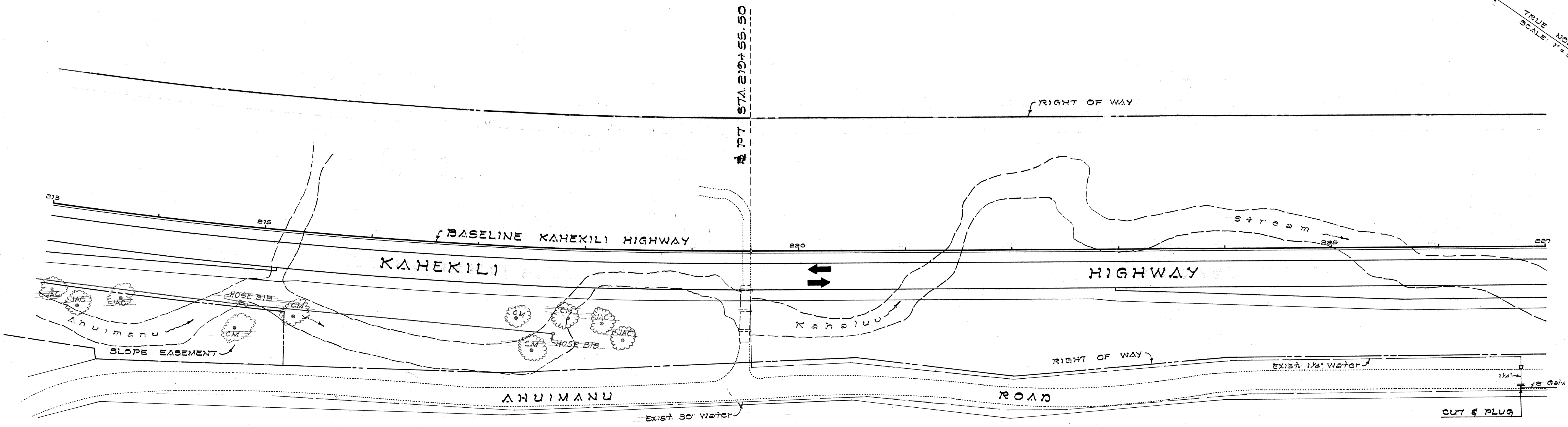
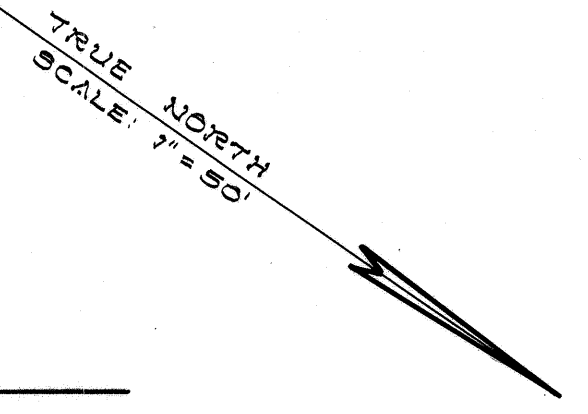


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BD 67-320	1969	57	100



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.
Calvin D. Kim

APPROVED:
Ed. R. Kage 3/25/68
CHIEF, ENGINEERING DIVISION
BOARD OF WATER SUPPLY

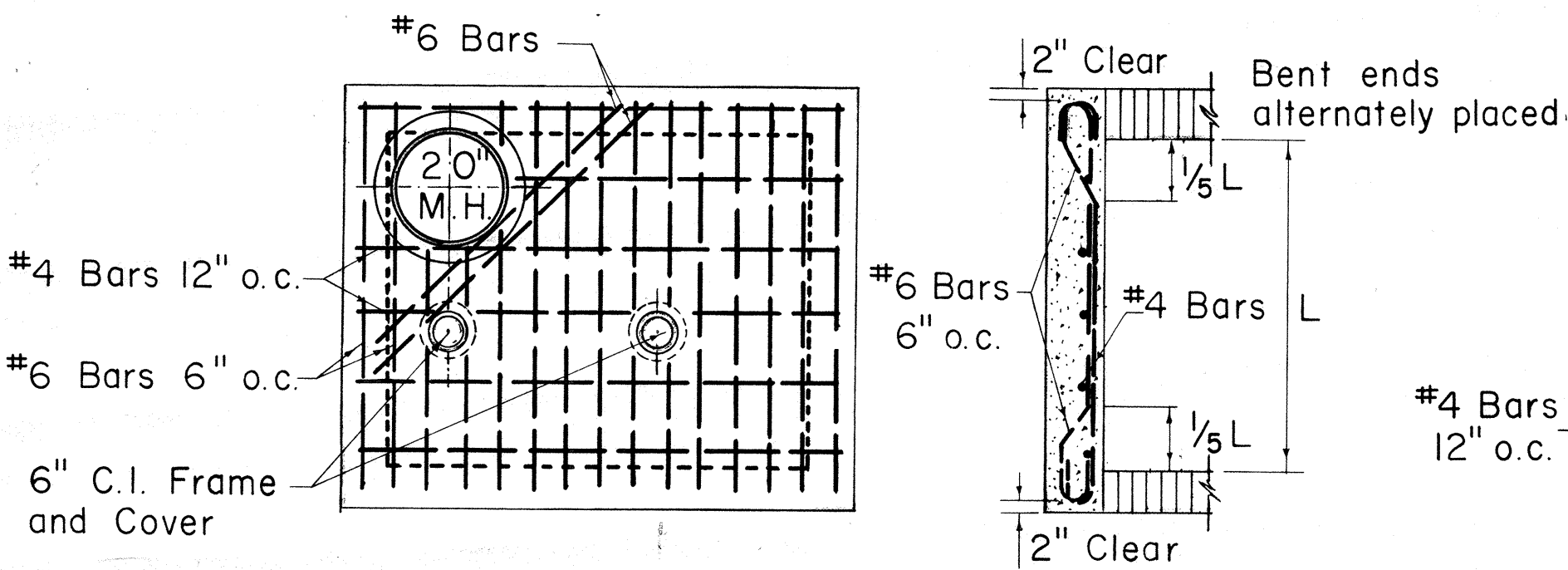
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER SYSTEM

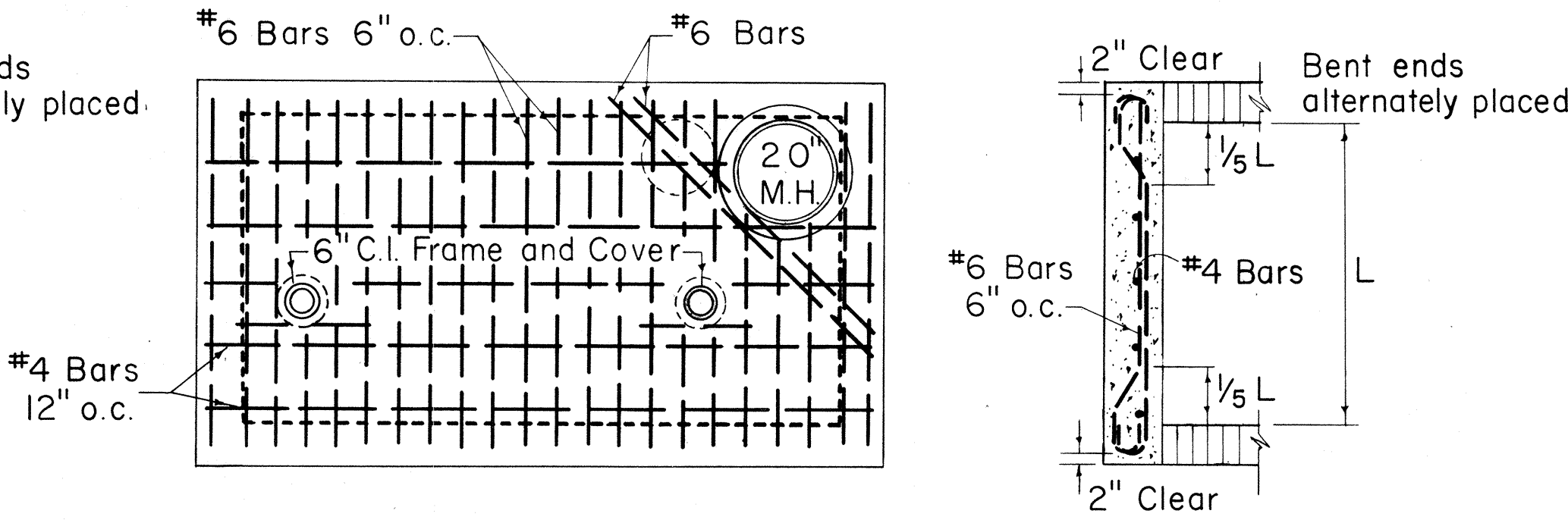
KAHEKILI HIGHWAY
PROJ. NO. BD 67 - 320

SCALE: AS NOTED
SHEET No. 2 OF 6 SHEETS

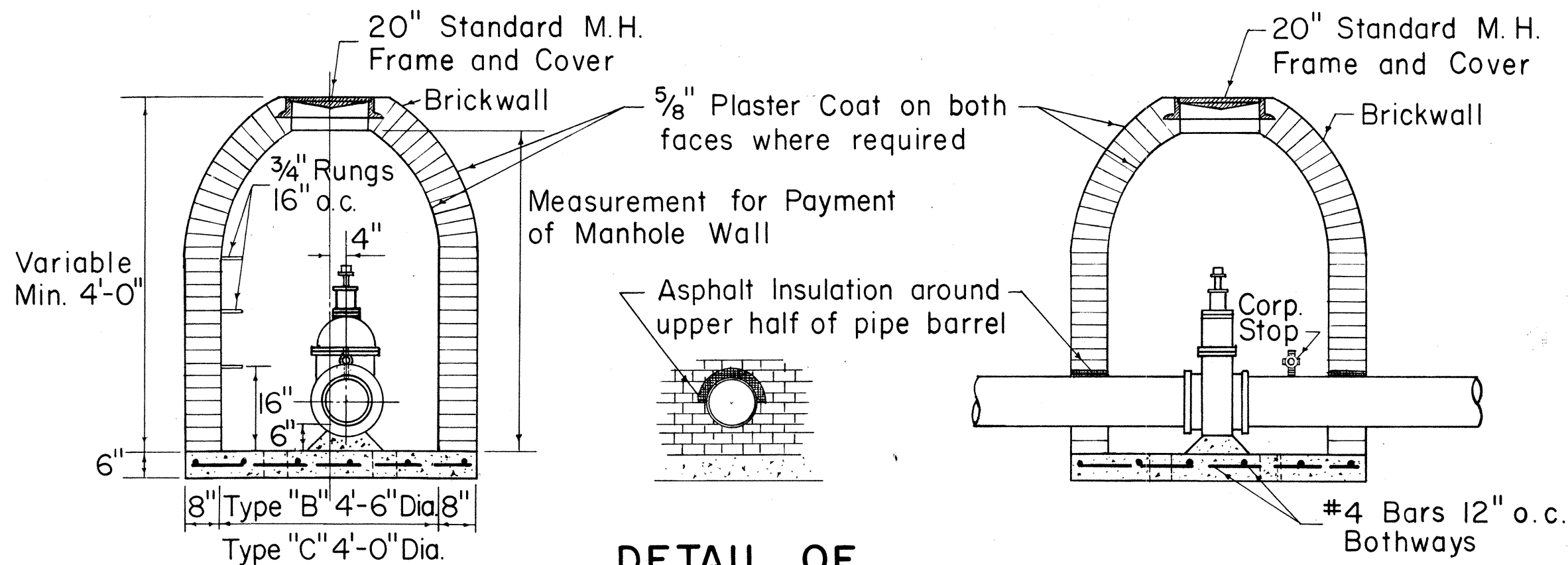
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	BD67-320	1969	59	109



PLAN OF TOP SLAB

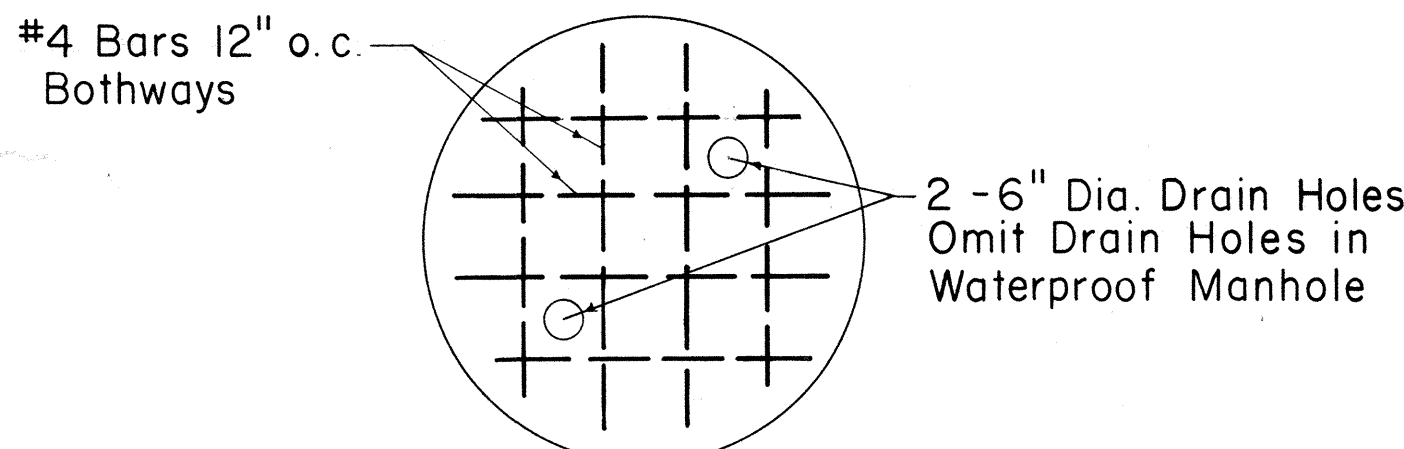
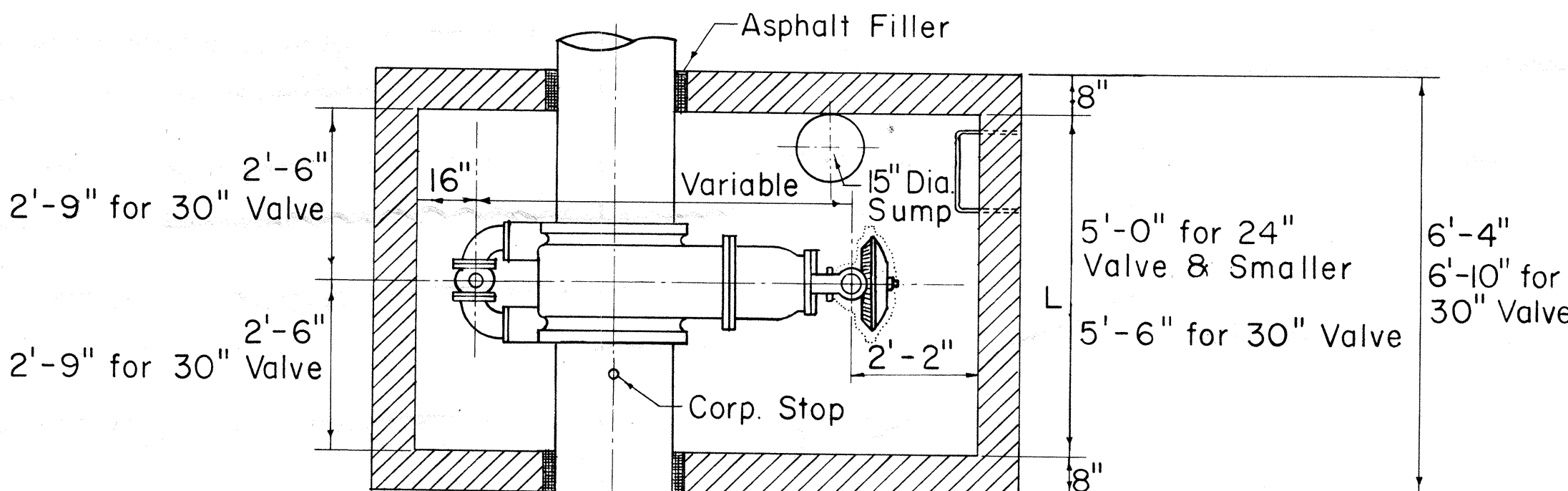
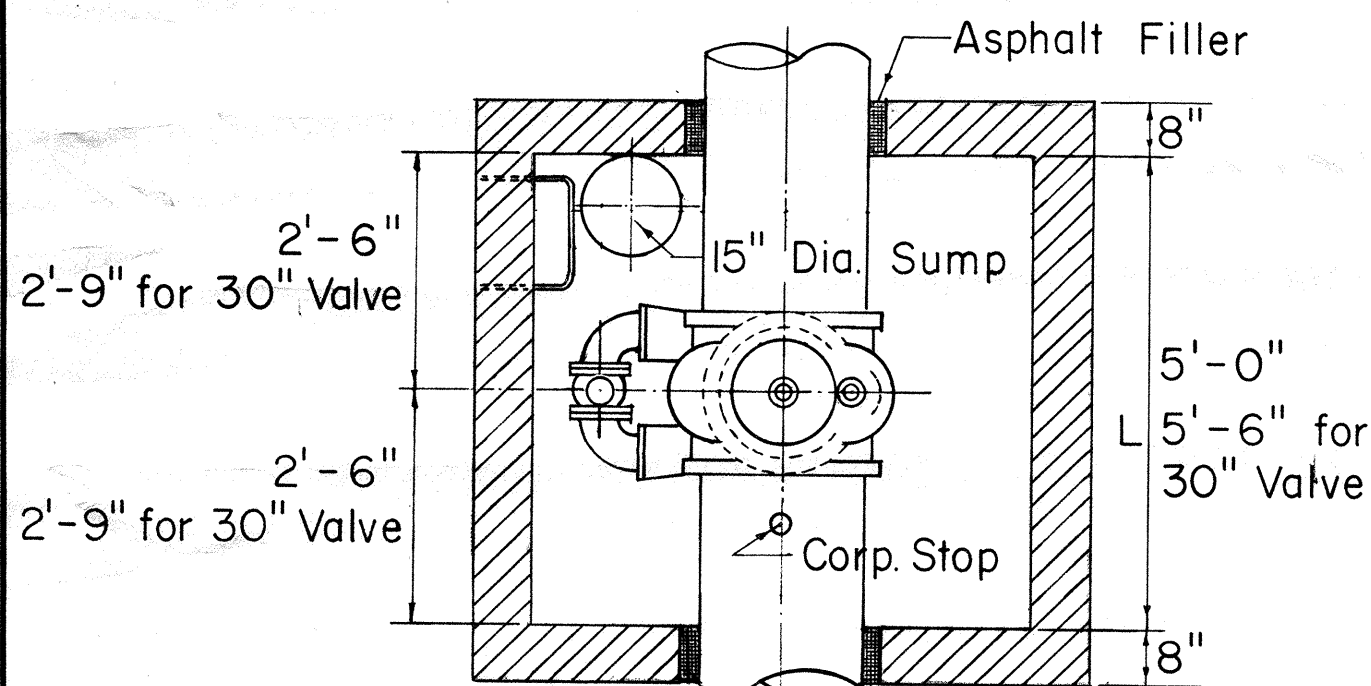


PLAN OF TOP SLAB

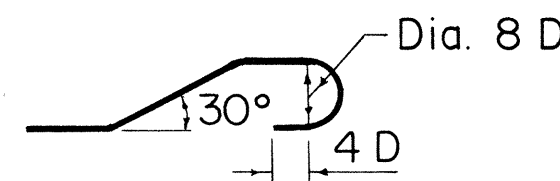


DETAIL OF ASPHALT FILLER

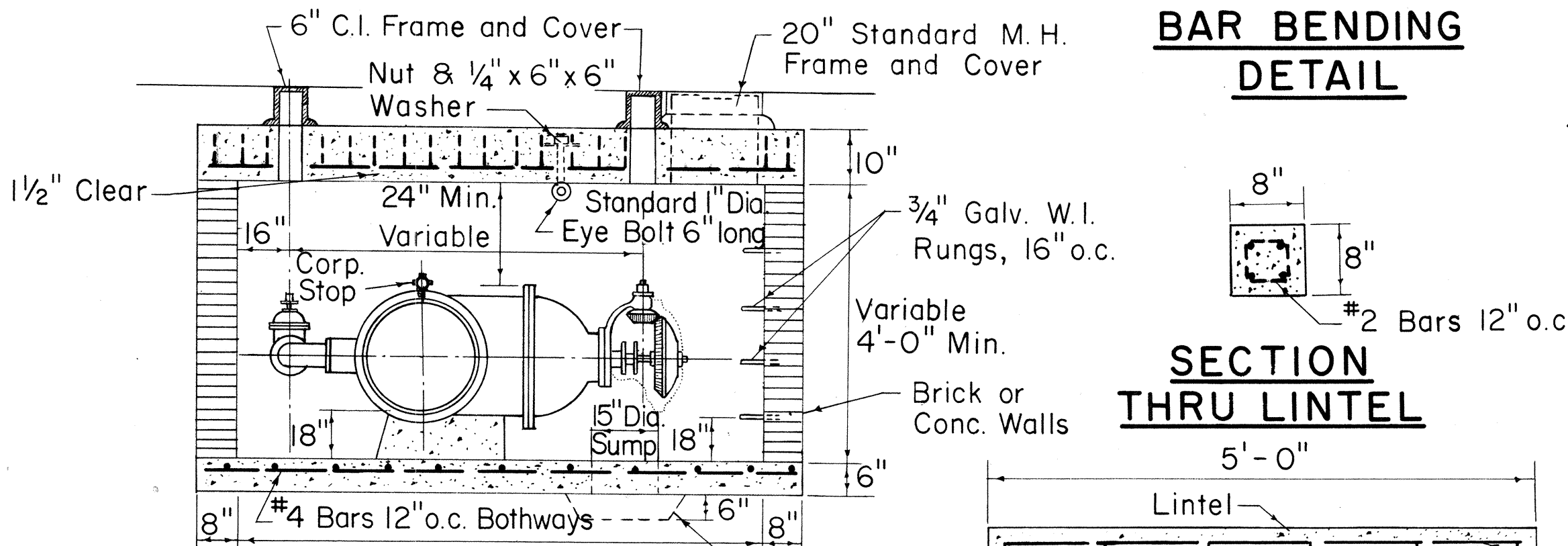
SECTION A-A



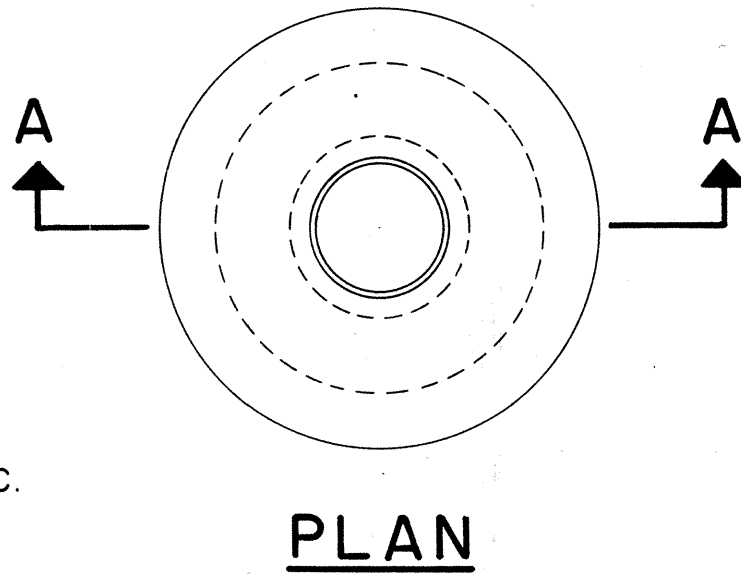
STEEL DETAIL IN BOTTOM SLAB



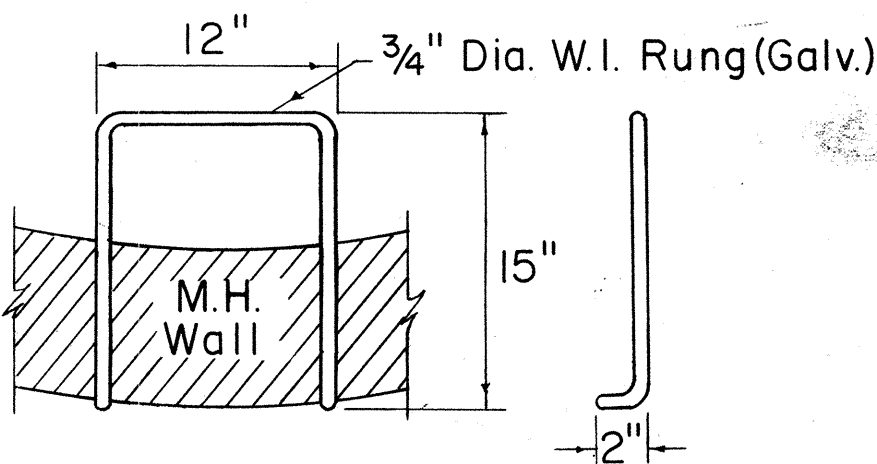
BAR BENDING DETAIL



SECTION THRU LINTEL

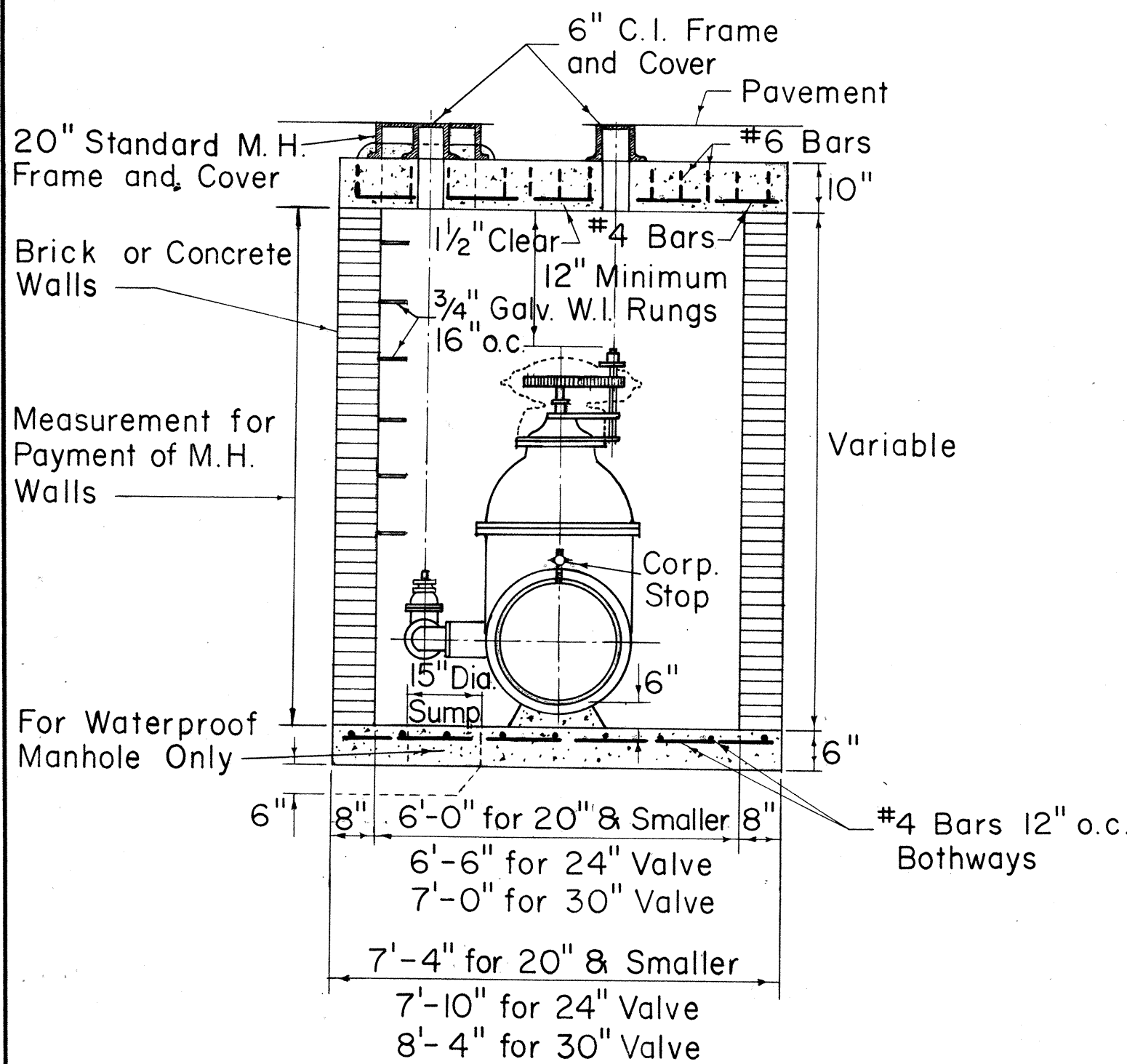


PLAN



DETAIL OF RUNG

TYPE "B" AND "C" MANHOLES
TYPE "B" 4'-6" DIA. (FOR 12" G.V.)
TYPE "C" 4'-0" DIA. (FOR 6" & 8" G.V.)



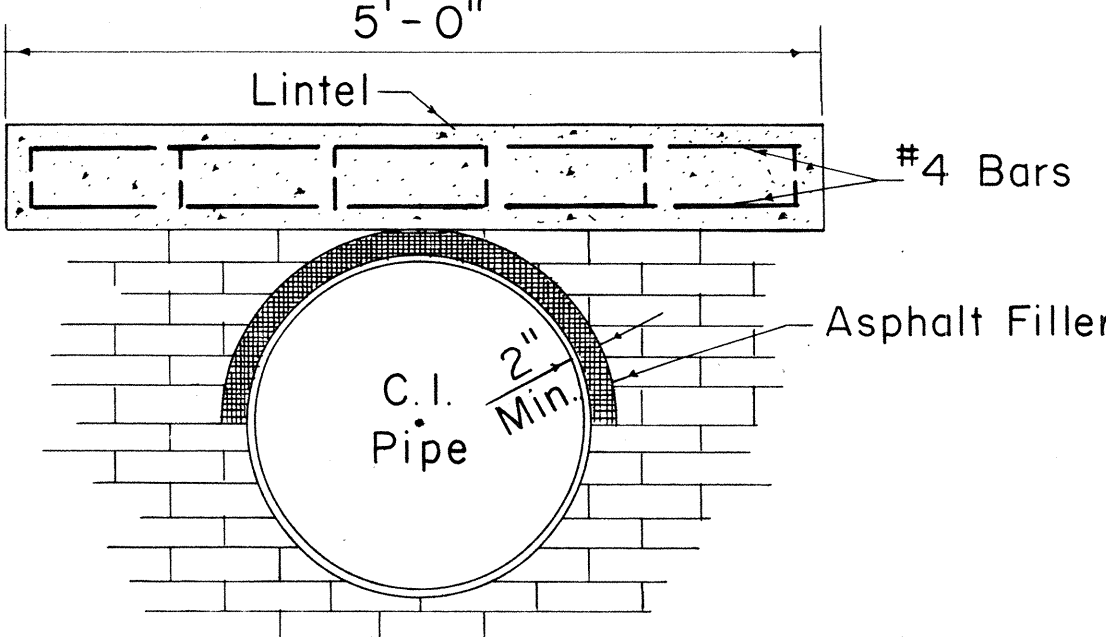
SECTION

TYPE "A" MANHOLE FOR SPUR GEARED GATE VALVES

30" SQ. Bottom G.V.	12'-6"
30" G.V.	11'-6"
24" G.V.	9'-7"
20" G.V.	8'-8"
18" G.V.	8'-2"
16" G.V.	7'-10"
12" G.V.	6'-6"

SECTION

TYPE "A" MANHOLE FOR BEVEL GEARED GATE VALVES



DETAIL OF LINTEL AND ASPHALT FILLER

APPROVED:

R.K. Negato
for CHIEF, ENGINEERING DIVISION
BOARD OF WATER SUPPLY
DATE 9/25/68

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
BOARD OF WATER SUPPLY
CITY & COUNTY OF HONOLULU

KAHEKILI HIGHWAY
PROJ. NO. BD 67-320

Not to Scale Date Mar. 1969

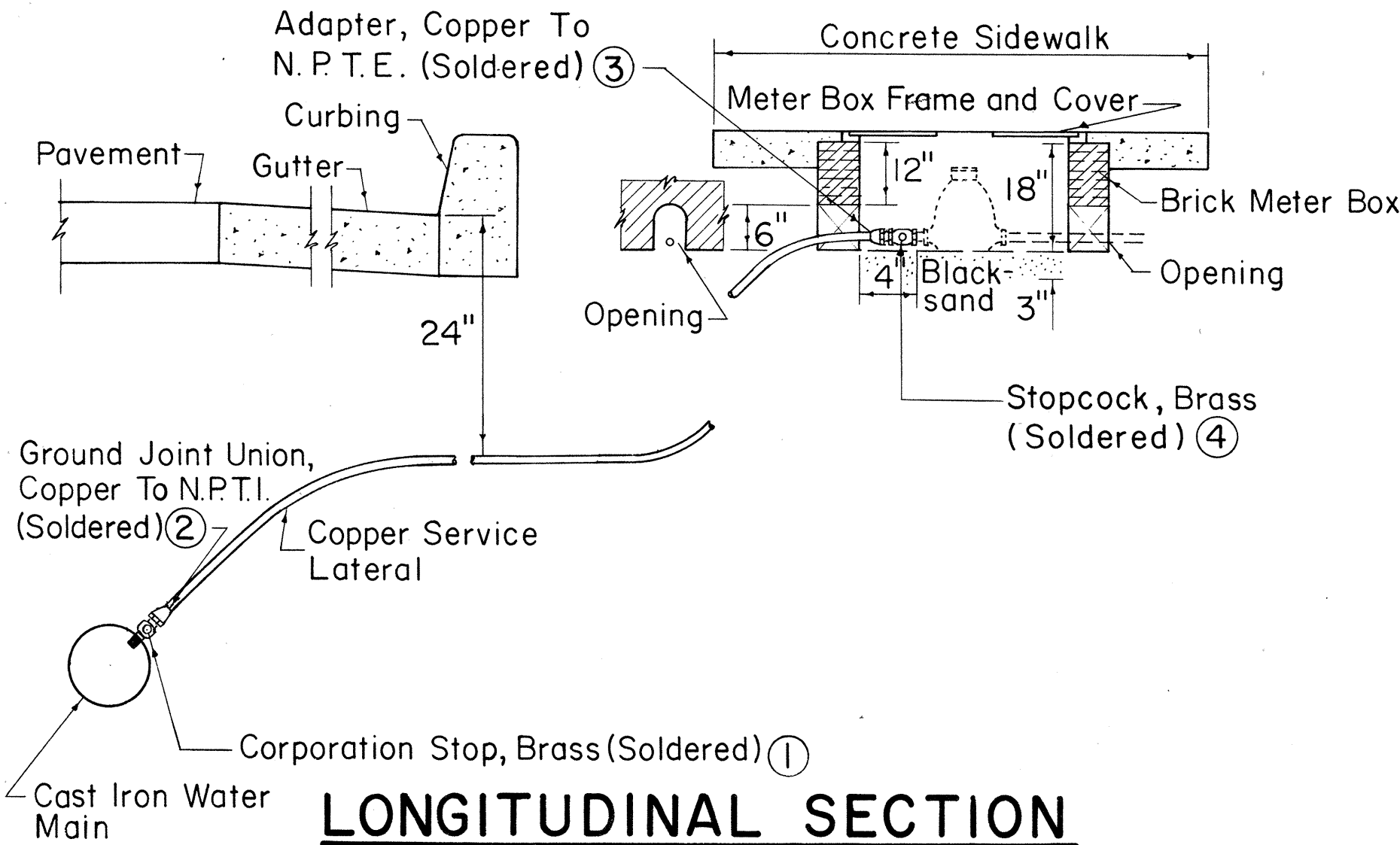
SHEET NO. 4 OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	BD 67-320	1969	60	100

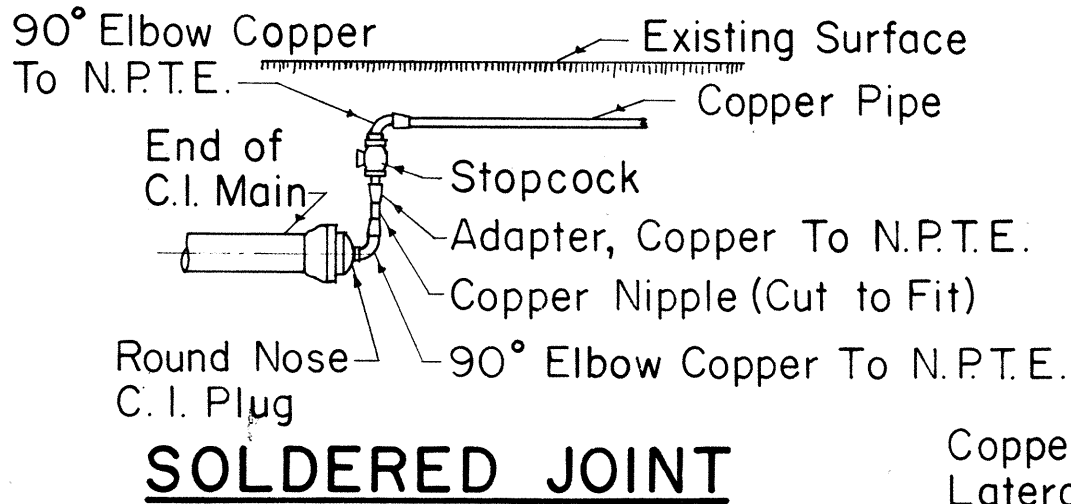
SCHEDULE OF COPPER FITTINGS
(SOLDERED JOINT)

ITEM NO.	DESCRIPTION	SINGLE SERVICE CONN.	MULTIPLE SERV.CONN.	
			TWO SERVICES	THREE SERVICES
1	Corporation Stop Brass (H-10003)	1	1	1
2	Ground Joint Union (Style Copper To N.P.T.E. No. C-109)	1	1	1
3	Adapter, Copper To N.P.T.E. (Style No. C-101)	2	1	1
4	Stopcock Brass (BWS Standard)	1	1	1
5	Fitting Adapter, (Style Fitting To N.P.T.E. No. C-104)	—	1	1
6	Tee, Copper To Copper To Copper (Style No. T-300)	—	1	1
7	Bushings, Fitting To Copper (Style No. C-103)	—	2	2
8	90° Elbow, Copper To Copper (Style No. C-200)	—	2	2
9	Adapter, Copper To N.P.T.E. (Style No. C-101)	1	2	3
10	Stopcock Brass (BWS Standard)	1	2	3
11	Reducing Tee, Copper To Copper To Copper (Substitute For Items Number 6 and 7). (Style No. T-300)	—	1	1
12	Tee, Copper To Copper To Copper (Style No. T-300)	—	—	1
13	Bushing, Fitting To Copper (Style No. C-103)	—	—	1
14	Reducing Tee, Copper To Copper To Copper (Substitute For Items Number 12 and 13 (Style No. T-300)	—	—	1

NOTE:
Reference Numbers shown thus (H-10003) are from Mueller Co. Catalog "H" and (Style No. T-300) are from Mueller Brass Co. "Streamline" Catalog S-354. Approved Equal may be used.

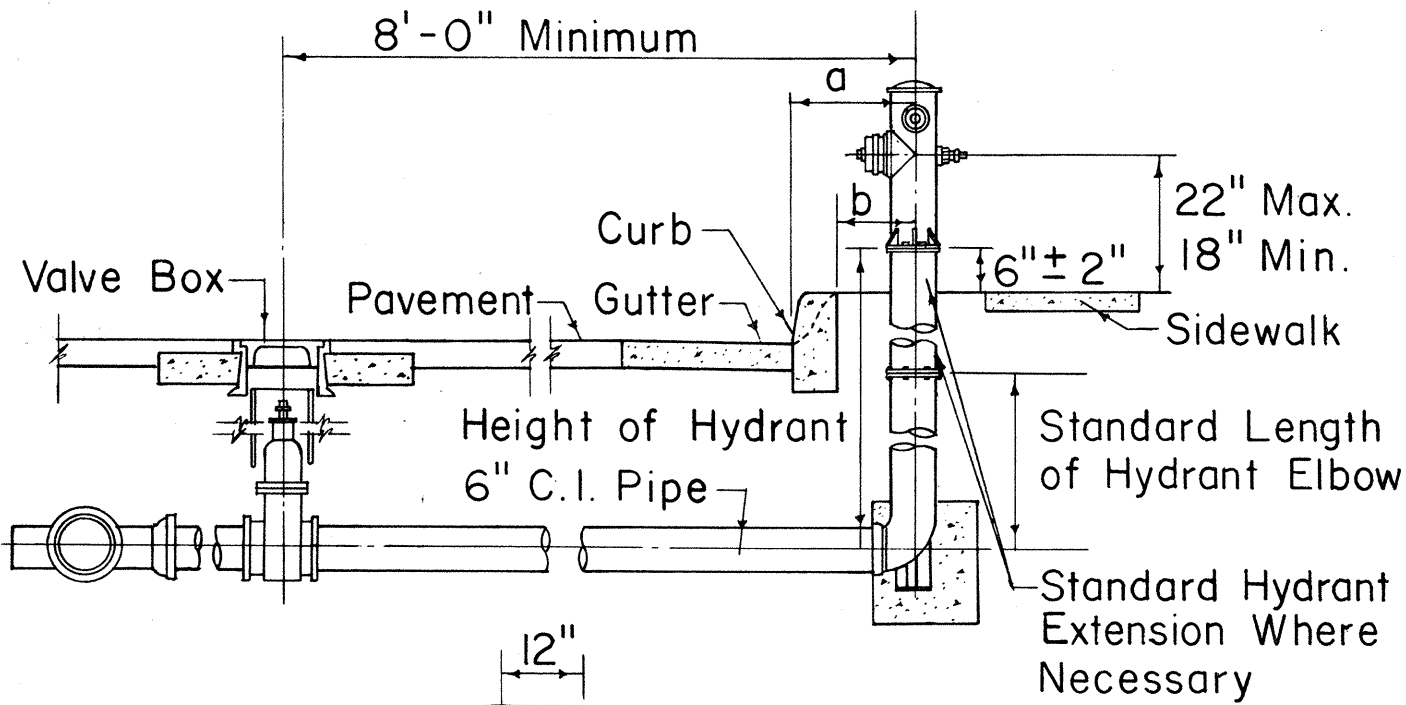


LONGITUDINAL SECTION



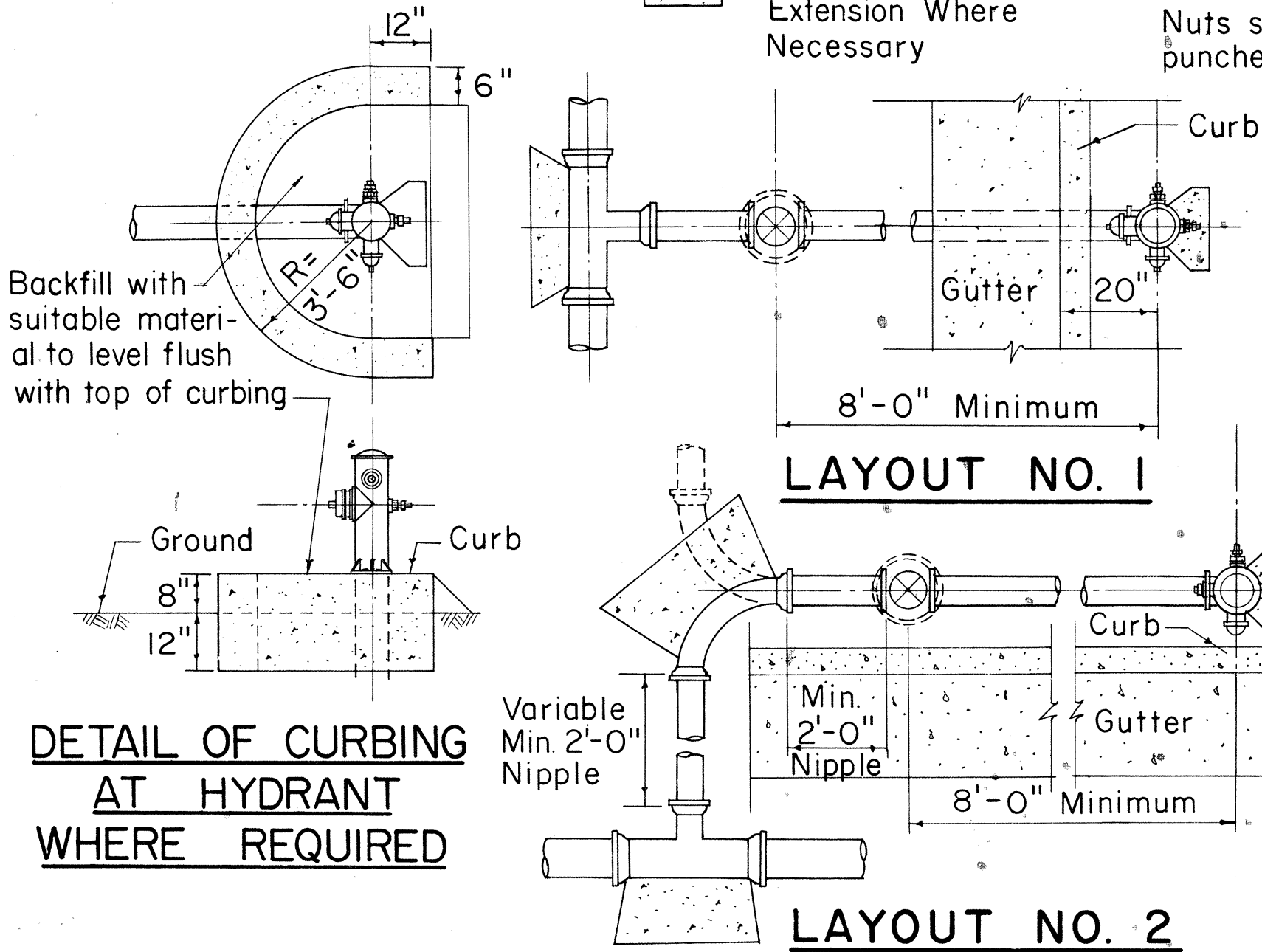
SOLDERED JOINT

SERVICE LATERAL CONNECTION AT END OF LINE



a	20" Min. (Standard Curb)
b	20" Min. (Roll Curb)

NOTE:
Gaskets for flanged joints shall be 1/16 inch duck-inserted rubber packing Garlock No. 19. Bolts shall be 5/8" diameter x 2 3/4" long steel machine bolts with cut threads, American Standard heavy hexagon heads, galvanized. Nuts shall be American Standard heavy cold punched hexagon nuts, galvanized.

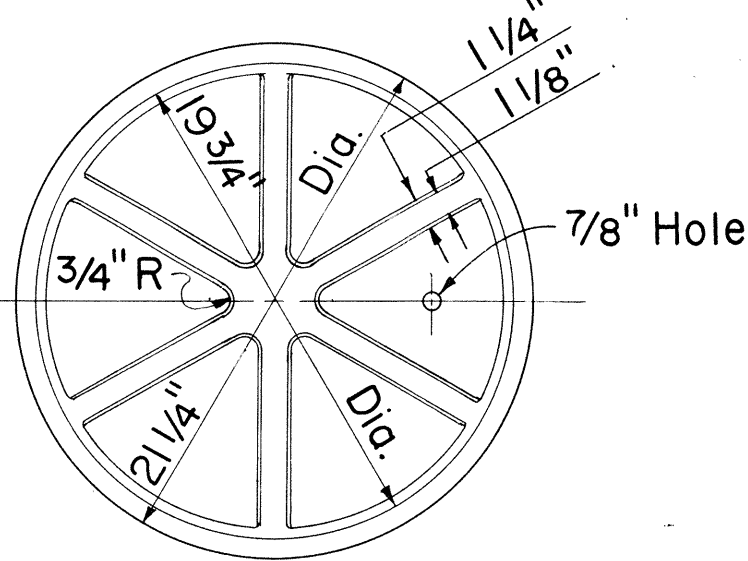


DETAIL OF CURBING
AT HYDRANT
WHERE REQUIRED

LAYOUT NO. 2

STANDARD FIRE HYDRANT LAYOUT

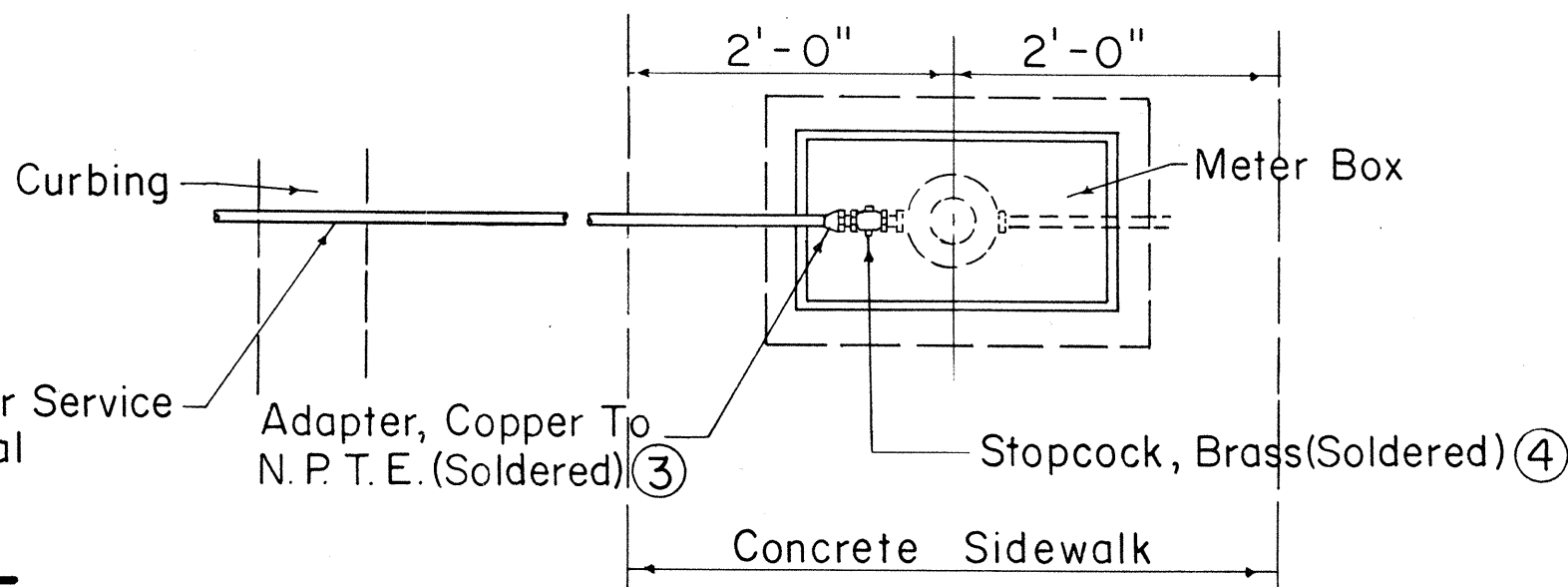
NOTE:
All castings shall be made accurately to the dimensions shown. Seat and cover shall be machined or ground where necessary to secure flat and true surfaces. The cover shall not rattle in any position.



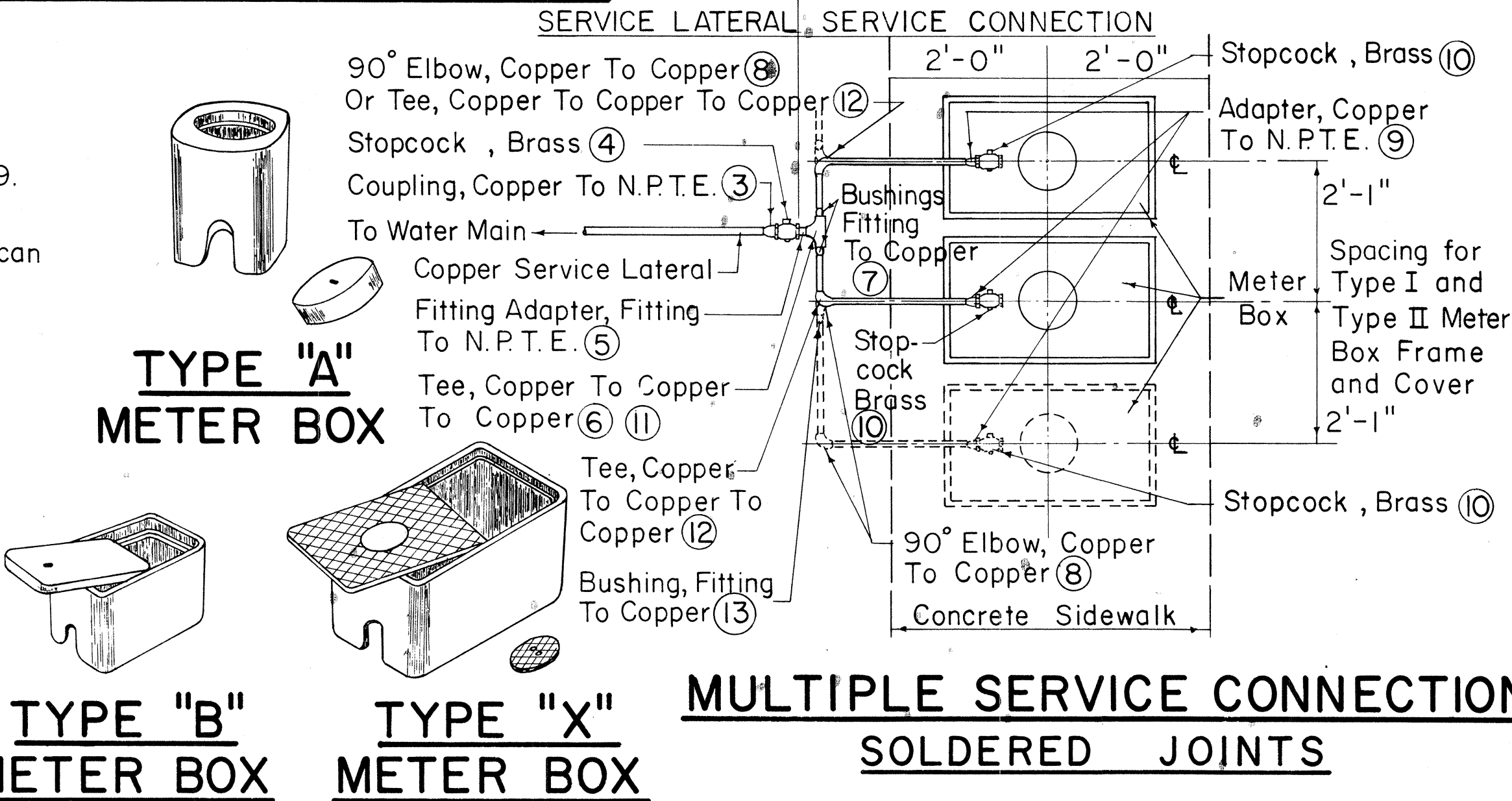
BOTTOM VIEW OF COVER

MANHOLE FRAME & COVER
CAST IRON, 20" SIZE

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



SINGLE SERVICE CONNECTION



TYPE "A"
METER BOX

TYPE "B"
METER BOX

TYPE "X"
METER BOX

MULTIPLE SERVICE CONNECTION
SOLDERED JOINTS

METER BOX DATA					
TYPE METER BOX	METER SIZES	OVERALL DIMENSIONS AT BOTTOM	OVERALL DIMENSIONS AT TOP	COMPLETE WEIGHT	OVERALL DIMENSIONS OF LID
A	5/8" or 3/4" Without Valve	7 1/4" x 7 1/4"	10" x 10"	45 lbs.	7 3/8" Dia.
B	5/8" or 3/4"	9 1/2" x 16"	12 1/4" x 18 3/8"	82 lbs.	8 3/4" x 14 1/2"
X		14 1/2" x 23 1/2"	16" x 25"	143 lbs.	13 1/8" x 22 1/8"

APPROVED:

R.K. Nagato
for CHIEF, ENGINEERING DIVISION
BOARD OF WATER SUPPLY

3/25/68
DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
BOARD OF WATER SUPPLY
CITY & COUNTY OF HONOLULU

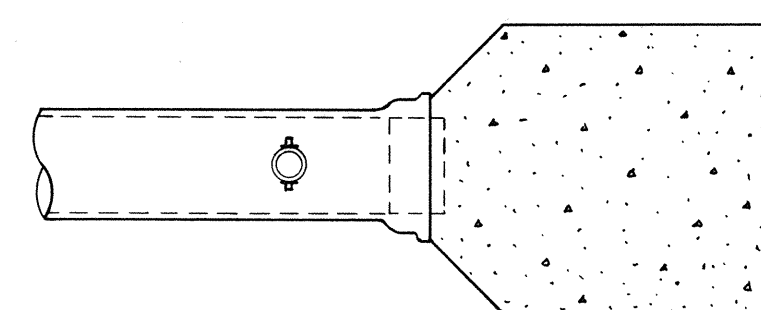
KAHEKILI HIGHWAY
PROJ. NO. BD 67-320

Not to Scale Date MAR. 1967

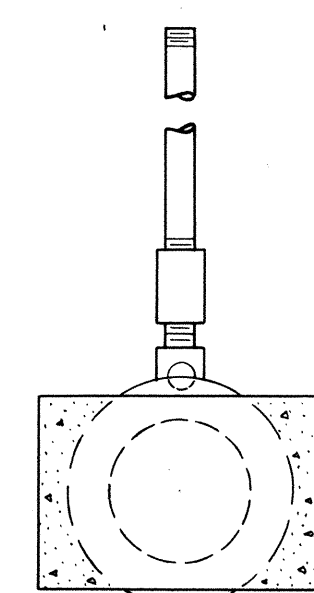
SHEET NO. 5 OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	BD 67-320	1969	61	100

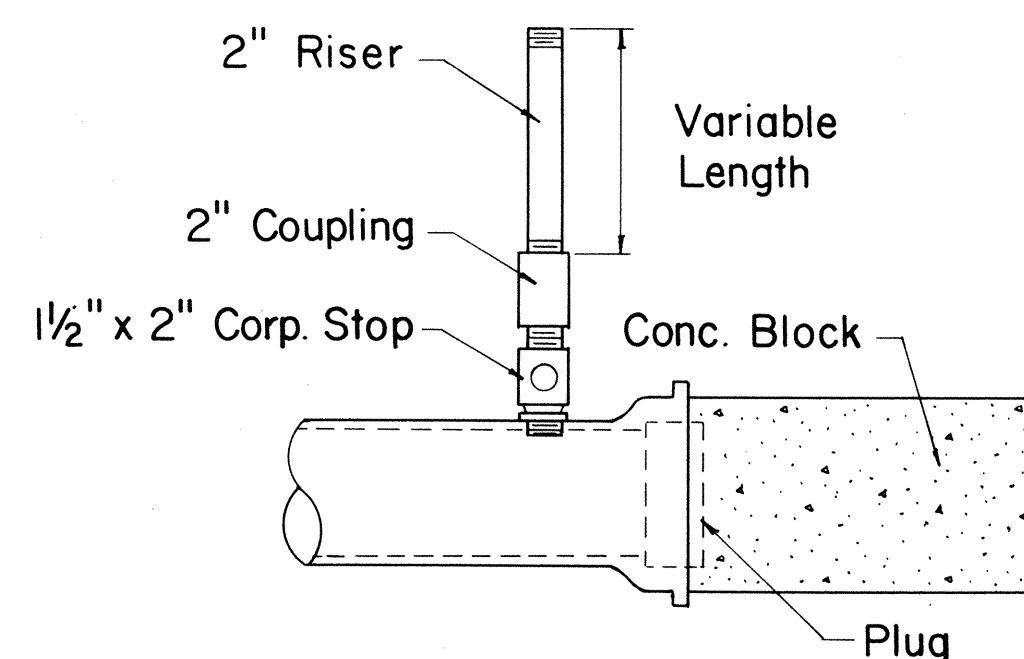
NOTE:
Contractor to furnish 1/2" brass plug (Tapered thread) to replace corporation stop upon completion of chlorination.



TOP VIEW



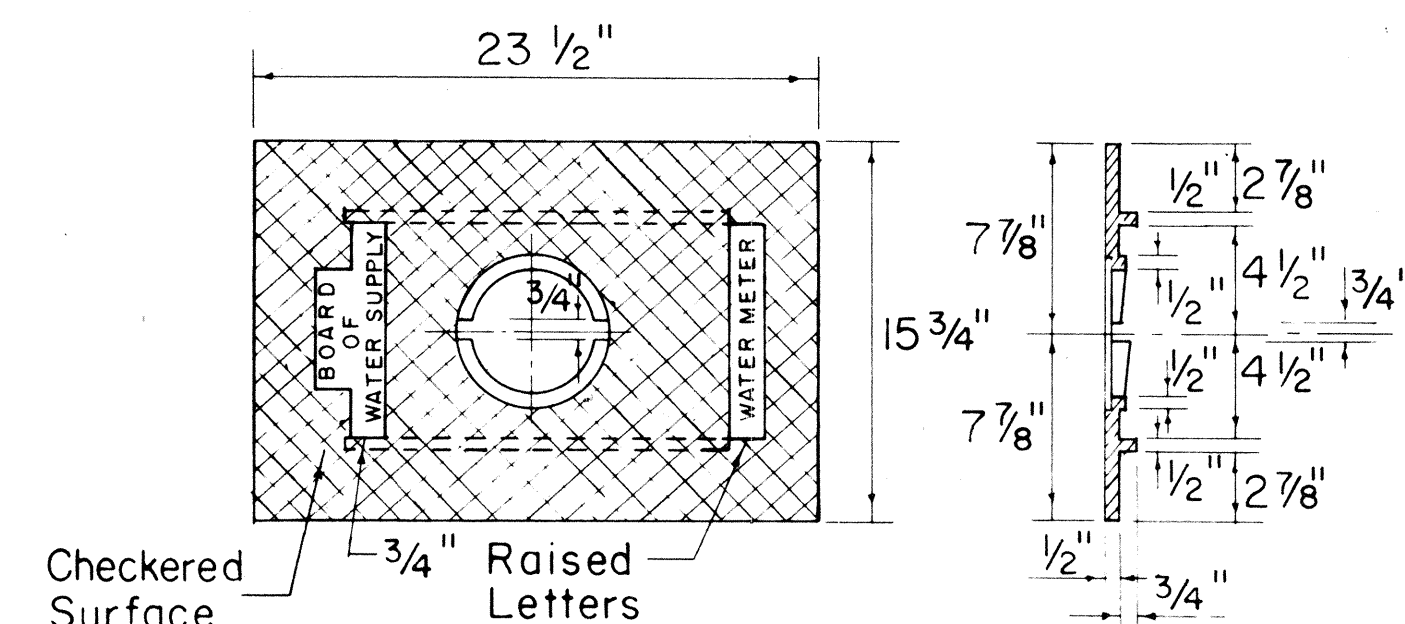
END VIEW



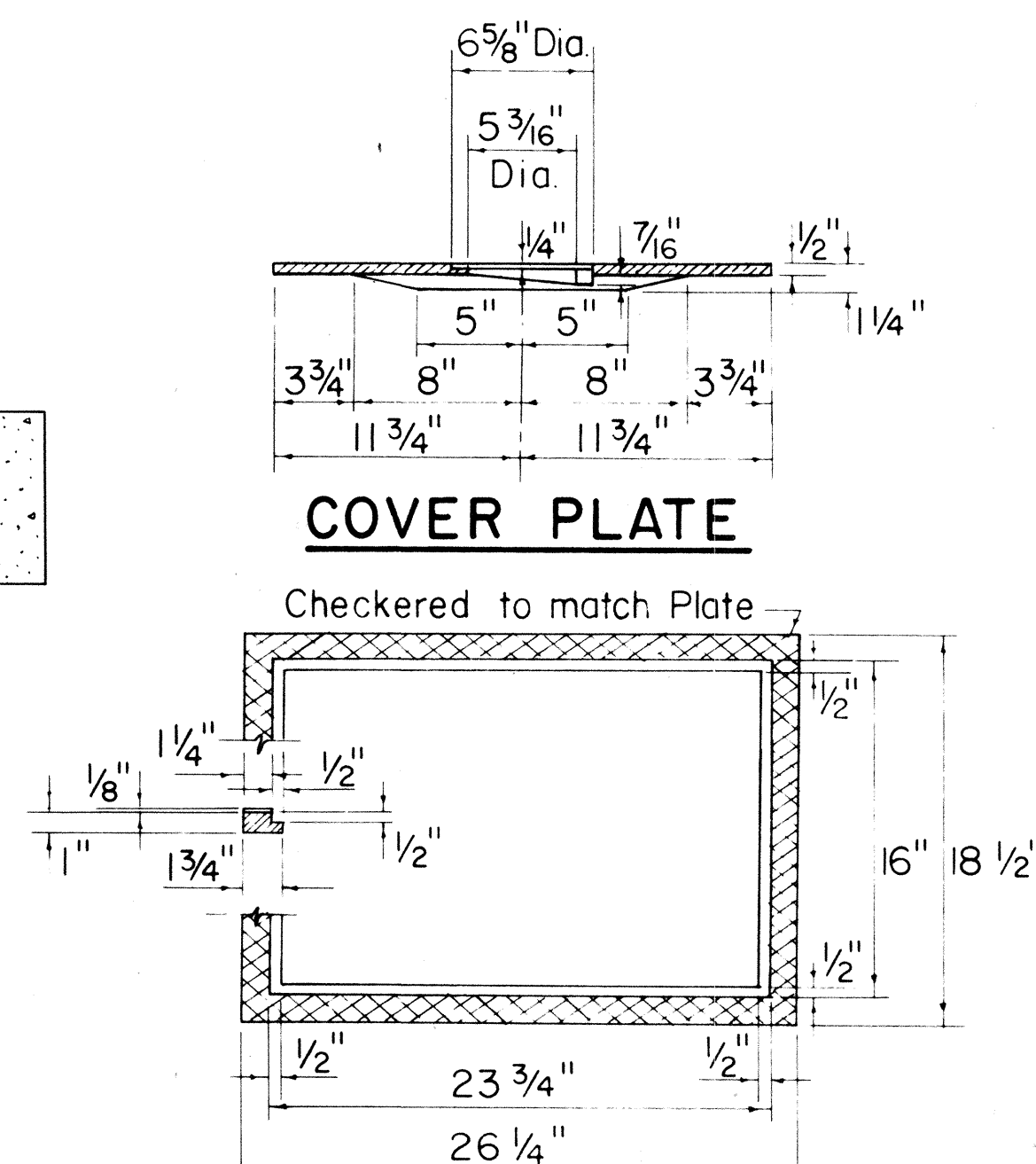
SIDE VIEW

DETAIL OF TEMPORARY 2" CLEANOUT

Not to Scale



COVER PLATE

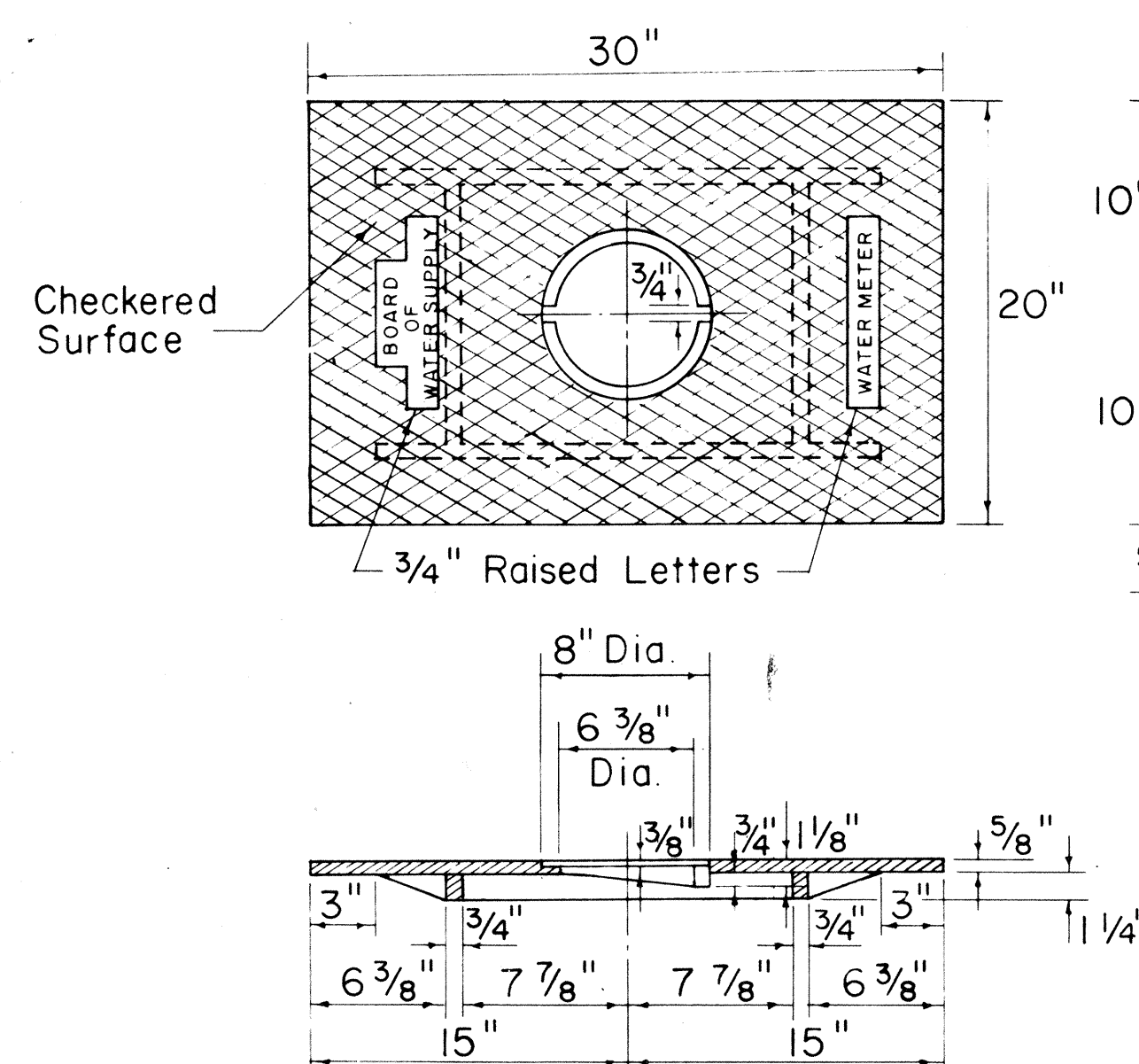


FRAME

CAST IRON FRAME AND PLATE

TYPE II

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

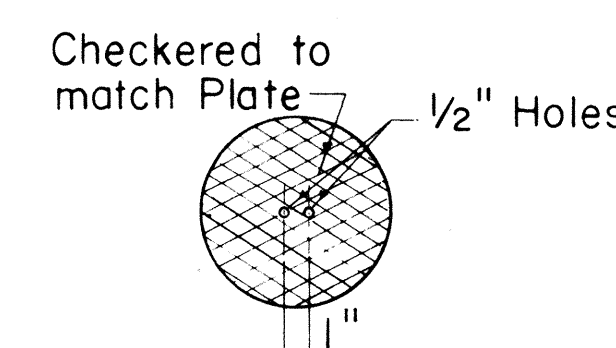


COVER PLATE

CAST IRON FRAME, PLATE AND COVER

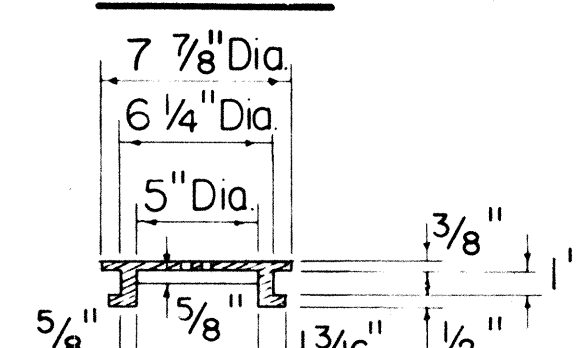
TYPE III

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



READING COVER

FRAME



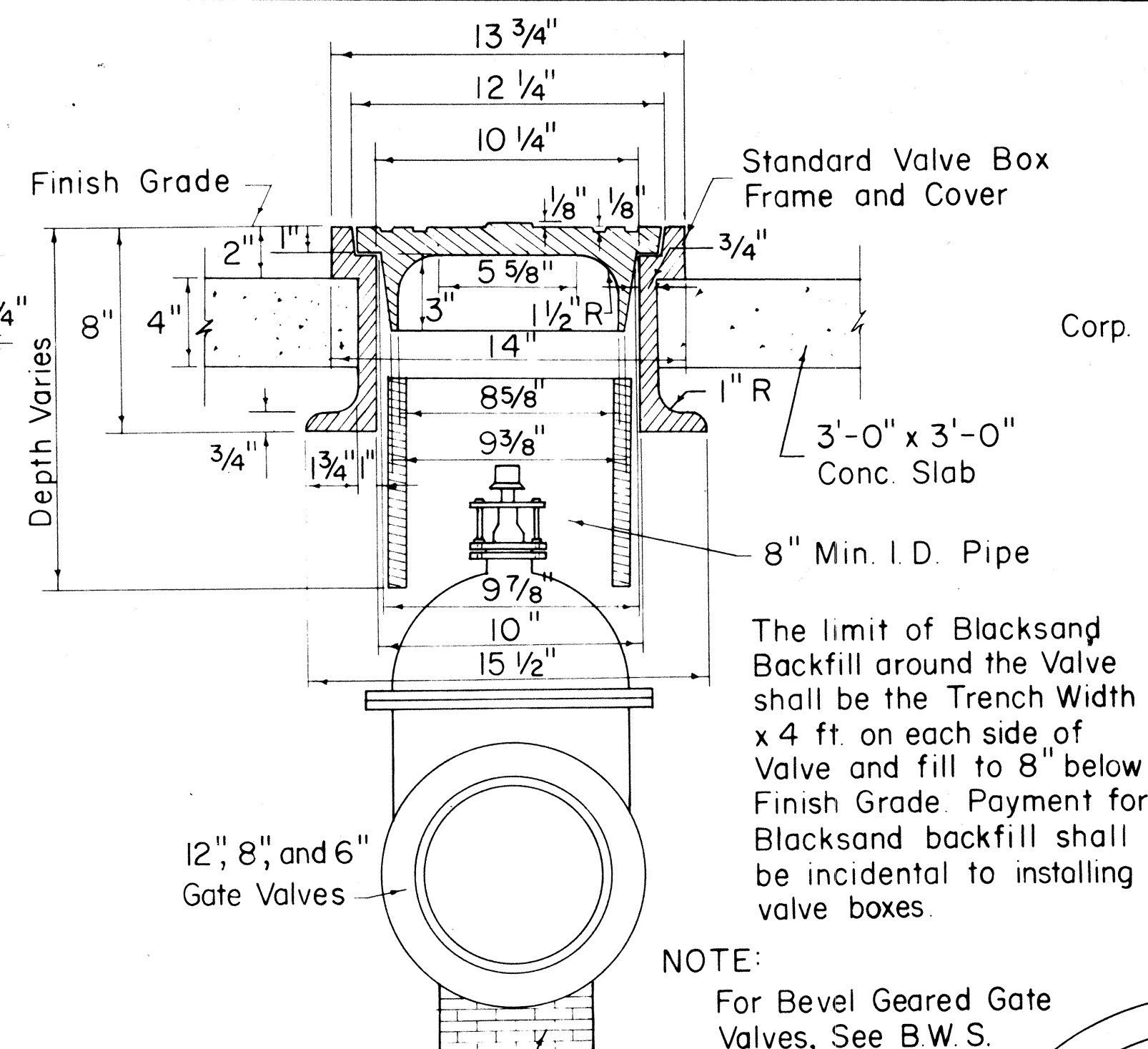
READING COVER

CHECKERED PATTERN

CAST IRON COVER FOR

TYPE II FRAME

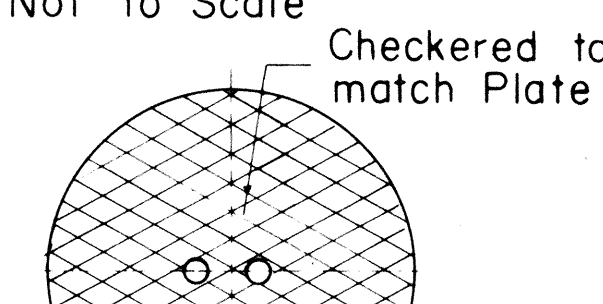
Not to Scale



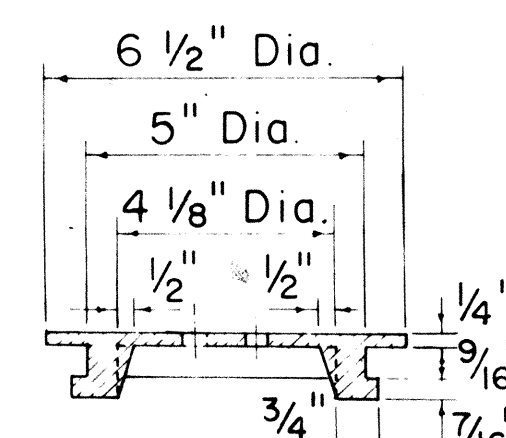
Concrete Pedestal or Brick Pedestal Cement Mortared Under Valves

INSTALLATION OF VALVE BOX FOR GATE VALVES

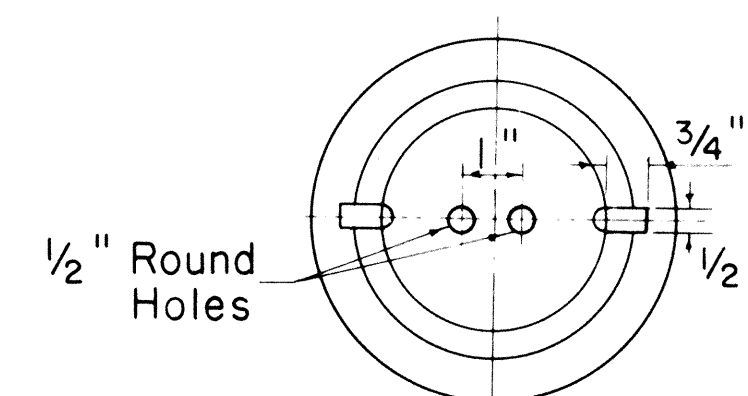
Not to Scale



Checkered to match Plate



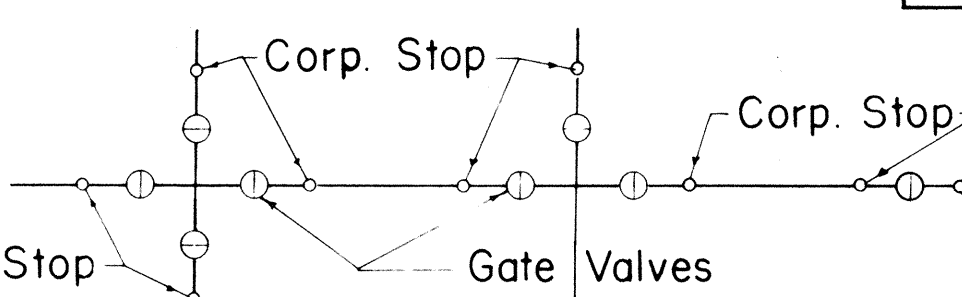
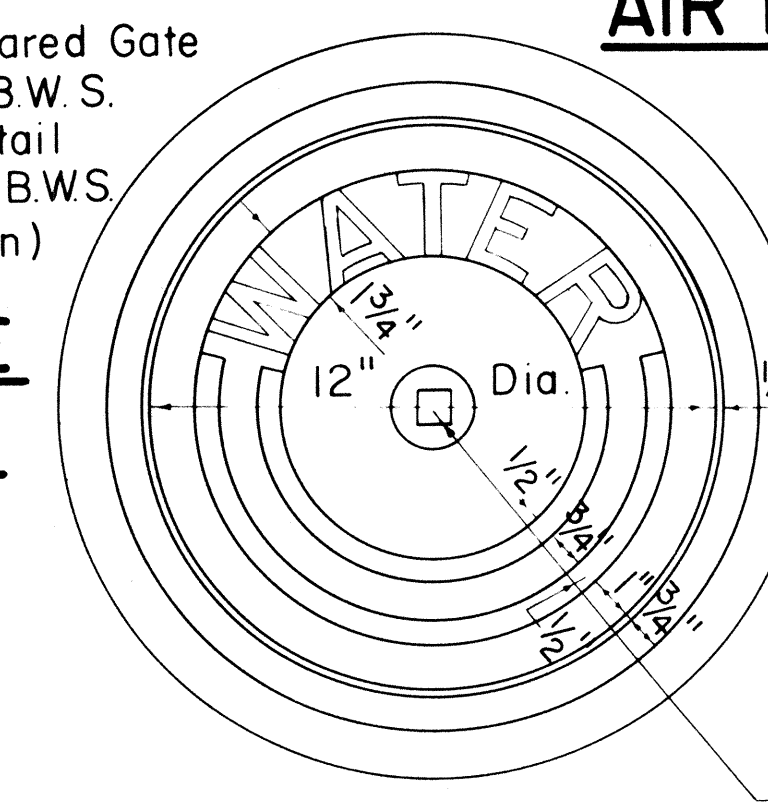
READING COVER



1/2" Round Holes

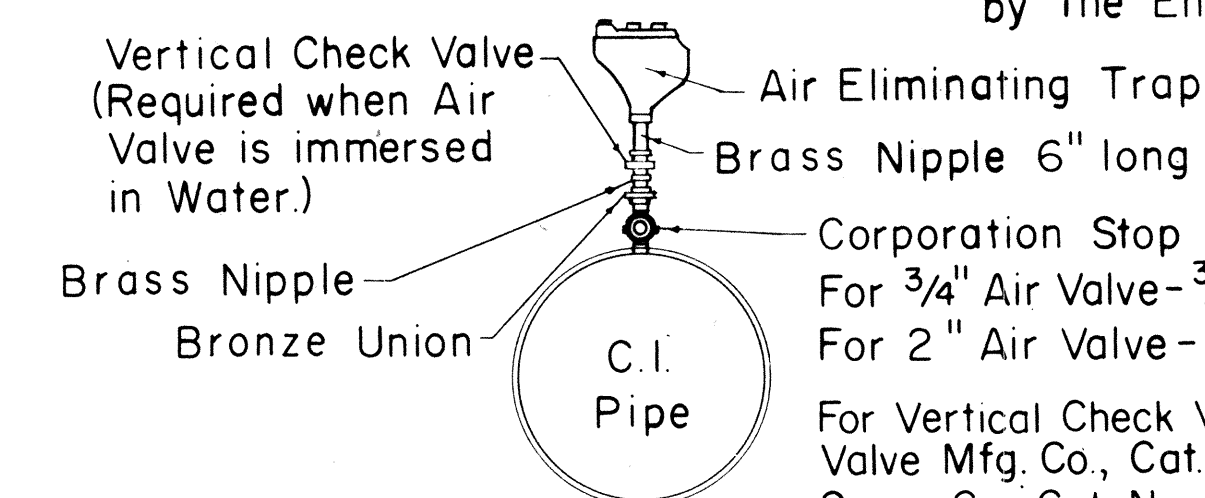
CAST IRON FRAME AND COVER

Scale: 3" = 1'-0"



CORP. STOP LAYOUT

Not to Scale



DETAIL OF CONNECTION FOR AIR ELIMINATING TRAP

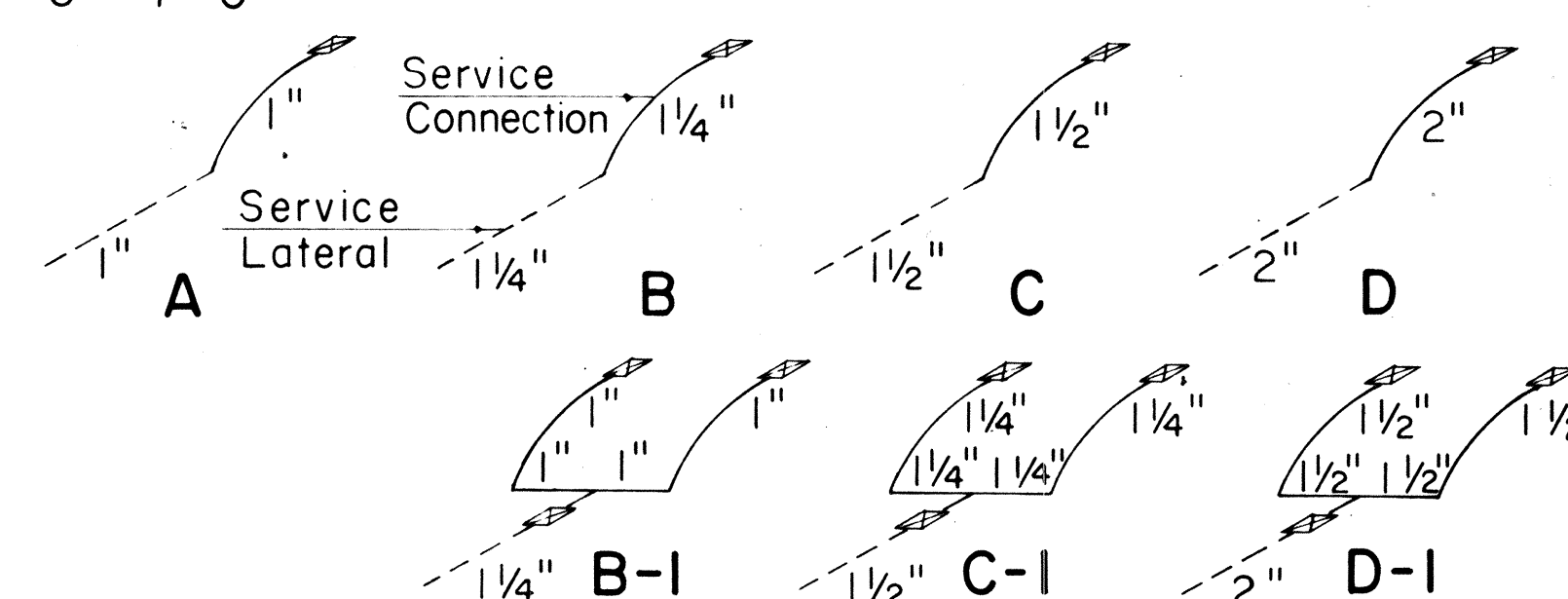
Not to Scale

Offset word "WATER" 1 3/4" high, 1/8" deep

NOTE:

All castings shall be made accurately to the dimensions shown. Seat and Cover shall be ground where necessary to secure flat and true surfaces. The Cover shall not rattle in any position.

Minor changes in dimensions may be made to suit foundry conditions provided such changes are approved by the Board of Water Supply.



TYPICAL LAYOUT OF SERVICE LATERALS AND CONNECTIONS

Not to Scale

APPROVED:

for *R.K. Nagata* 3/25/68
CHIEF, ENGINEERING DIVISION
BOARD OF WATER SUPPLY DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
BOARD OF WATER SUPPLY
CITY & COUNTY OF HONOLULU

KAHEKILI HIGHWAY
PROJ. NO. BD 67-320

Scale: As Noted

Date Mar. 1969

SHEET NO. 6 OF 6 SHEETS