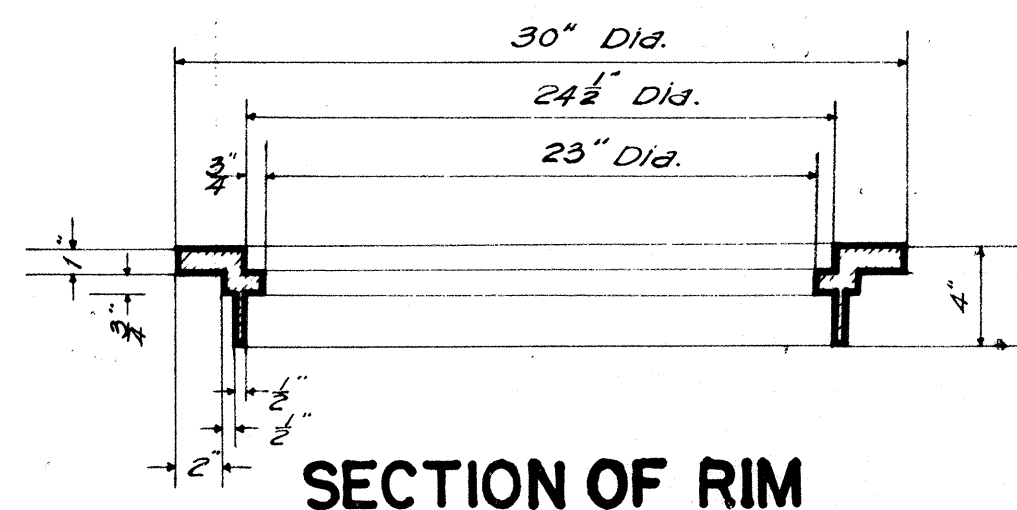
TERRITORIAL HIGHWAY DEPARTMENT
 TERRITORY OF HAWAII

STANDARD DETAILS

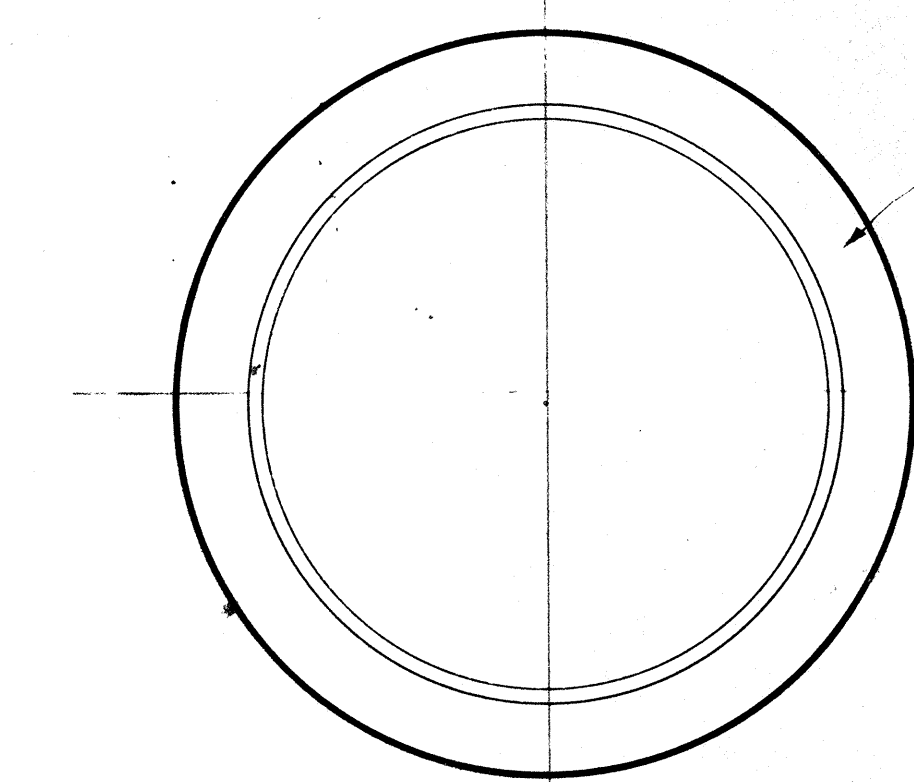
SCALES AS NOTED
 Apr. 15, 1948

APPROVED: *[Signature]*
 Territorial Highway Engineer

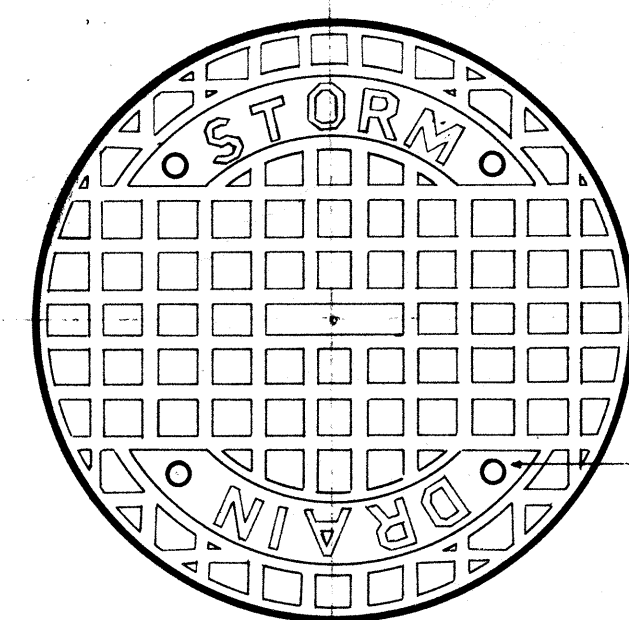
SHEET NO. 3 OF 4 SHEETS



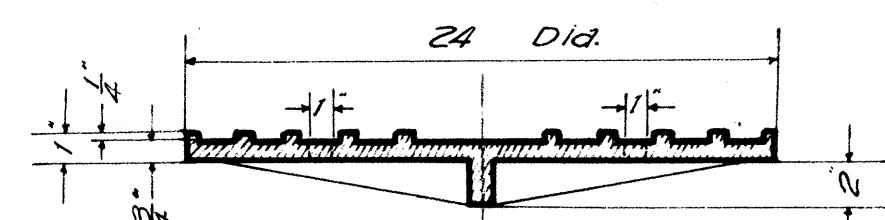
SECTION OF RIM



PLAN OF RIM

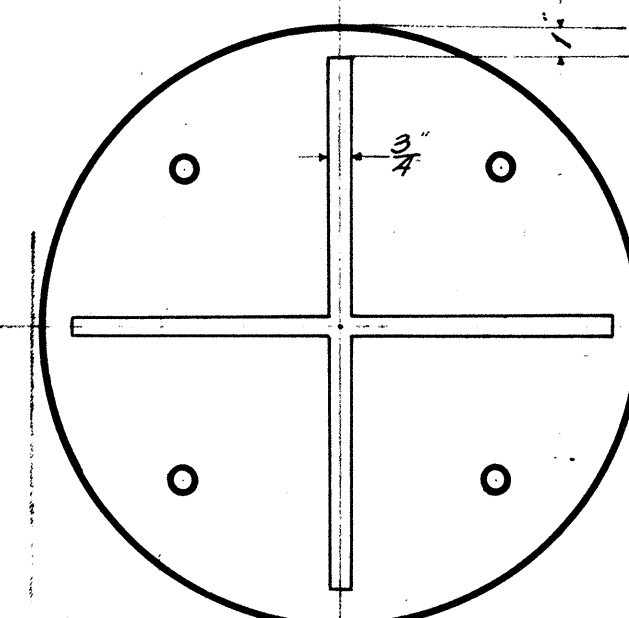


PLAN OF COVER TOP



SECTION OF COVER

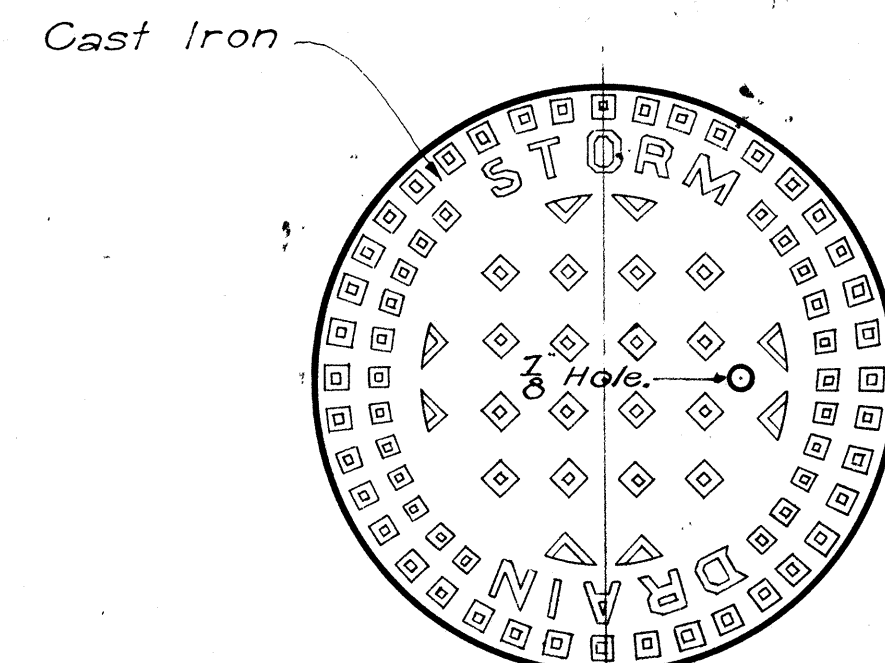
NOTE: A unit includes both Rim and Cover



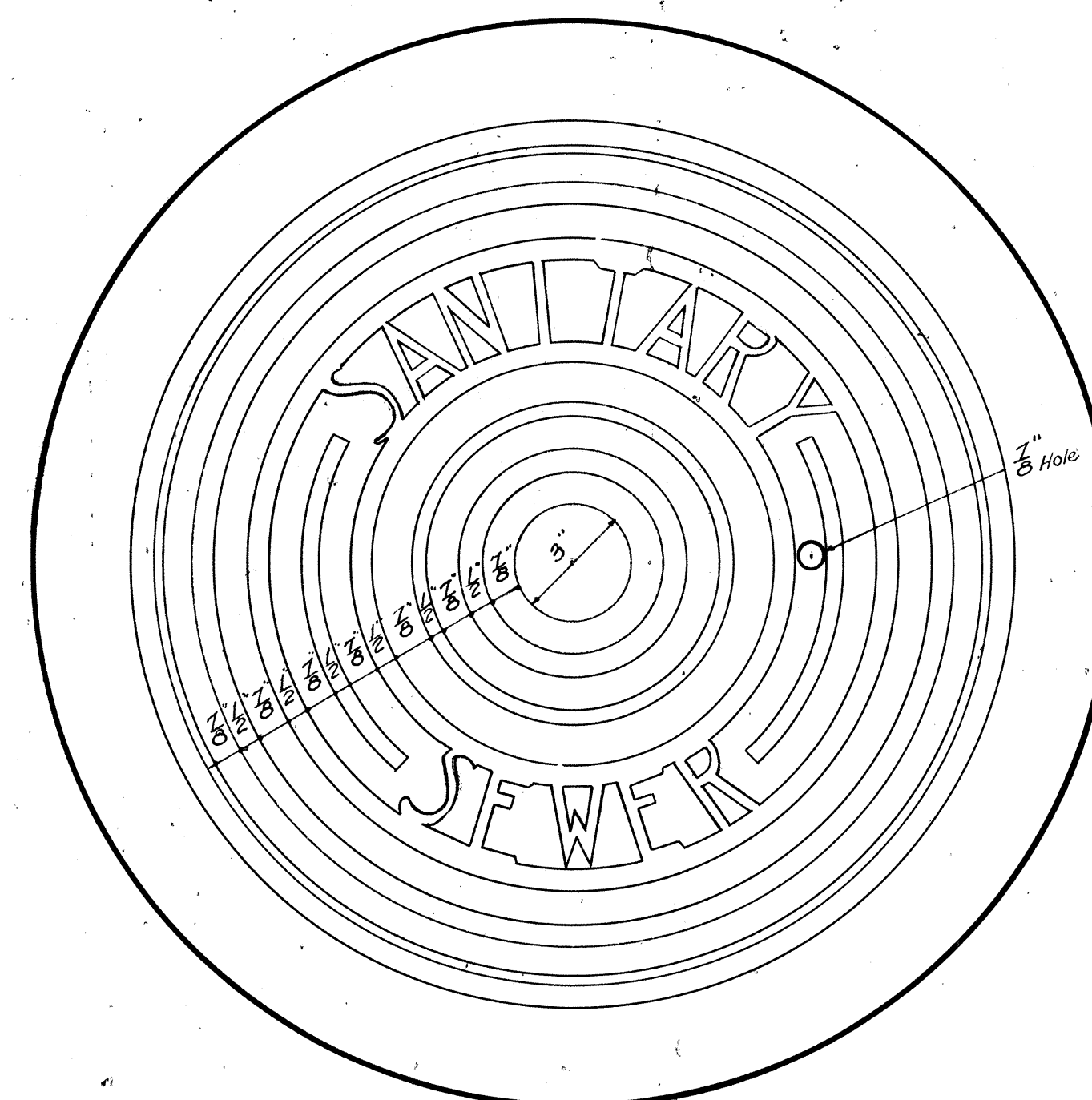
BOTTOM VIEW OF COVER
TYPE "B"

STANDARD CATCH BASIN CASTINGS

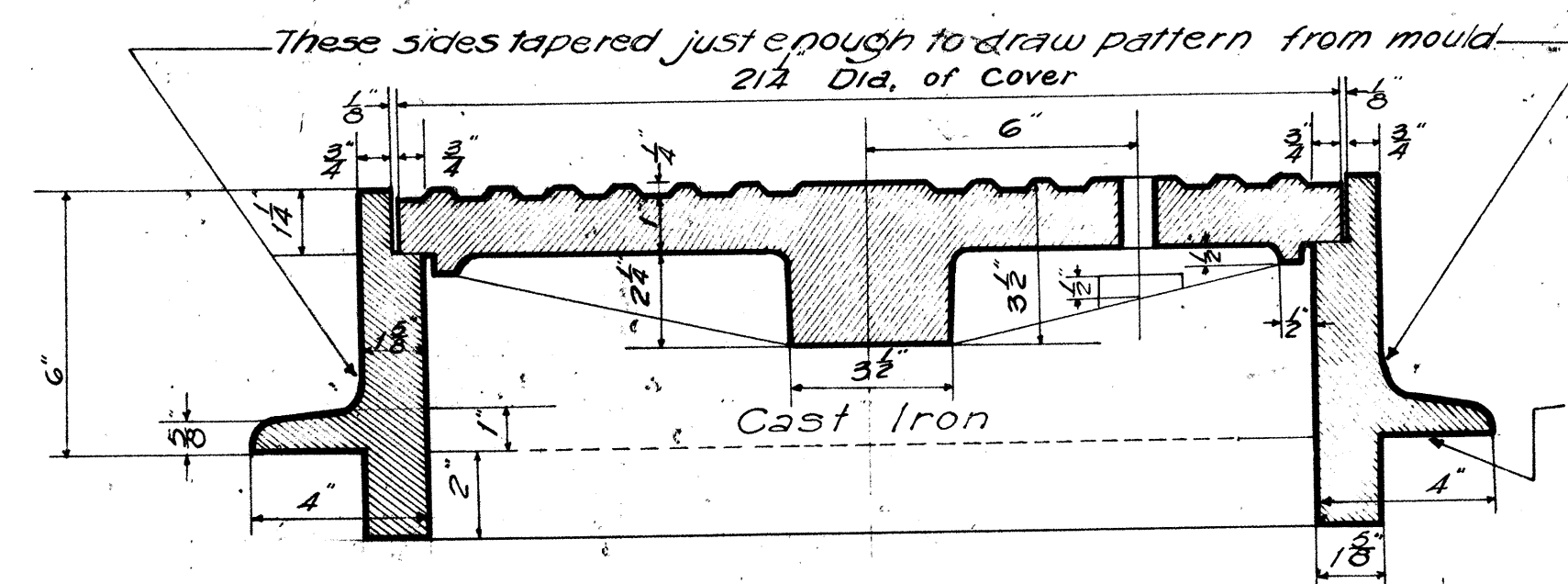
Scale: 1-1/2" = 1'-0"



PATTERN FOR STORM DRAIN MANHOLE COVER

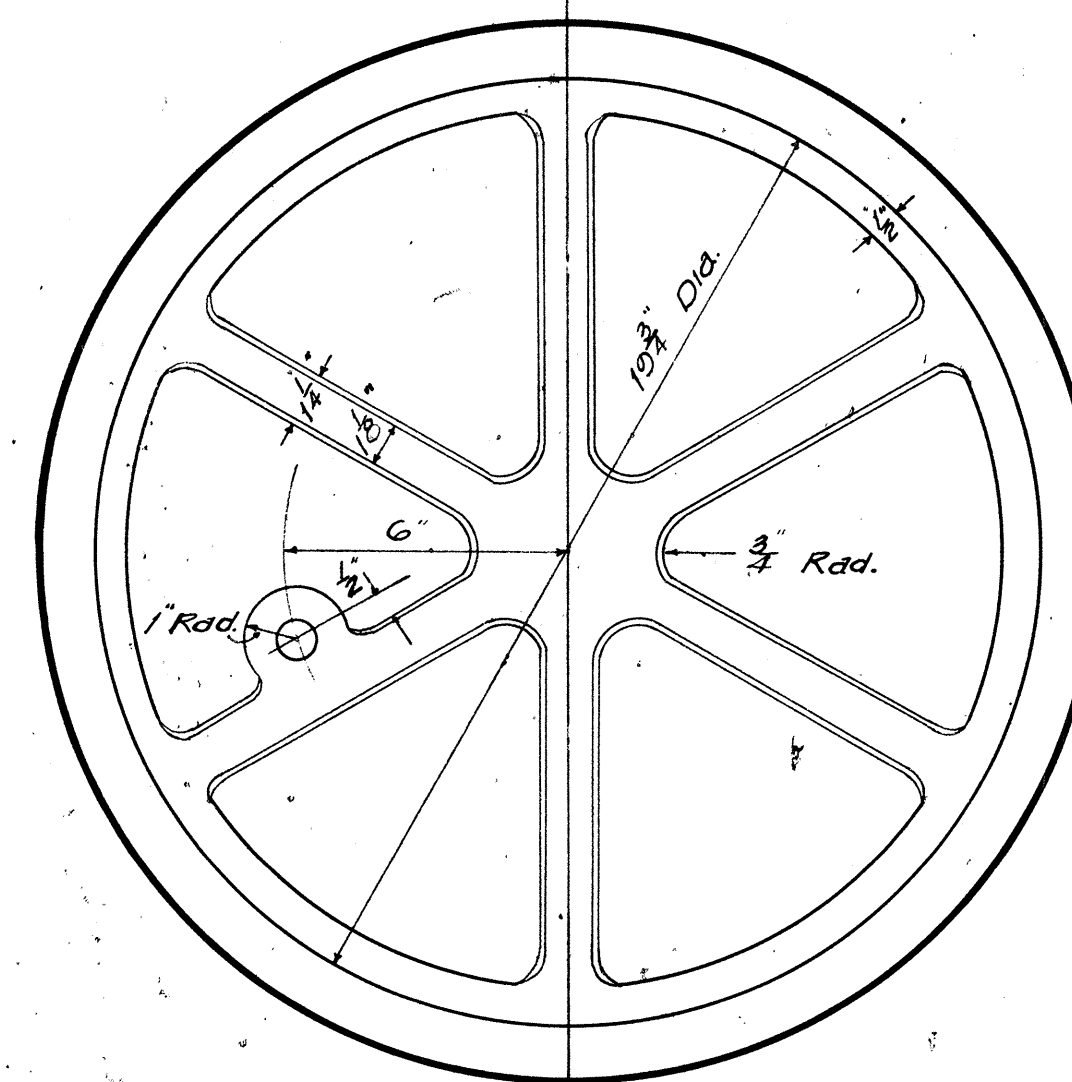


PATTERN FOR SEWER MANHOLE COVER



SECTION

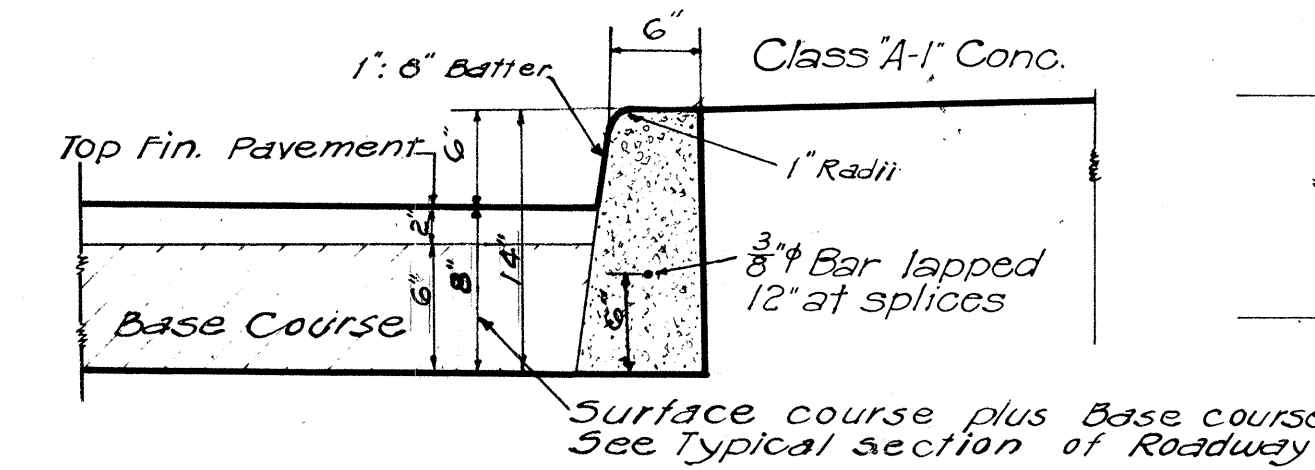
NOTE: A unit includes both Frame and Cover



BOTTOM VIEW OF COVER
TYPE "A"
STANDARD MANHOLE CASTINGS

Scale: 3" = 1'-0"

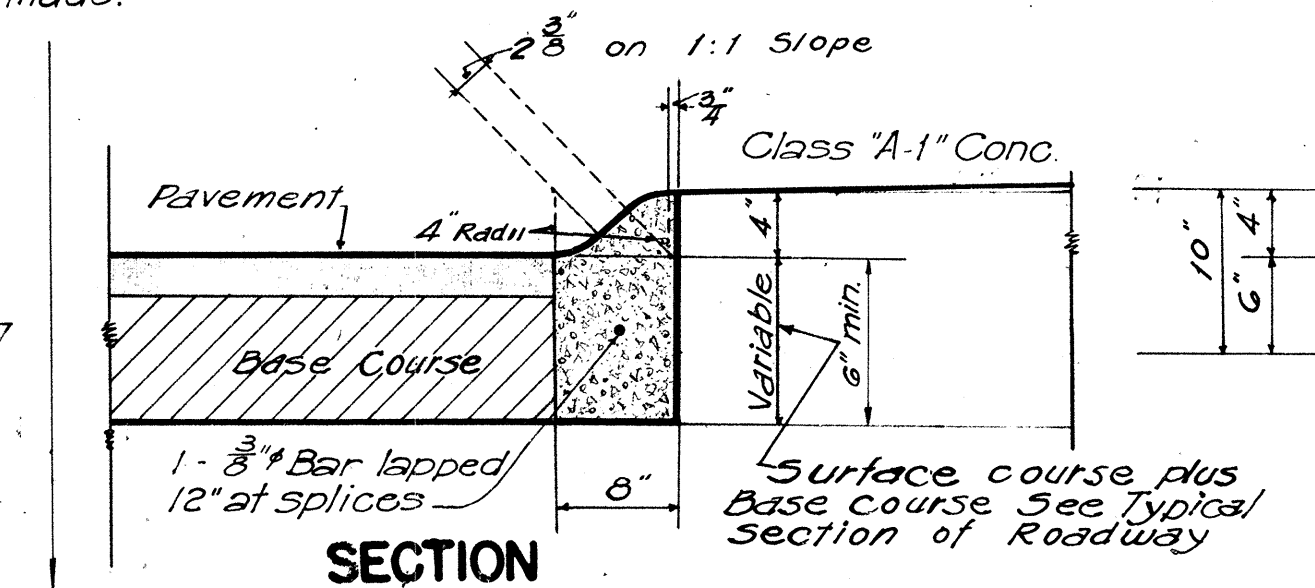
NOTE: The pattern for water manhole covers shall be the same as for sanitary sewer except that the word "Water" shall be substituted for "Sanitary Sewer".



ST'D. CAST IN PLACE CONC. CURB

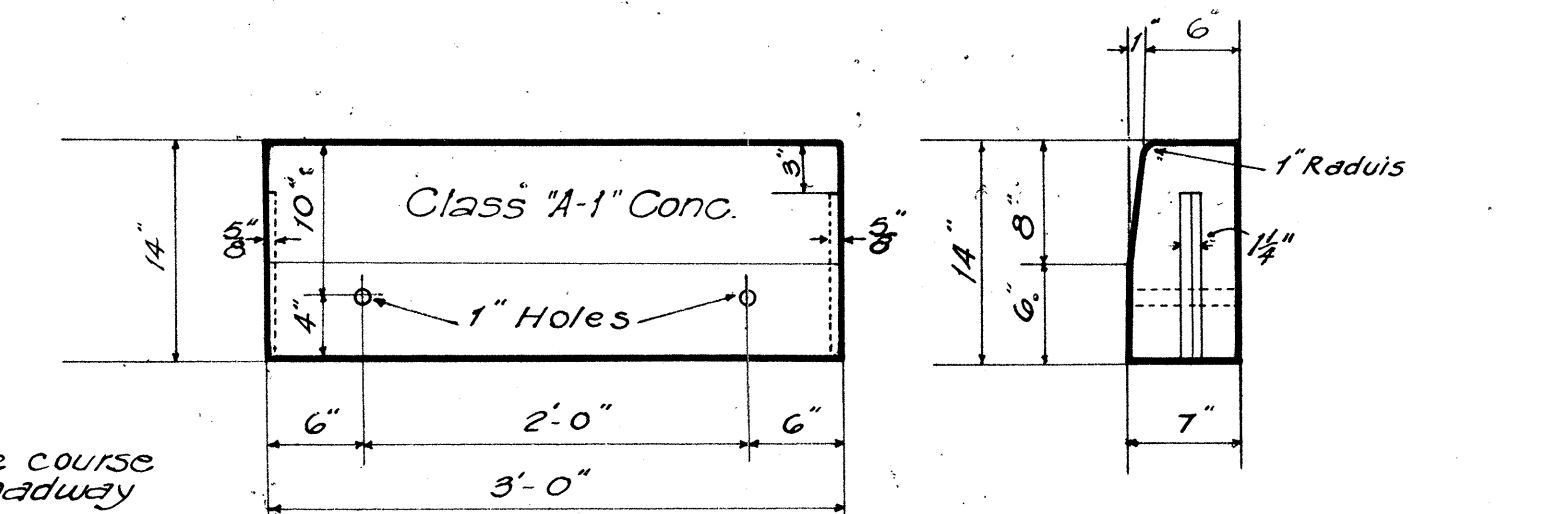
Scale: 1" = 1'-0"

NOTE: There may be more than one over-all curb height used on an individual project depending upon Base Courses used, but this shall make no difference in items under which payment is made.



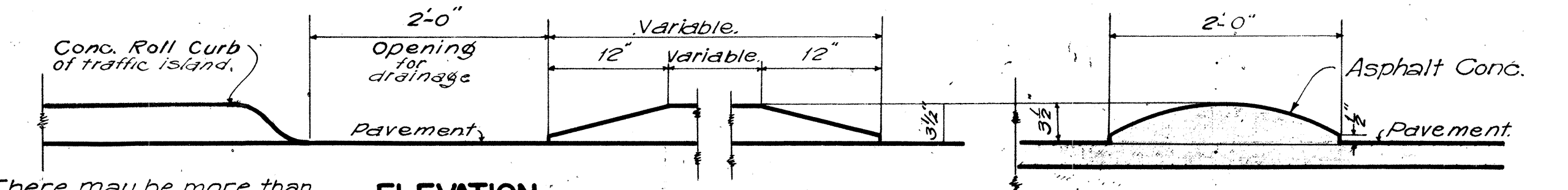
ST'D. CAST IN PLACE CONC. ROLL CURB

Scale: 1" = 1'-0"



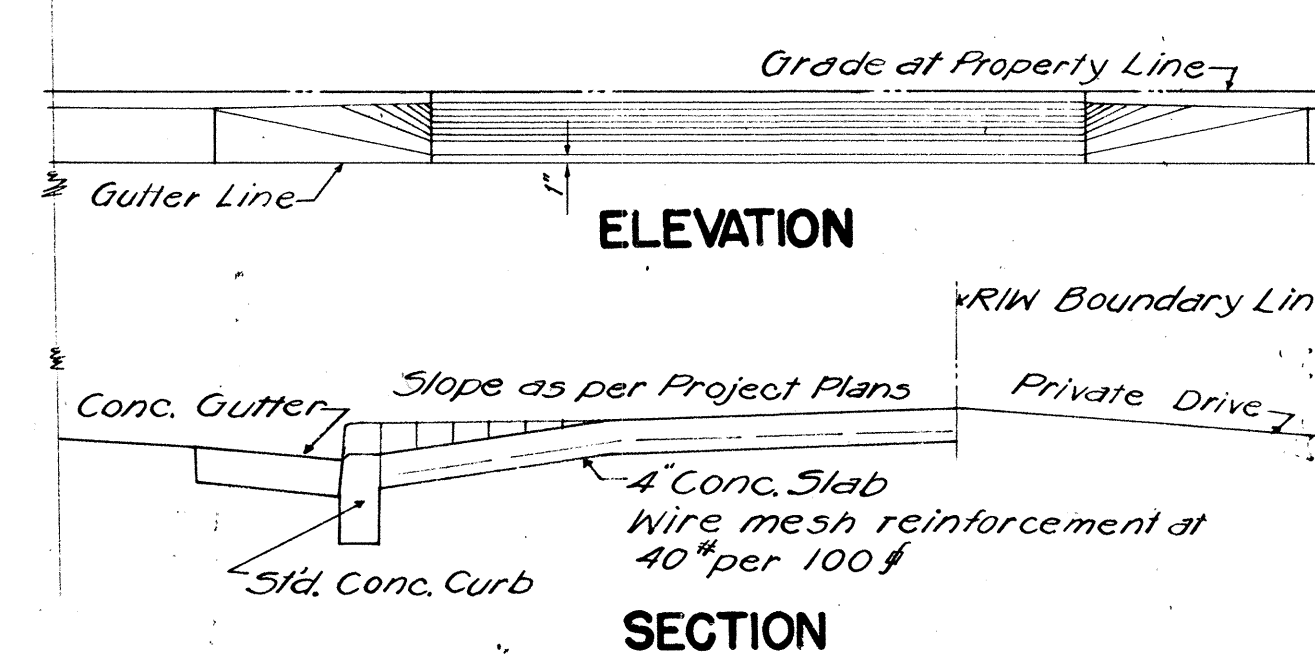
ST'D. PRECAST CONC. CURB

Scale: 1" = 1'-0"

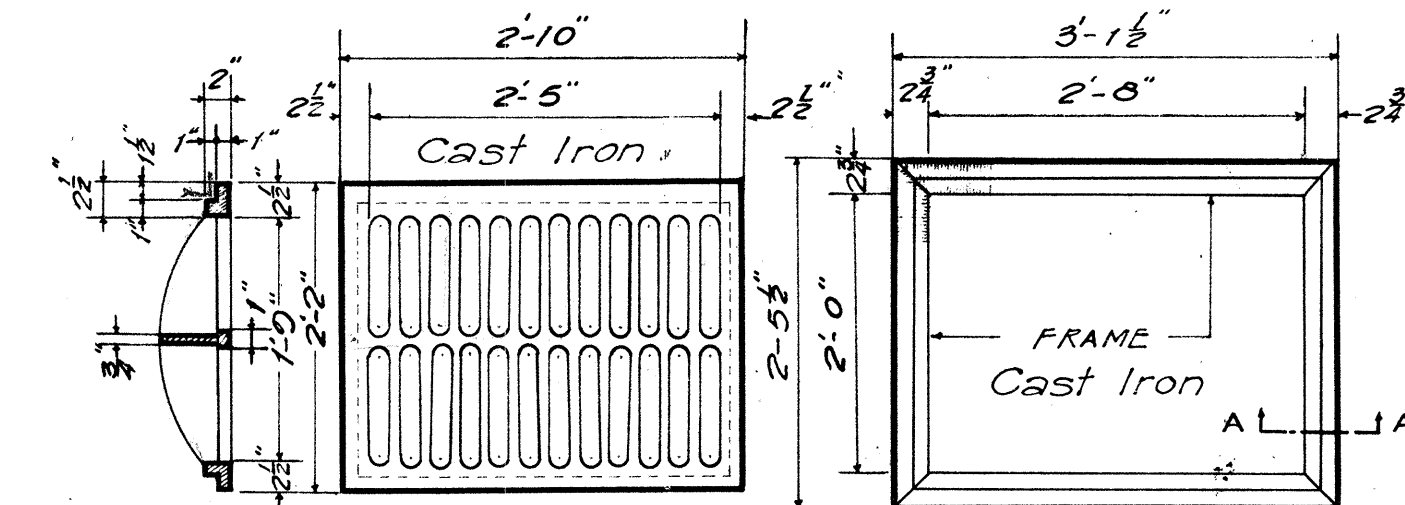


DETAIL OF A. C. ROLL

Scale: 1" = 1'-0"



SECTION

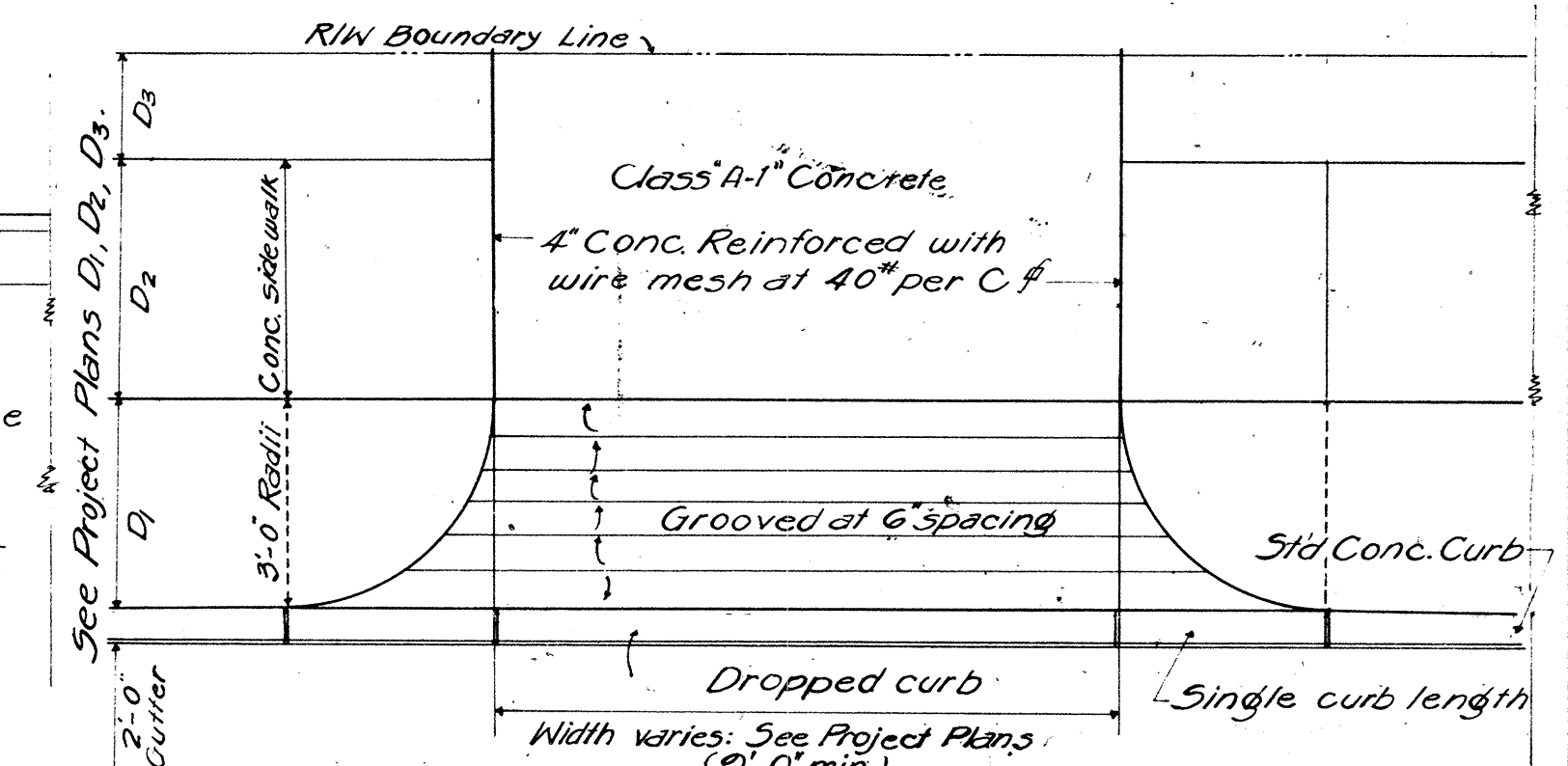


TOP VIEW

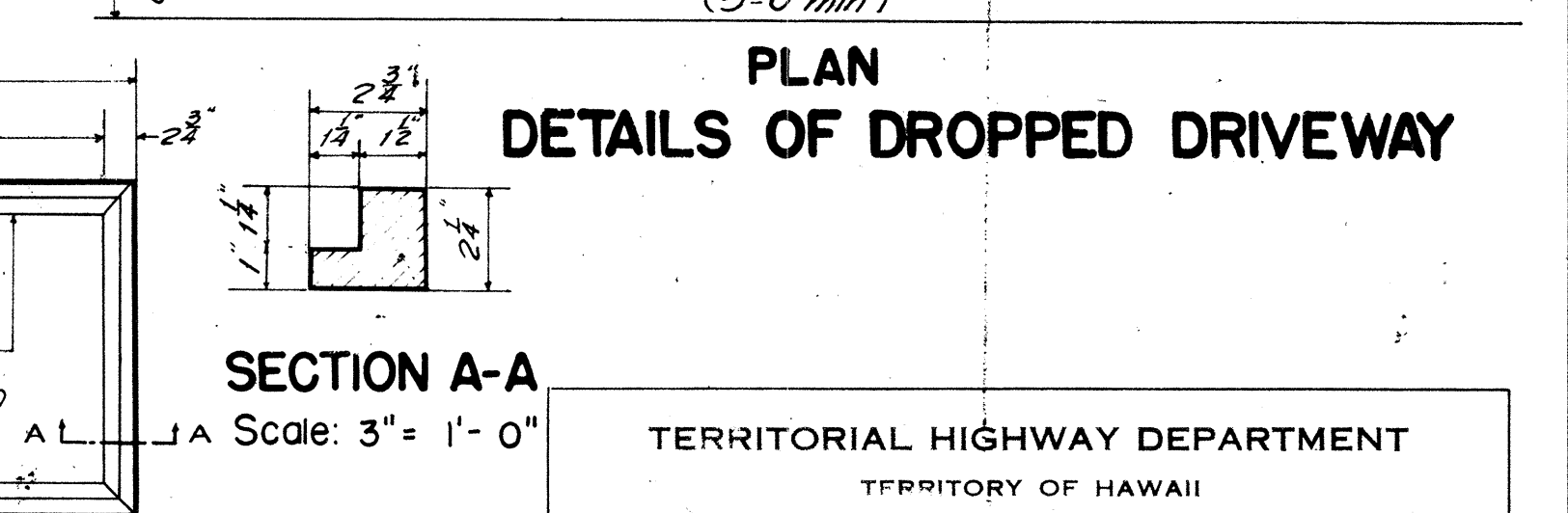
STANDARD C. I. FRAME AND GRATE TYPE "C"

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

NOTE: Stock Pattern from Novelty Foundry-Honolulu



PLAN
DETAILS OF DROPPED DRIVEWAY



SECTION A-A

Scale: 3" = 1'-0"

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

STANDARD DETAILS

SCALES AS NOTED Sept. 5, 1946

APPROVED: B. F. Rush
Territorial Highway Engineer

SHEET No 4 OF 4 SHEETS

5096.13

DATE: 9/5/46
SURVEY PLOTTED BY: S. Nambu
DESIGNED BY: S. Nambu
DRAWN BY: S. Nambu
CHECKED BY: S. Nambu
ORIGINAL PLAN: S. Nambu
NOTE BOOK: S. Nambu
QUANTITIES BY: S. Nambu
CHECKED BY: S. Nambu