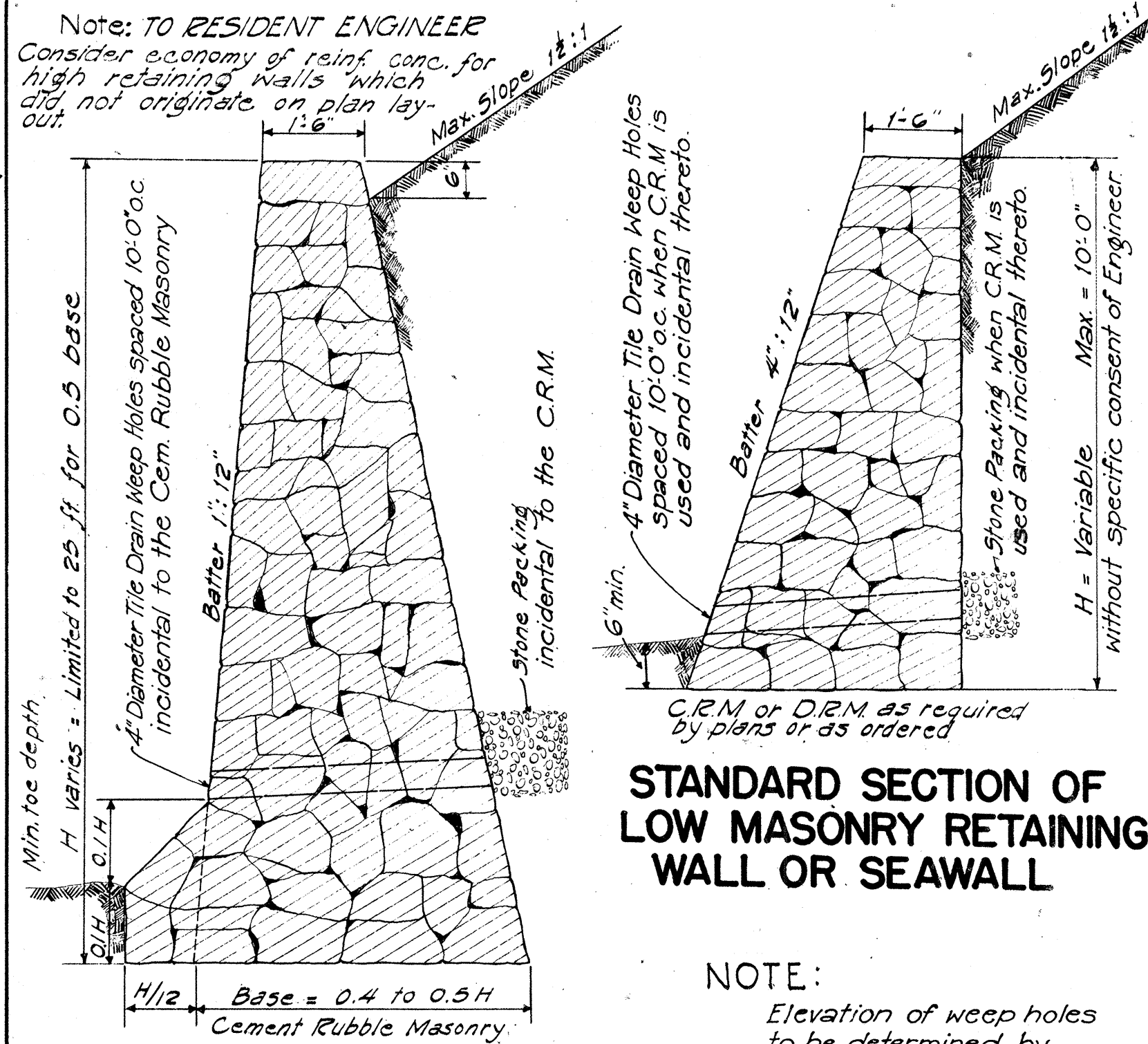


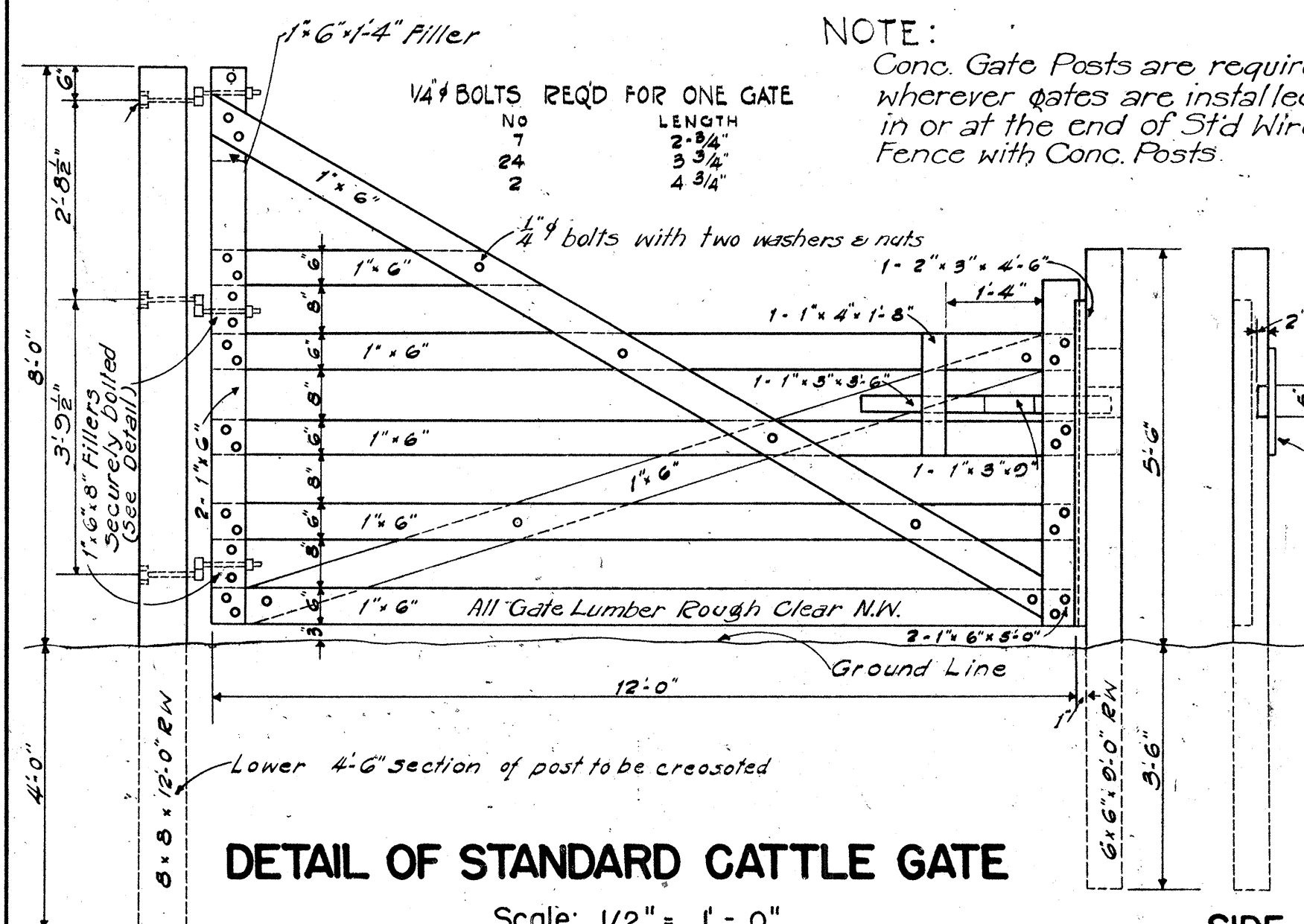
Note: TO RESIDENT ENGINEER
Consider economy of reinf. conc. for
high retaining walls which
do not originate on plan lay-
out.



STANDARD SECTION OF LOW MASONRY RETAINING WALL OR SEAWALL

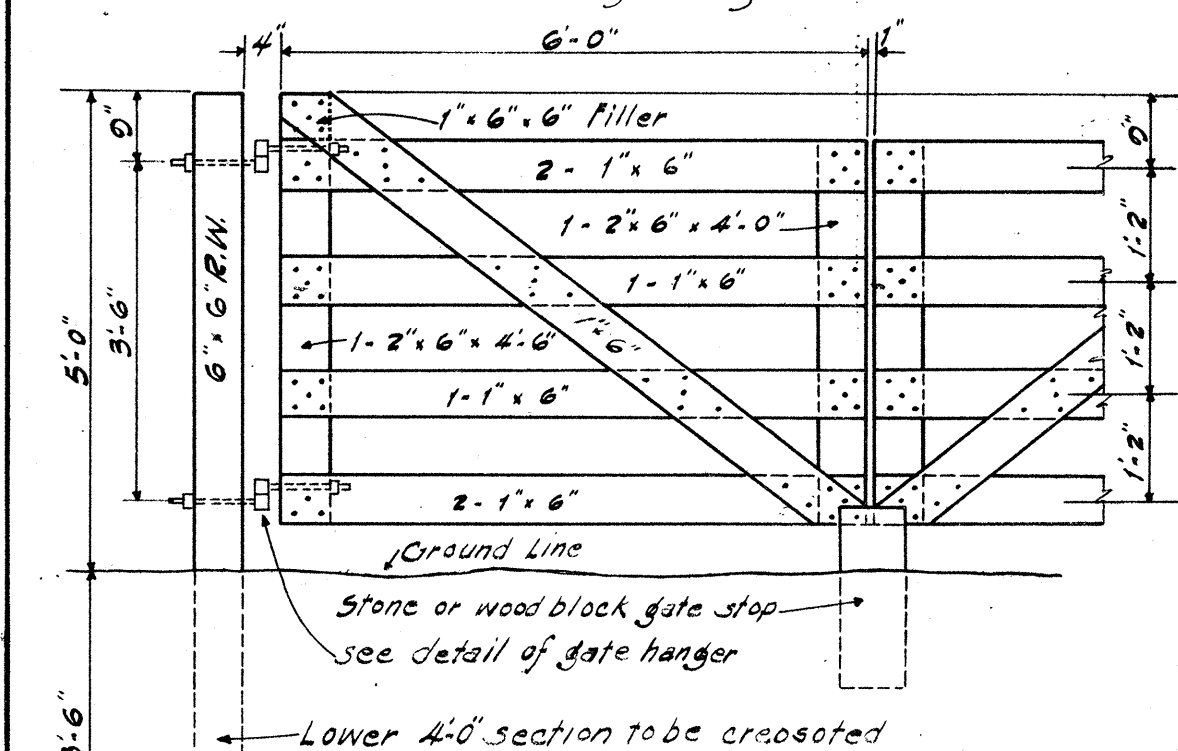
NOTE:
Elevation of keep holes
to be determined by
Resident Engineer. Holes
to be placed as close to the
existing ground line as
local conditions permit.

STANDARD SECTION OF HIGH CEMENT RUBBLE MASONRY RE-TAINING WALL OR SEAWALL



DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1'-0"
See Note regarding use of Concrete Posts.



DOUBLE HUNG GATE

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

See Note regarding use of Concrete Posts.

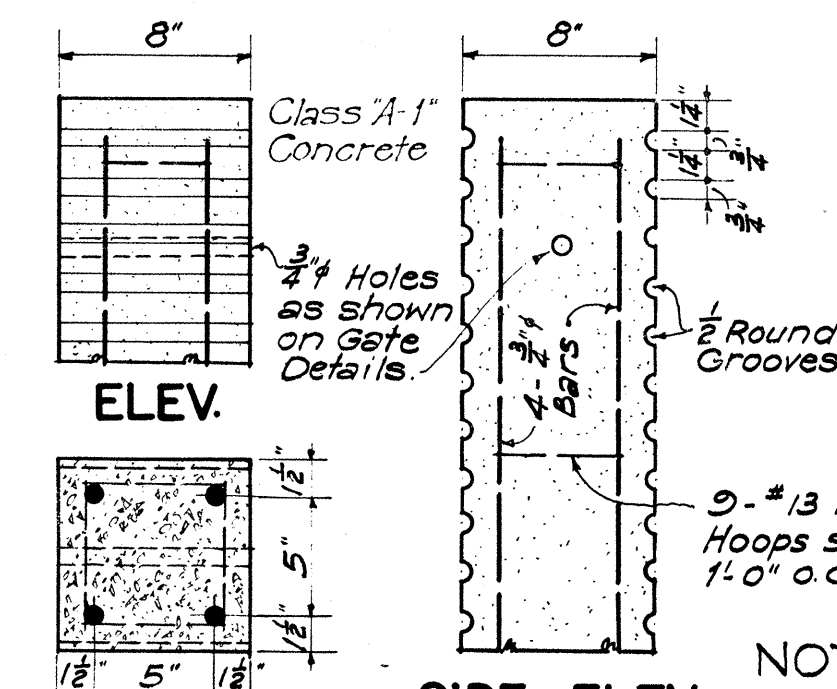
DETAIL OF GATE HANGER

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

Note: Use 3/4" x 11" bolts for cattle gate

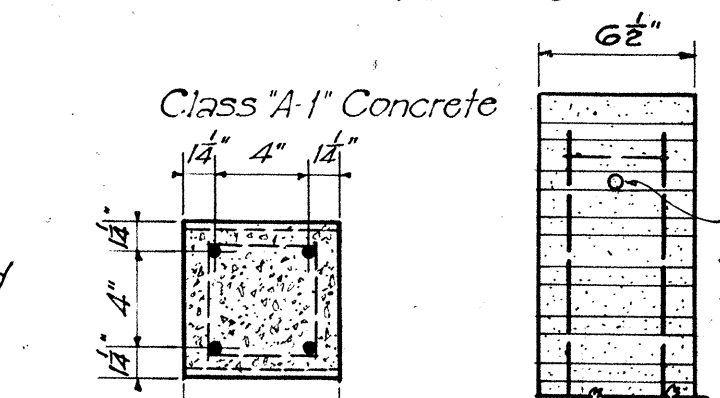
Data	Standard	Masonry	Drop	Intake
0'	0'	0'	0'	0'
22 1/2"	18"	2'-0"	2.41	4'-6"
28"	24"	2'-6"	2.89	5'-0"
35 1/2"	30"	3'-0"	3.38	5'-6"
42"	36"	3'-6"	3.92	6'-0"

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



STANDARD MASONRY DROP INTAKE

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



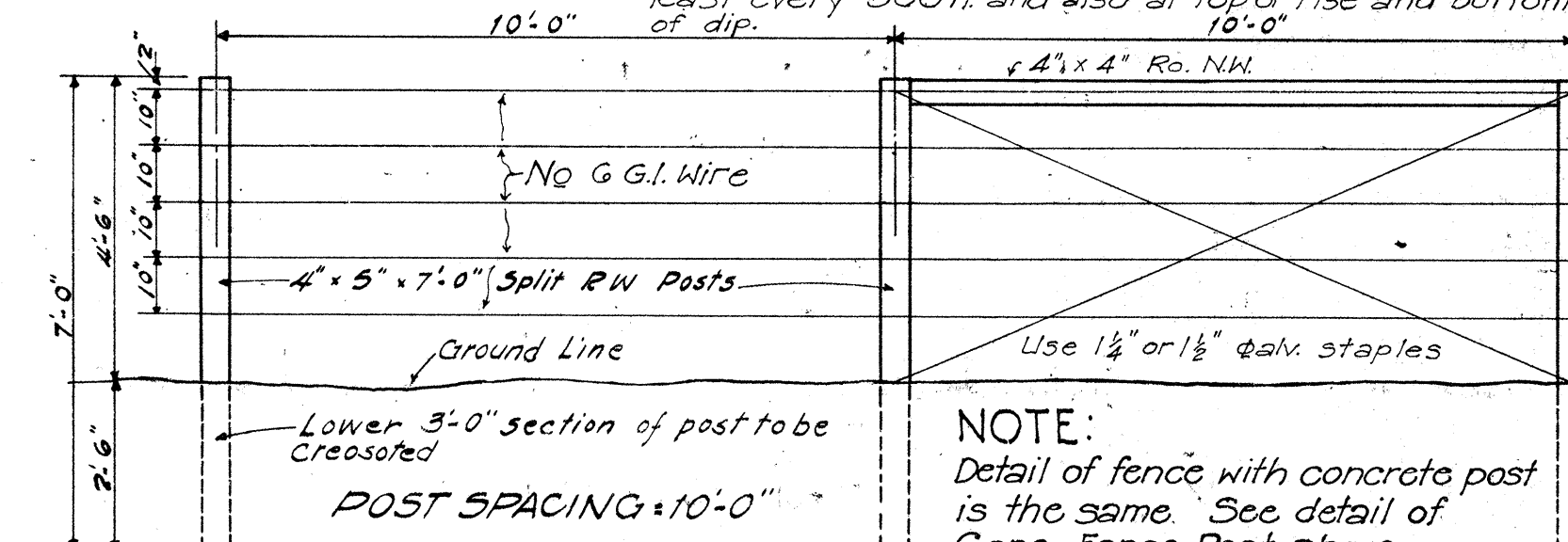
DETAIL OF STANDARD OUTLET DITCH

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

STANDARD GUIDE POSTS:

8"x8" Reinforced Conc. Posts same as those used for Std Wood Guard Rail spaced 16'-0" o.c. unless otherwise specified.

NOTE: Fence must be anchored against pull at least every 500 ft. and also at top of rise and bottom of dip.

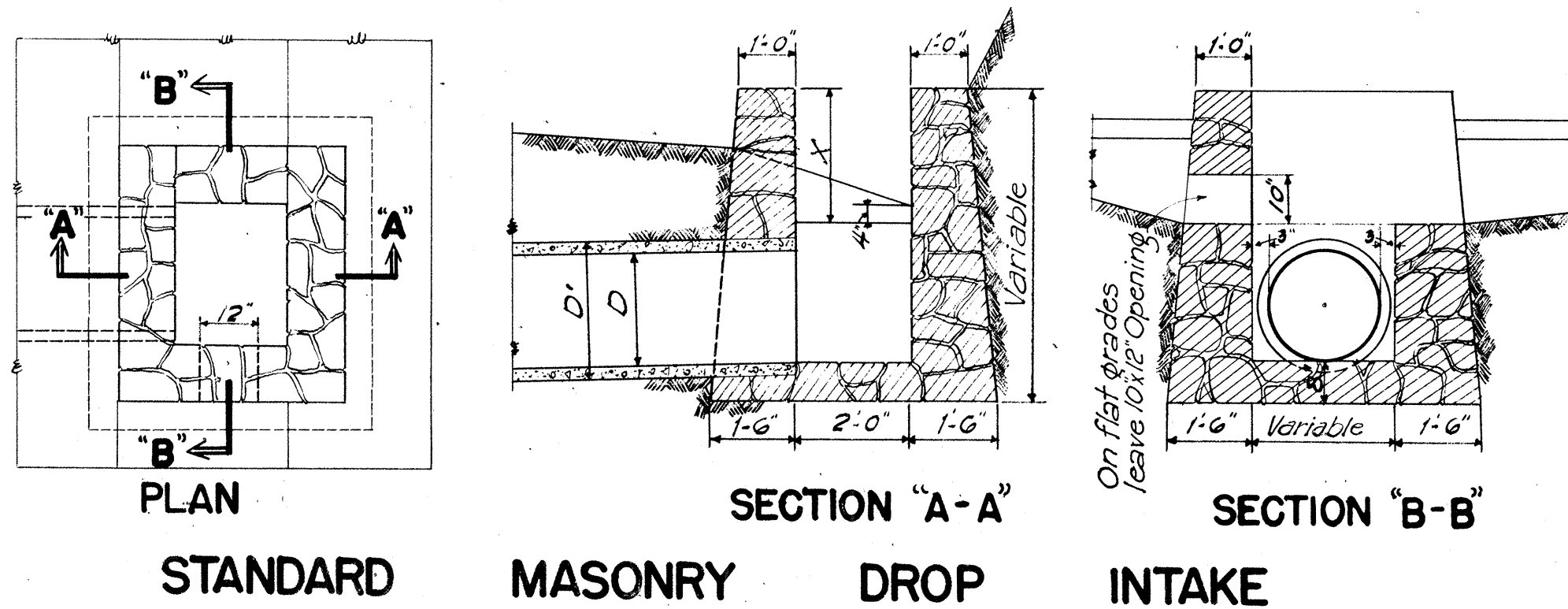


DETAILS OF STANDARD WIRE FENCE WITH WOODEN POSTS

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

NOTE: This Project requires Std Wire Fence with 10 ft post spacing (If spacing is not indicated above, use 10 ft)

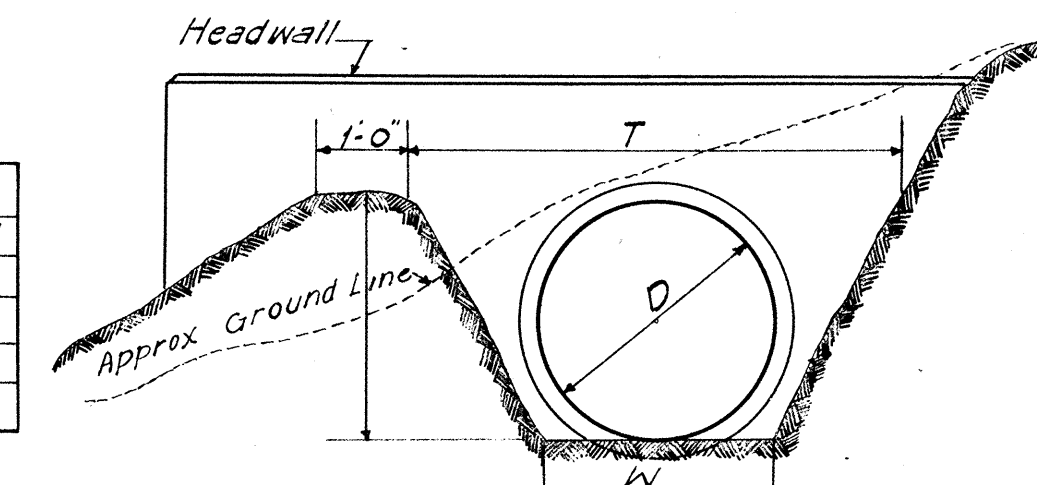
NOTE TO ENGINEER: Fence must be on road R/W to participate in Fed. Aid. Consult office if uncertain what to do.



Cast-in-Place	Precast	Data-Standard Rubble Masonry H.W.
Cu. Yds.	Cu. Yds.	D H B L Cx. one H.W.
0.85	0.95	18" 3'-6" 1'-0" 0.03
1.23	1.45	24" 4'-0" 2'-0" 0.14
1.83	2.06	30" 4'-6" 2'-3" 0.20
2.40	2.84	36" 5'-0" 2'-6" 0.27

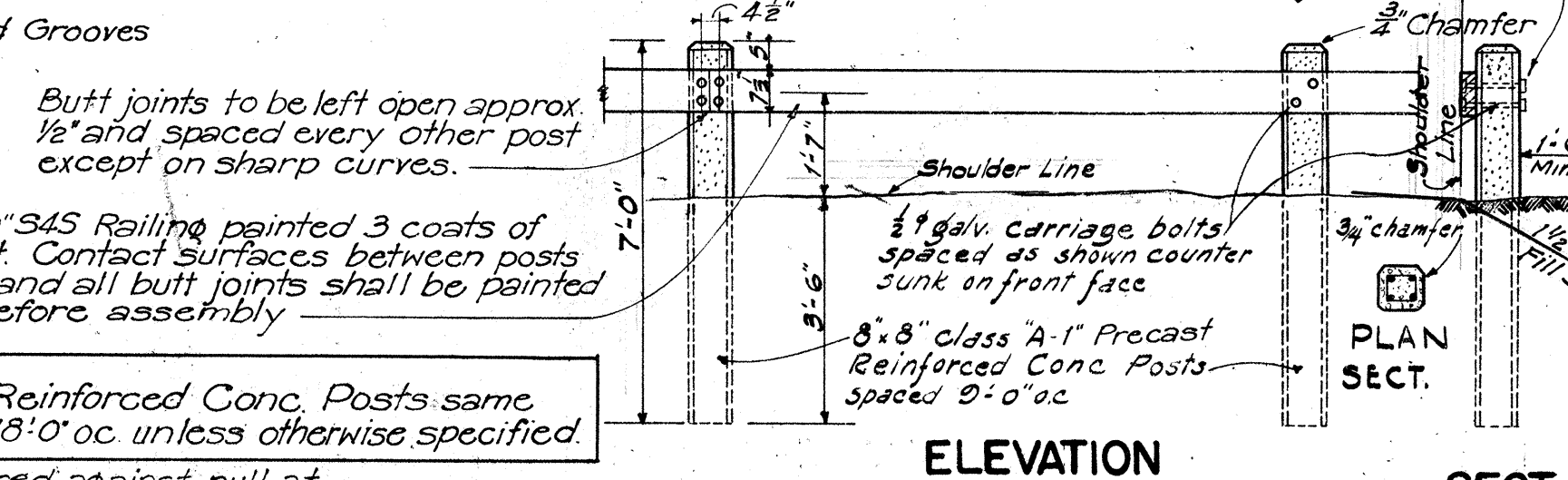
STANDARD MASONRY HEADWALL

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



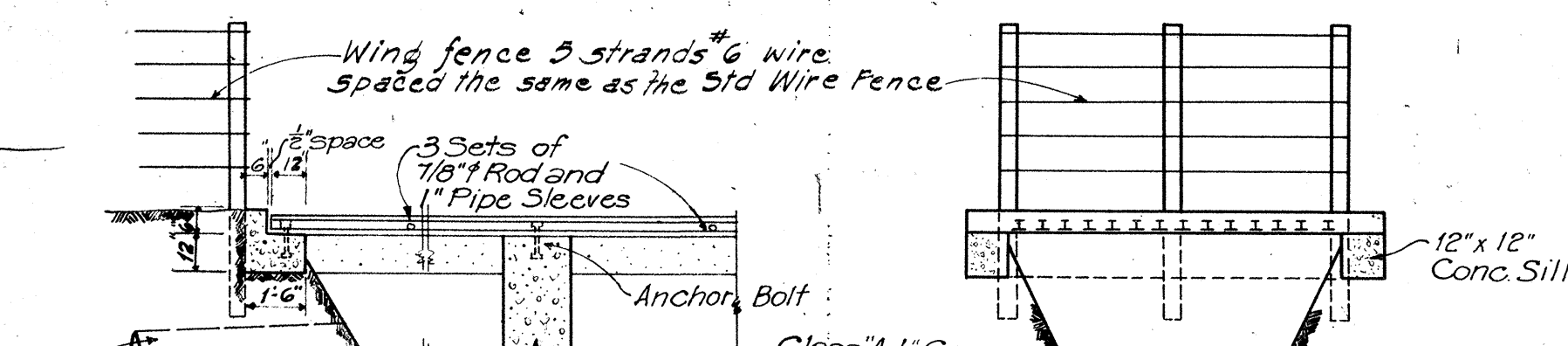
INDUSTRIAL TRACK CROSSING

NOTE: Use Type "A" if neither Type "A" or "B" is specified.



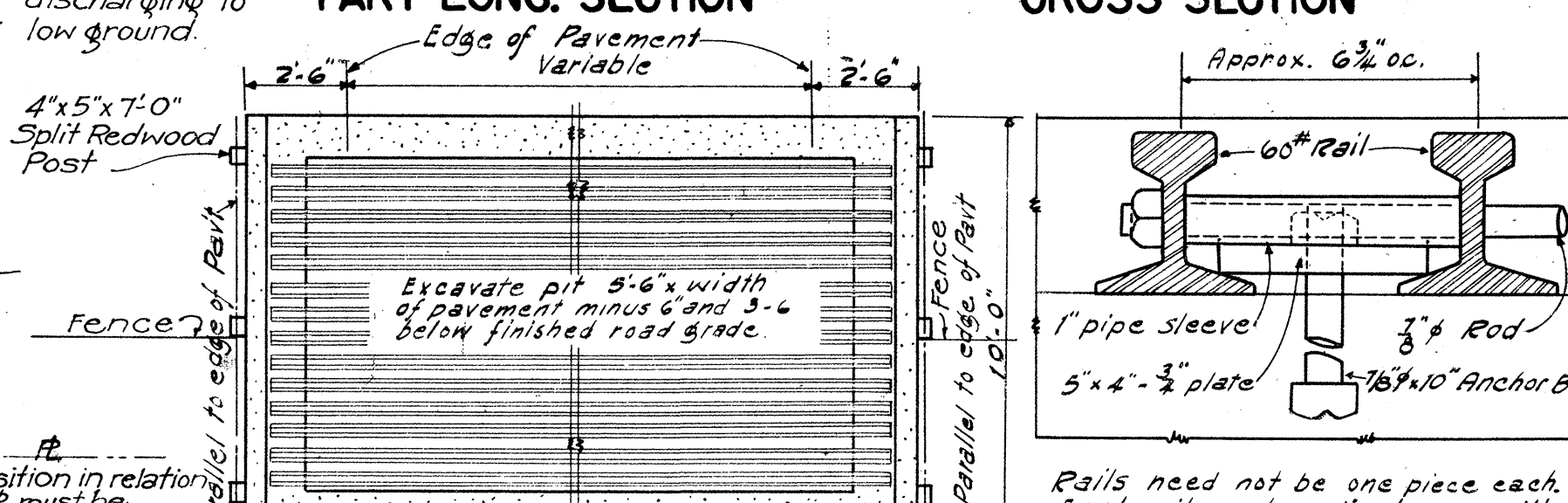
STANDARD WOOD GUARD RAIL

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



PART LONG. SECTION

CROSS SECTION



PLAN DETAILS OF CATTLE GUARD

LAYOUT SHOWING HURDLE PLACED BELOW CULVERT IN A POSITION WHICH WILL BE CATTLE TIGHT

DETAILS OF HURDLE

TERRITORIAL HIGHWAY DEPARTMENT

TERRITORY OF HAWAII

STANDARD DETAILS

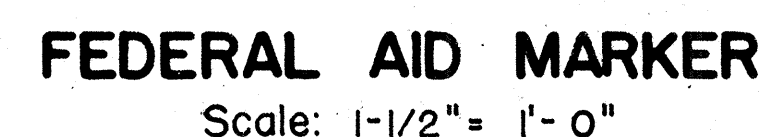
SCALES AS NOTED Apr. 15, 1948

APPROVED: *[Signature]*

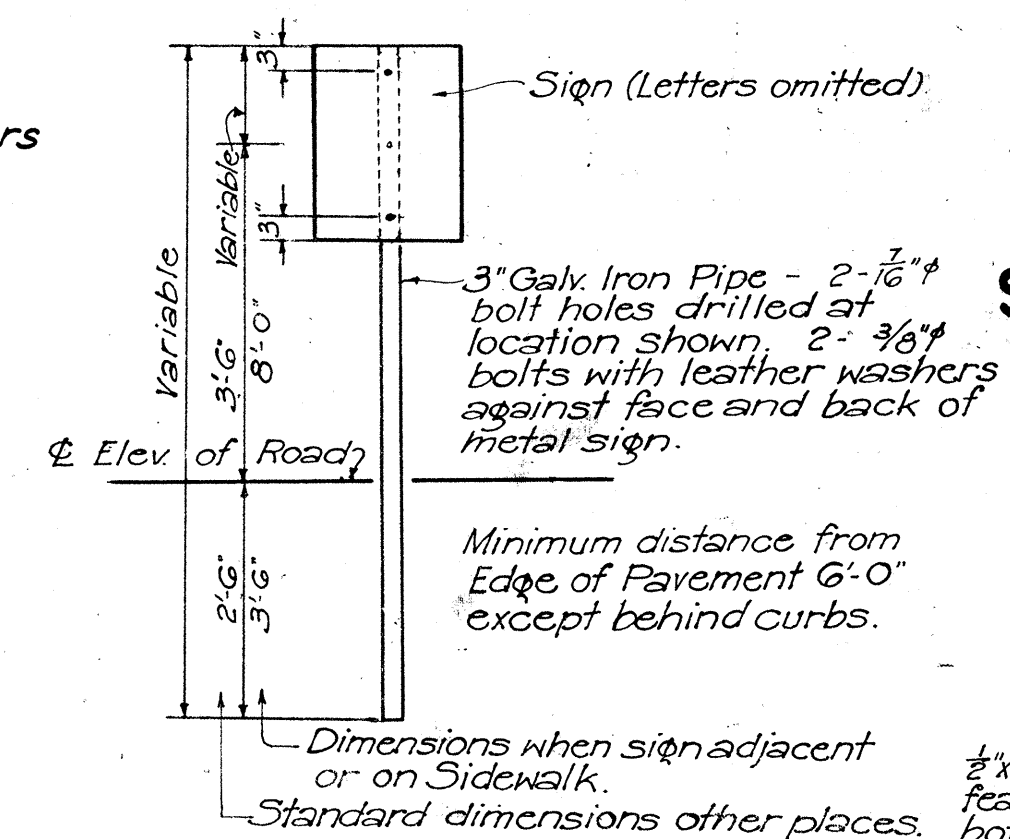
Territorial Highway Engineer

SHEET No 1 OF 3 SHEETS

5374.10

[illegible]

Scale: $1'' = 1' - 0''$



$\frac{1}{2} \times 2\frac{1}{2}$ Brass Plug
 feathered at
 bottom to be set
 after Pavement
 is completed.

$\frac{1}{4}$ " Road Surface

2'0" May be less if
 on solid rock

8" x 8" Class 'A-1' Conc.

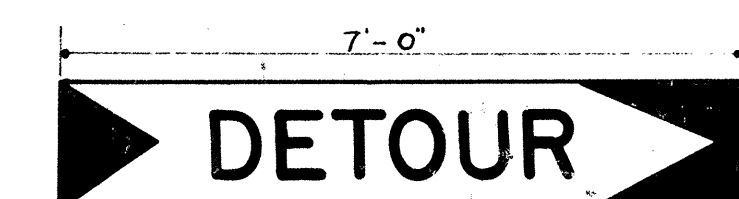
Scale: $1/2" = 1'-0"$



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

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

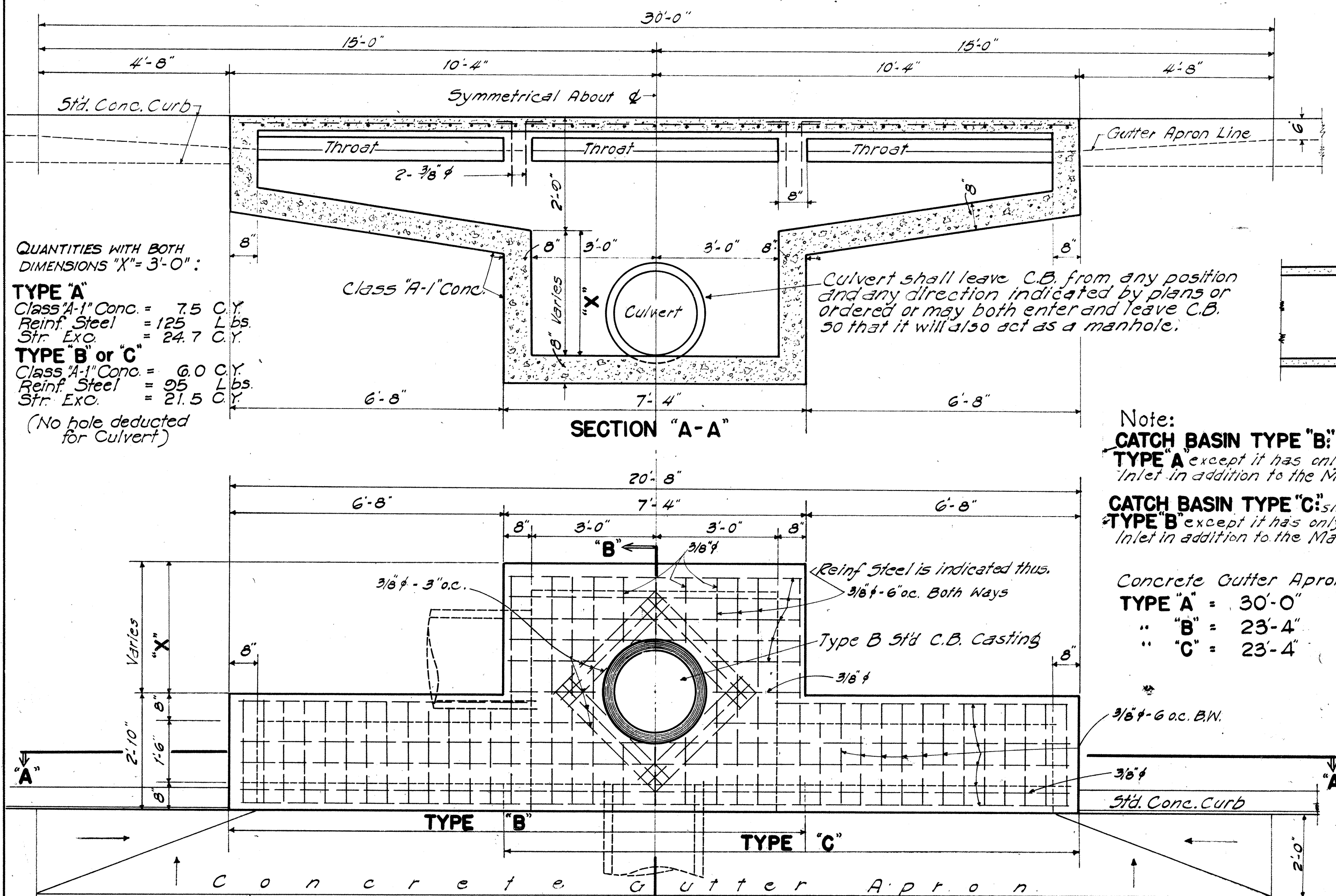
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

STANDARD DETAILS

SCALES AS NOTED, Apr. 15, 1948

APPROVED: New Salt
Territorial Highway Engineer

Territorial Highway Engineer
SHEET No 2 OF 3 SHEETS



QUANTITIES WITH BOTH DIMENSIONS "X" = 3'-0" :

TYPE "A"
 Class "A-1" Conc. = 7.5 C.Y.
 Reinf. Steel = 125 L.Bs.
 Str. Exc. = 24.7 C.Y.

TYPE "B" or "C"
 Class "A-1" Conc. = 6.0 C.Y.
 Reinf. Steel = 95 L.Bs.
 Str. Exc. = 21.5 C.Y.

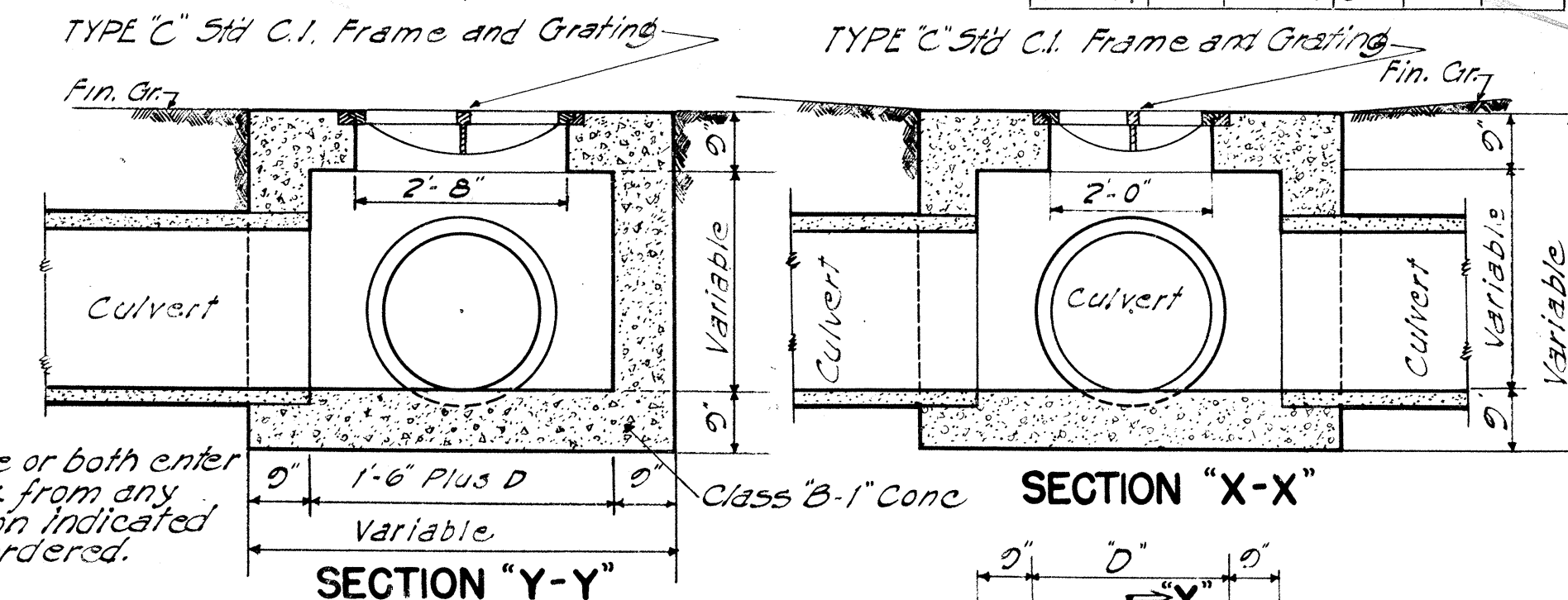
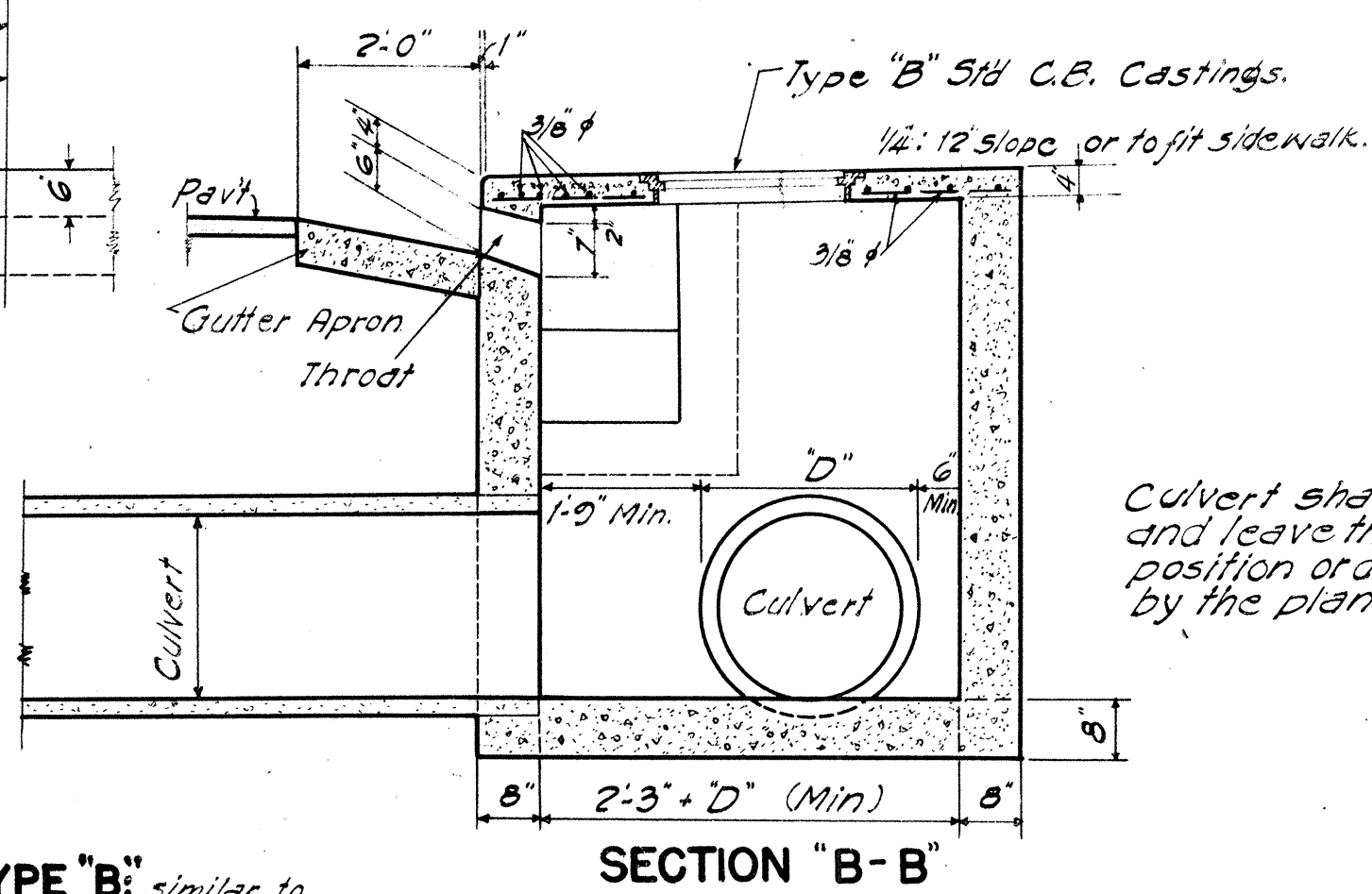
(No hole deducted for Culvert)

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.

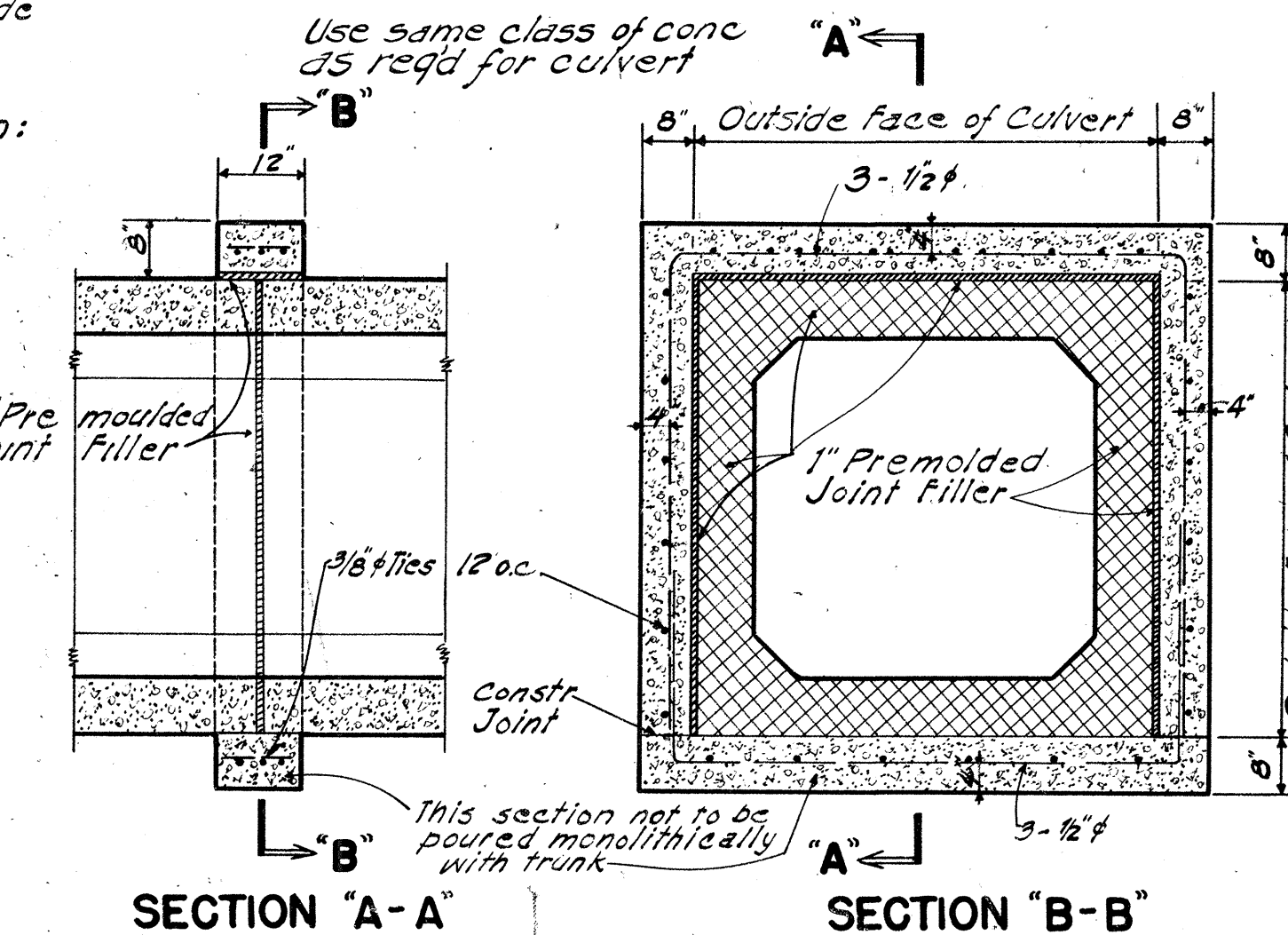
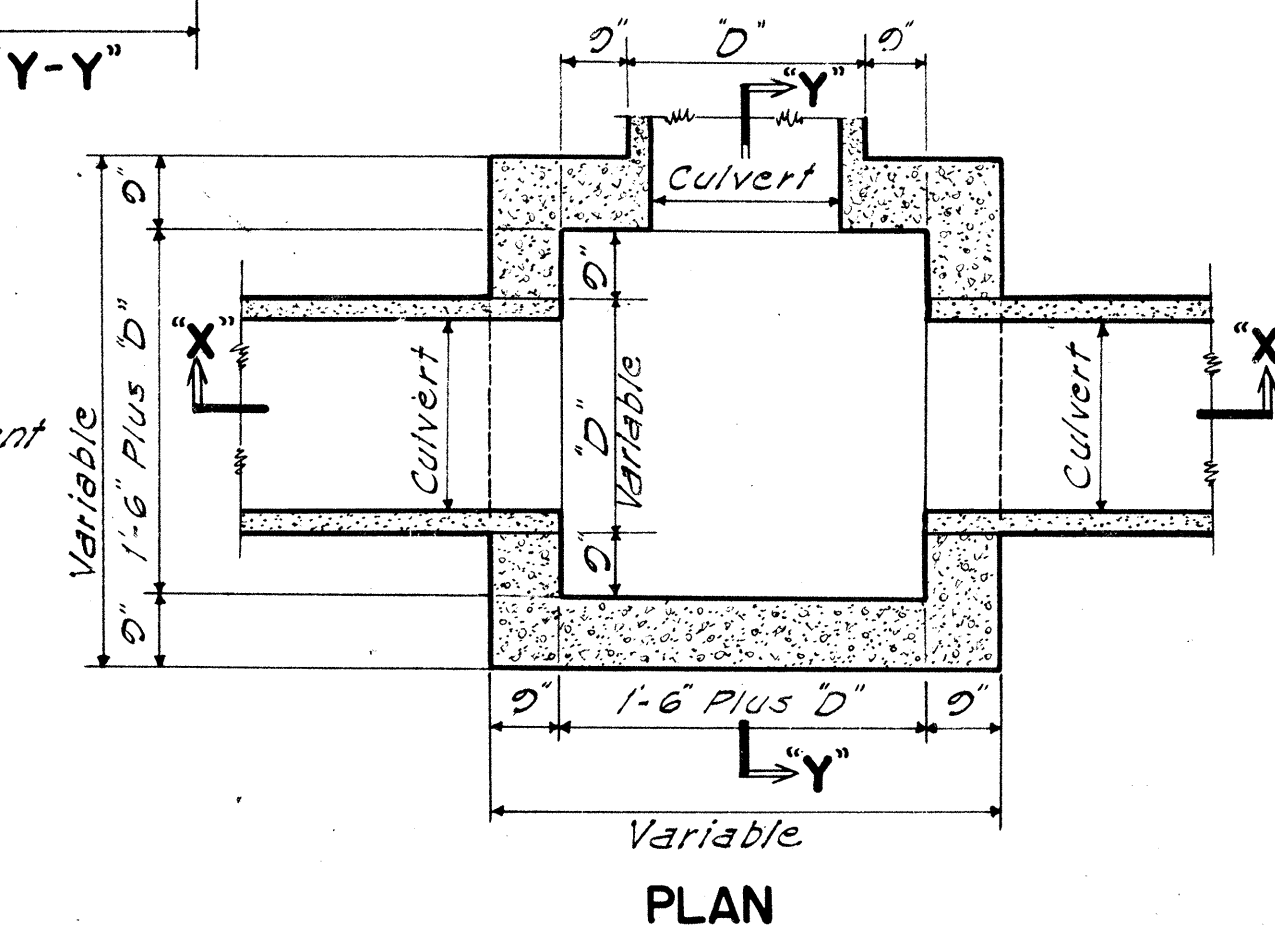
Concrete Gutter Apron Length:

TYPE "A" = 30'-0"
"B" = 23'-4"
"C" = 23'-4"



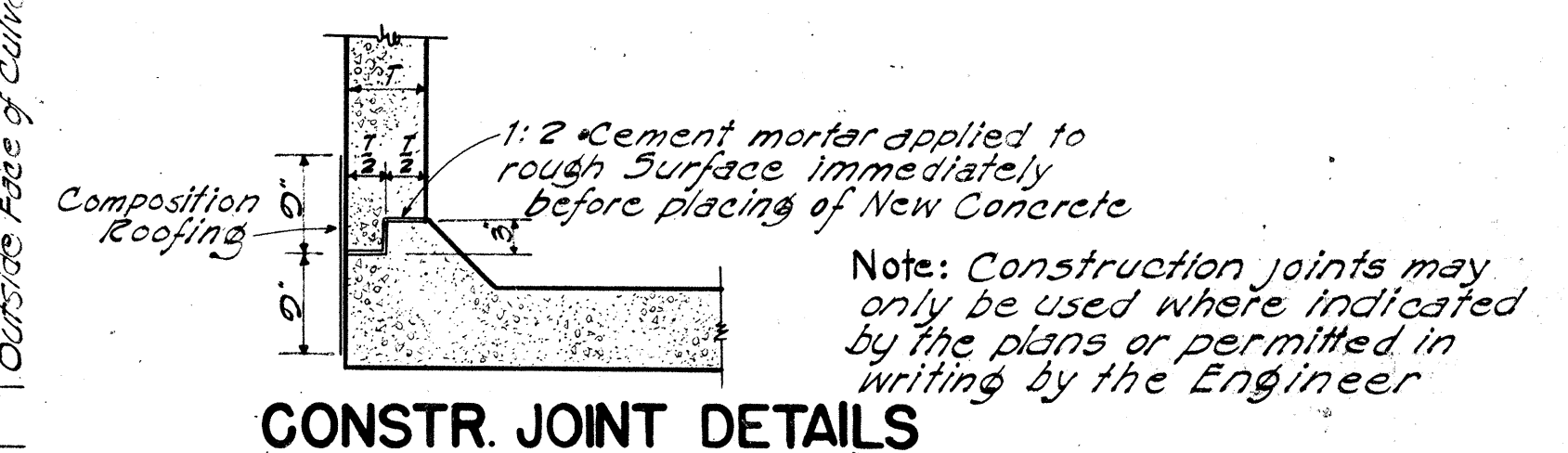
CONC. DROP INTAKE IN MEDIAL STRIPS
 Scale: 1/2" = 1'-0"

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



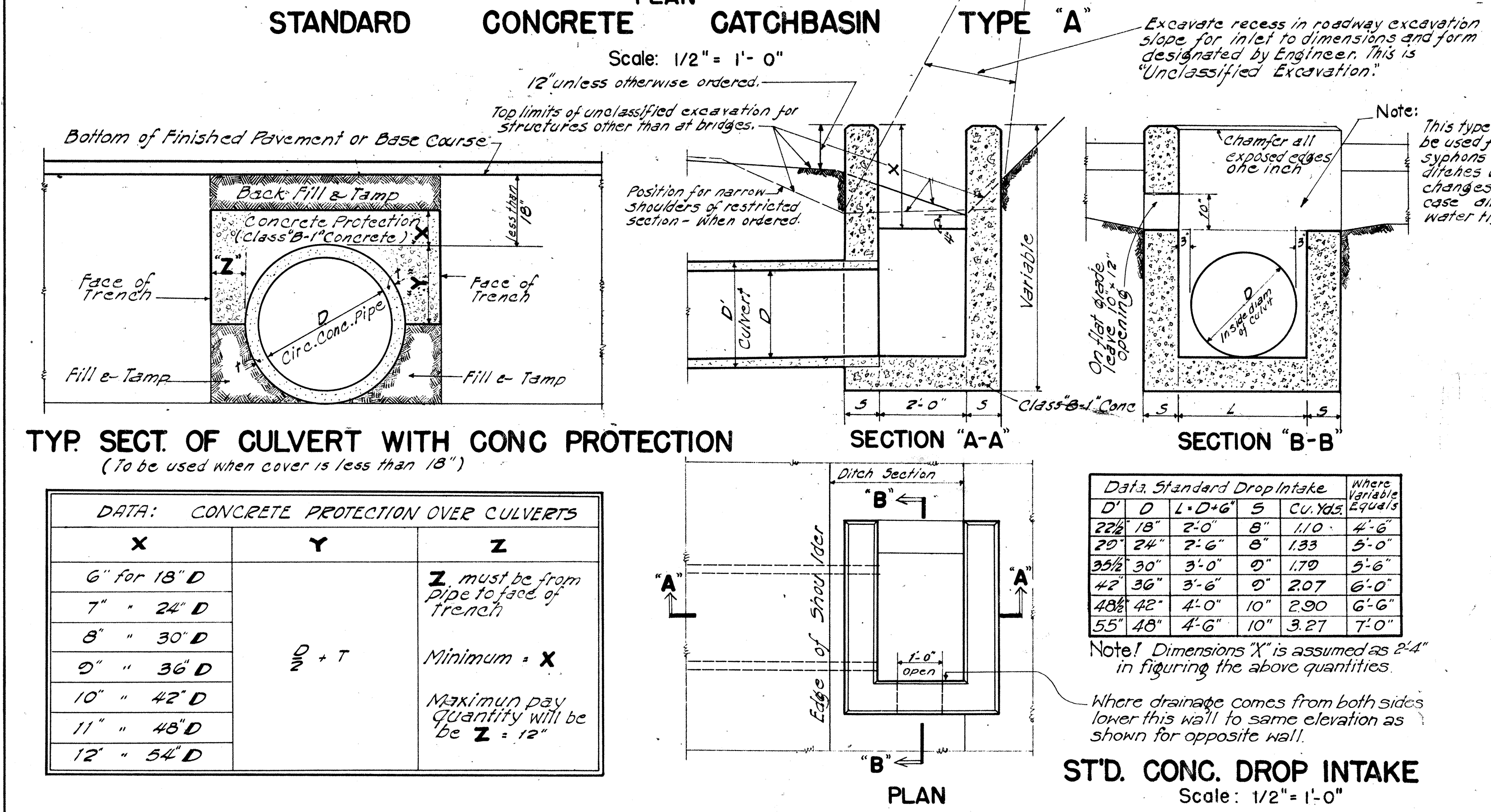
CONC. COLLAR FOR CONC. BOX CULVERT
 Scale: 1/2" = 1'-0"

Note: Collars of this type shall be used to divide culverts into approximately 30ft lengths.



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)



DATA: 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		

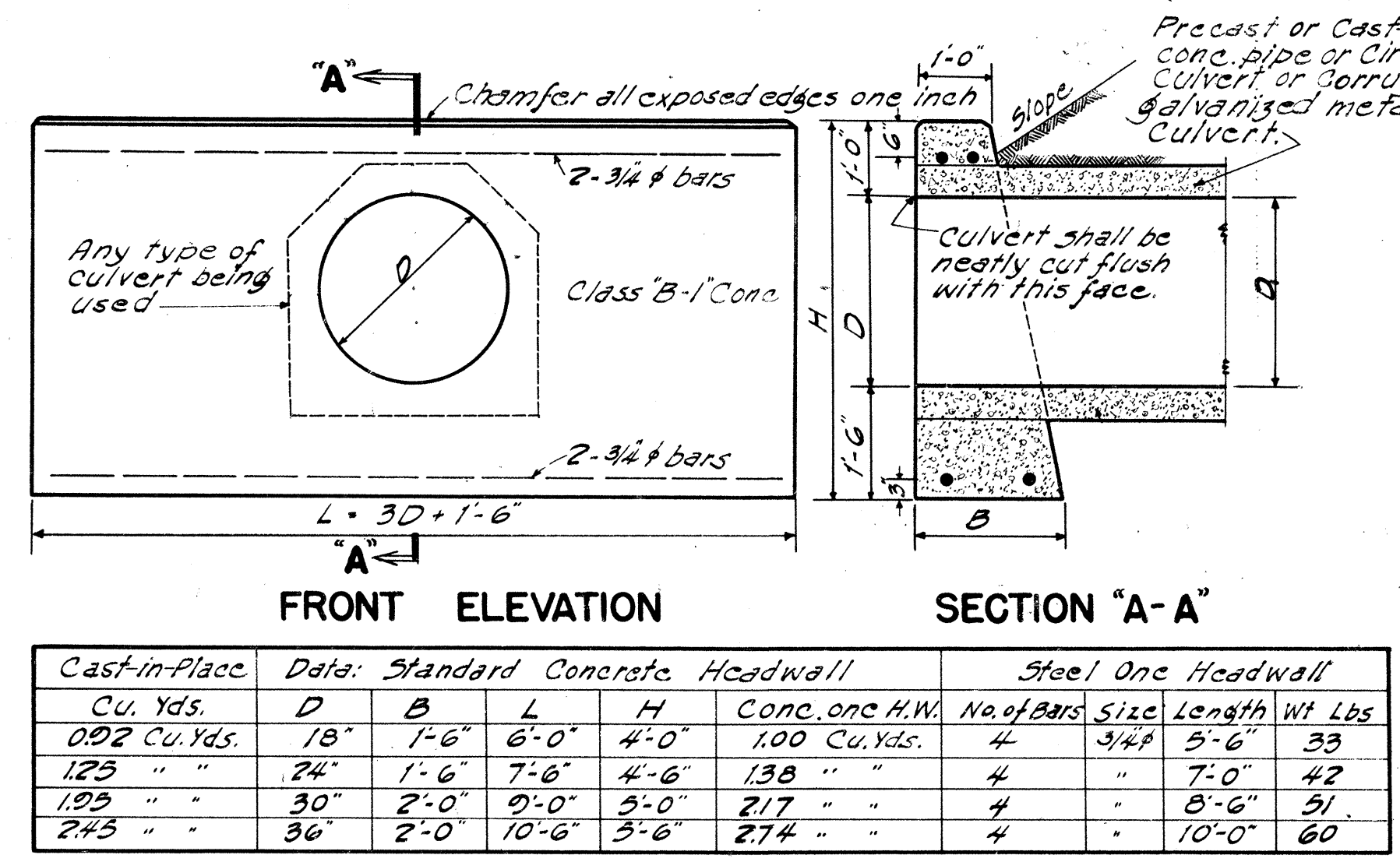
Minimum = X
 Maximum pay quantity will be Z = 12"

DATA: Standard Drop Intake

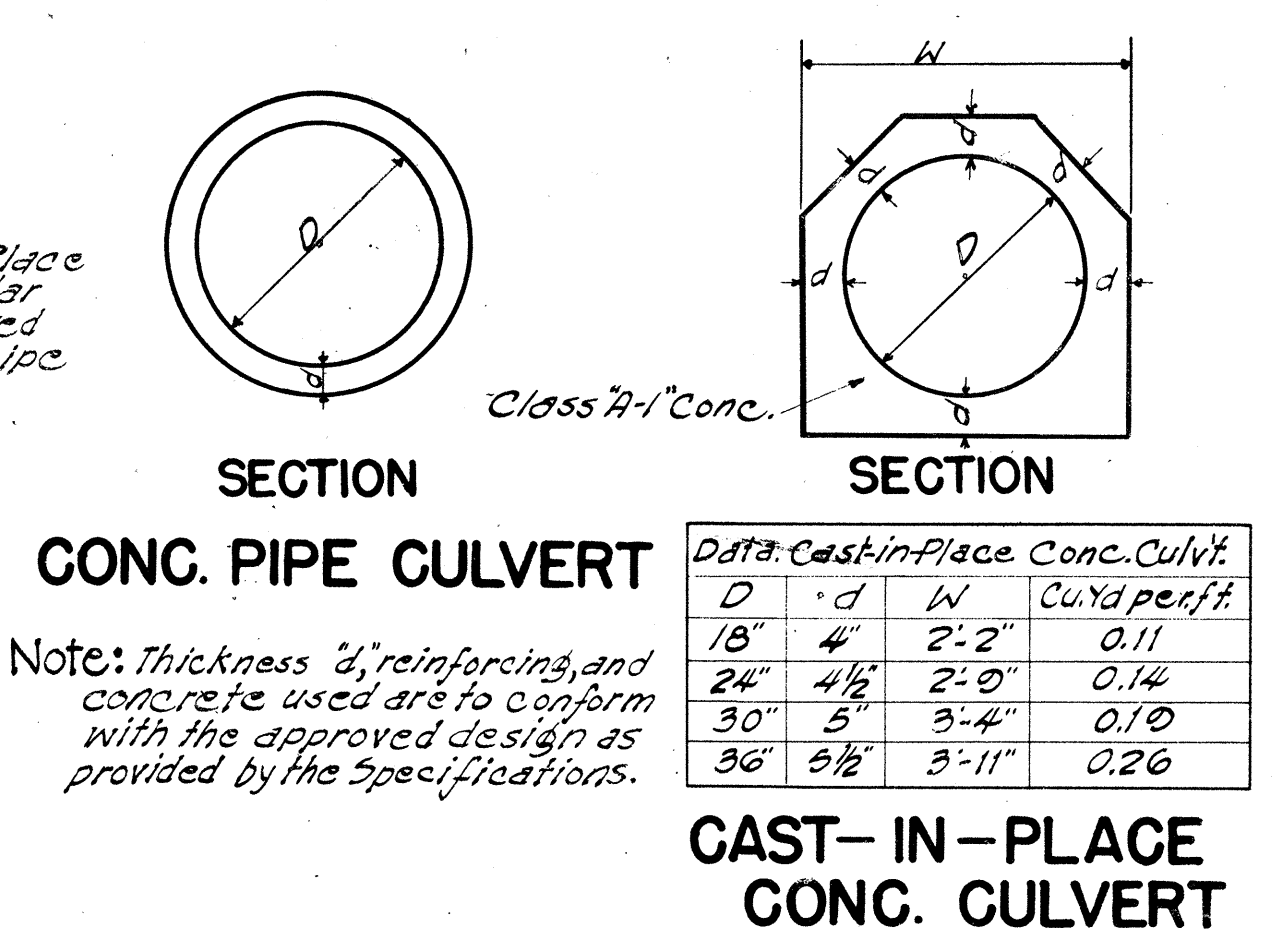
D	L	W	Area	Volume	Where Variable Equals
24"	18"	2'-0"	8'	1.10	4'-6"
24"	24"	2'-6"	8'	1.33	5'-0"
30"	30"	3'-0"	9'	1.70	5'-8"
42"	36"	3'-6"	9'	2.07	6'-0"
48"	42"	4'-0"	10'	2.90	6'-6"
55"	48"	4'-6"	10'	3.27	7'-0"

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. CONC. DROP INTAKE
 Scale: 1/2" = 1'-0"



CONC. PIPE CULVERT

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

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"	0.10
36"	5 1/2"	3'-11"	0.26

CAST-IN-PLACE CONC. CULVERT