STANDARD DETAILS

DEPARTMENT OF PUBLIC WORKS

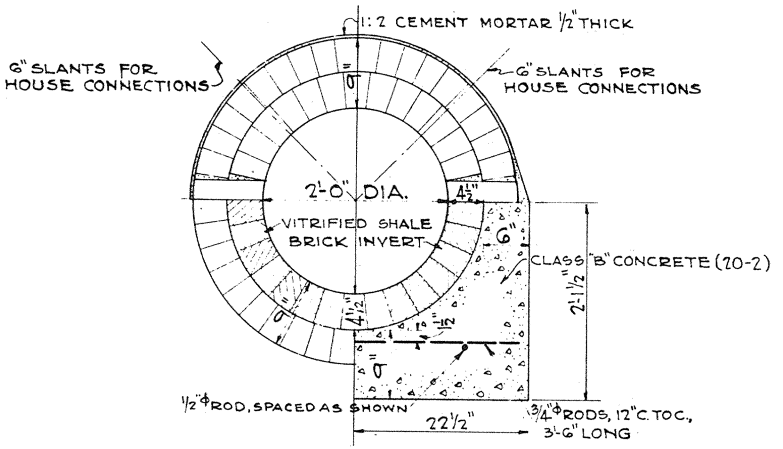
BUREAU OF ENGINEERING
SURVEYS AND ZONING

1947

CIRCULAR BRICK SEWERS

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
PHILADELPHIA

CHIEF ENGINEER



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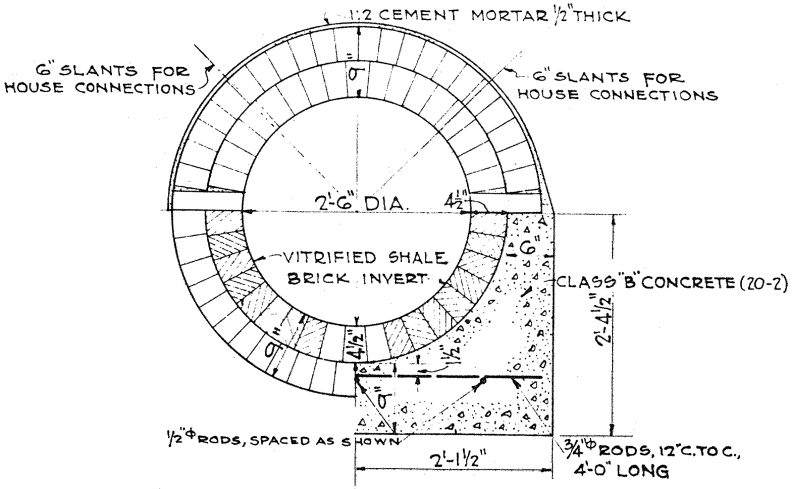
HALF REDUCED CRADLE SECTION



HALF MINIMUM SECTION

HALF REDUCED CRADLE SECTION

PLATE I

Kolbhoff

1947

CIRCULAR BRICK SEWERS

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
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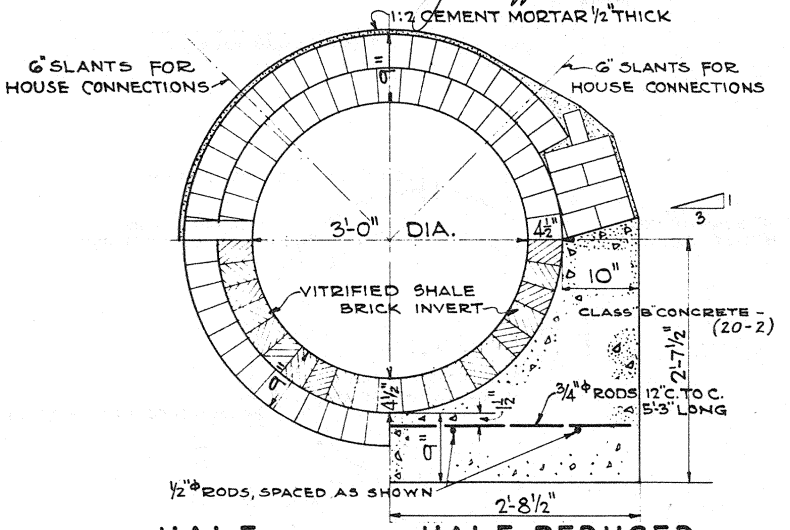

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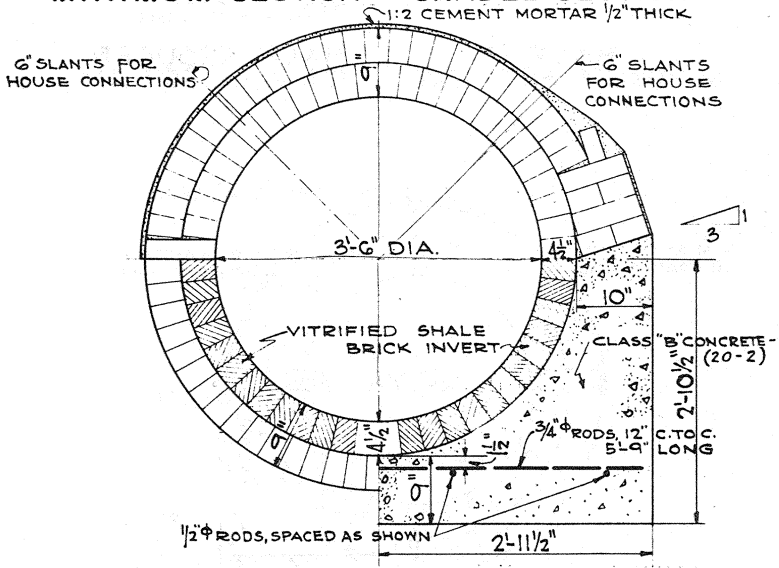

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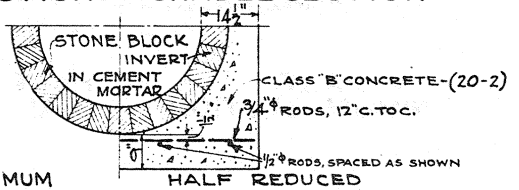

HALF MINIMUM SECTION

HALF REDUCED CRADLE SECTION

PLATE 2

1947

CIRCULAR BRICK SEWERS

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
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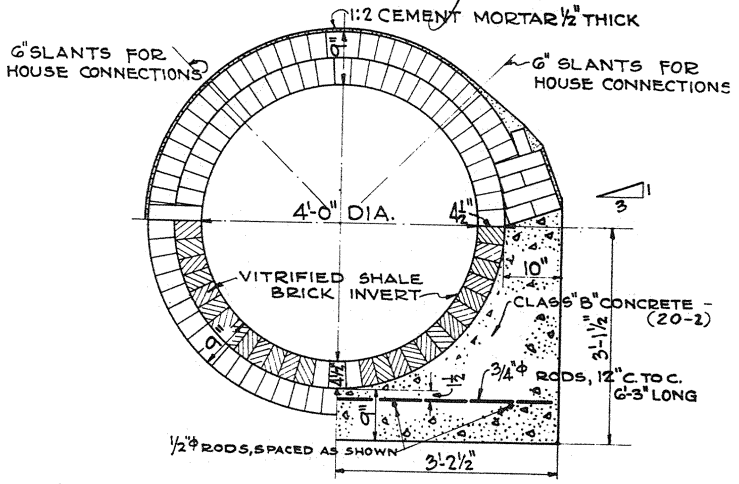

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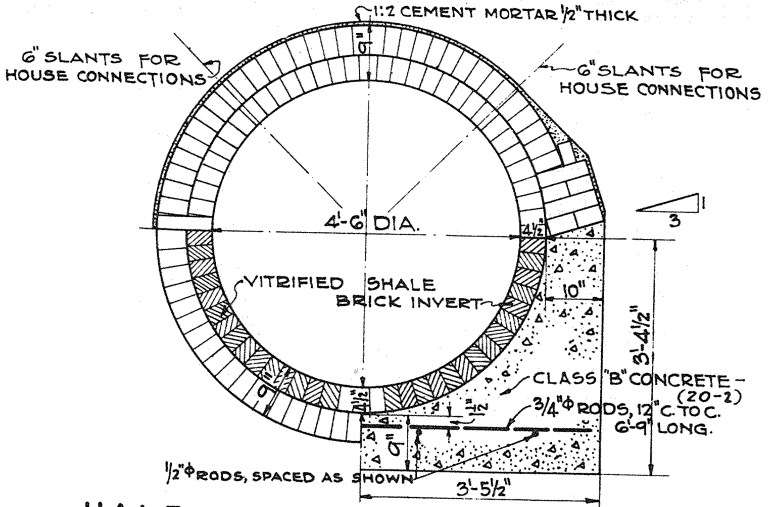

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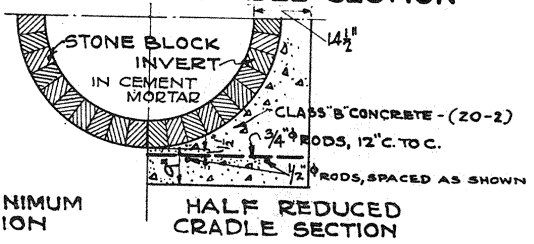
HALF REDUCED CRADLE SECTION



HALF MINIMUM SECTION

HALF REDUCED CRADLE SECTION

PLATE 3

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CIRCULAR BRICK SEWERS

DEPARTMENT OF PUBLIC WORKS
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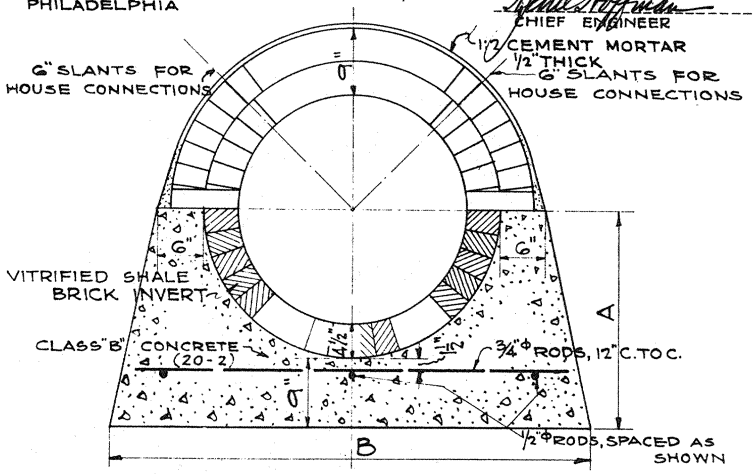
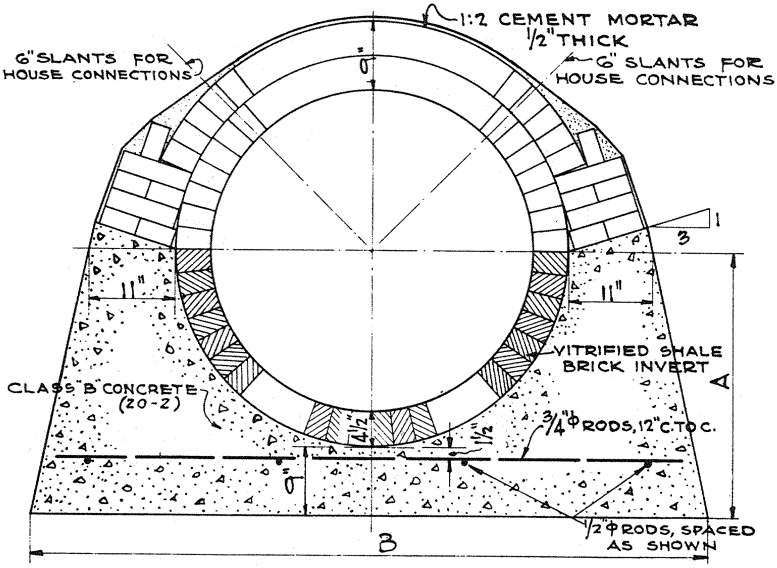


SECTION IN FULL CRADLE
FOR SIZES 2'-6" DIAMETER AND 2'-0" DIAMETER



SECTION IN FULL CRADLE
FOR SIZES 3'-0" DIAMETER AND OVER.

NOTE: For sewer details not shown see Standard Sections.

SIZE	A	B	ROD LENGTH
2'-0" DIA.	2'-1 1/2"	4'-7	4'-0"
2'-6" "	2'-4 1/2"	5'-3"	4'-9"
3'-0" "	2'-7 1/2"	6'-10"	6'-3"
3'-6" "	2'-10 1/2"	7'-4"	6'-9"
4'-0" "	3'-1 1/2"	7'-10"	7'-3"
4'-6" "	3'-4 1/2"	8'-2"	7'-9"

1947

CIRCULAR BRICK SEWERS

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
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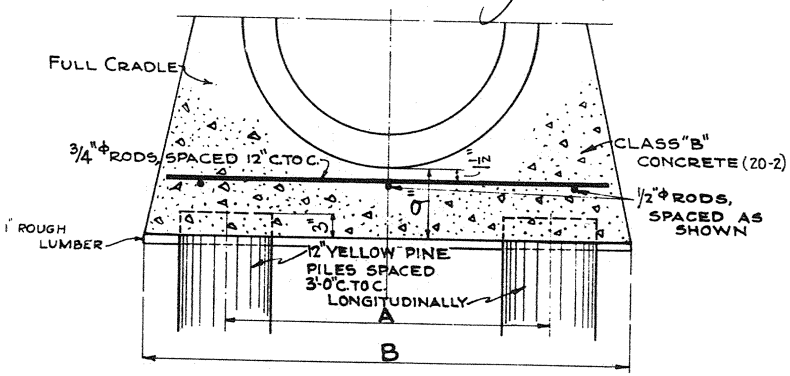
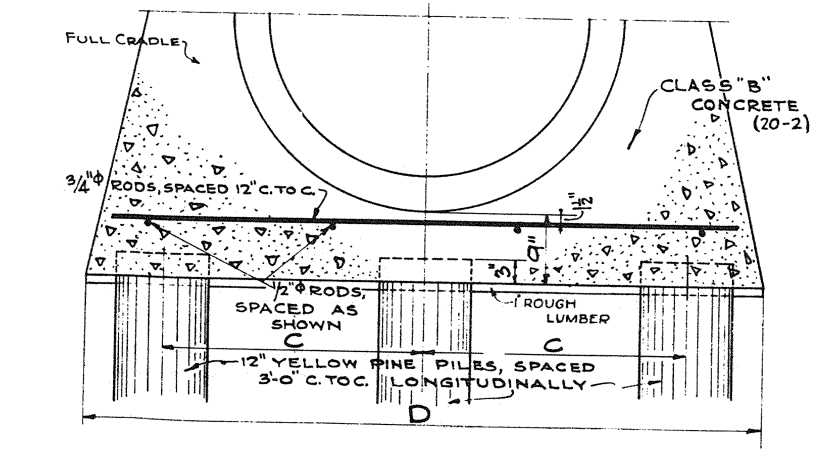


SECTION ON PILES
FOR SIZES 2'-0" DIA. AND 2'-6" DIA.



SECTION ON PILES
FOR SIZES 3'-0" DIA. AND OVER

NOTE:- For sewer details not shown see Standard Sections.

SIZE	A	B	C	D	ROD LENGTH
2'-0" DIA.	2'-10"	4'-7"			4'-0"
2'-6" "	3'-6"	5'-3"			4'-9"
3'-0" "			2'-7"	6'-10"	6'-3"
3'-6" "			2'-10"	7'-4"	6'-9"
4'-0" "			3'-2"	7'-10"	7'-3"
4'-6" "			3'-3"	8'-2"	7'-9"

PLATE 5

1947

EGG-SHAPED BRICK SEWERS

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
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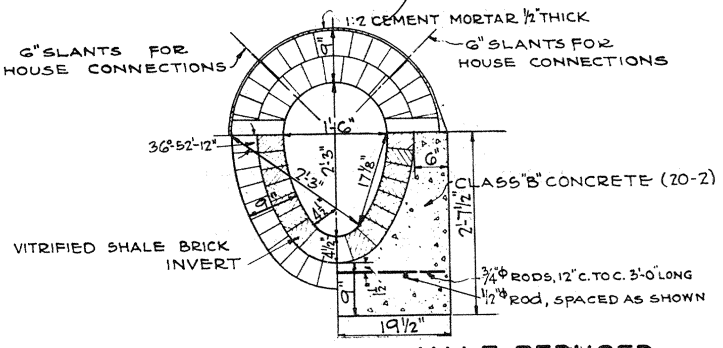
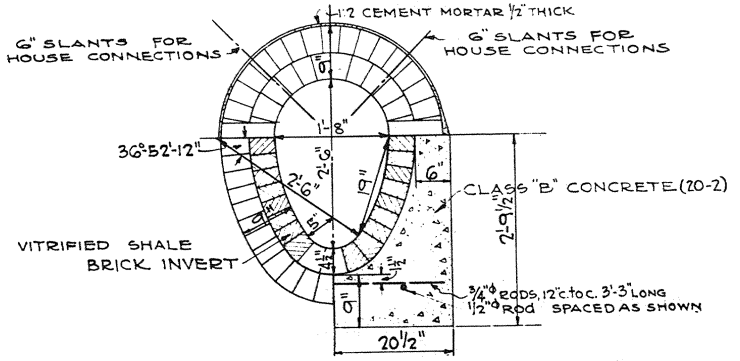


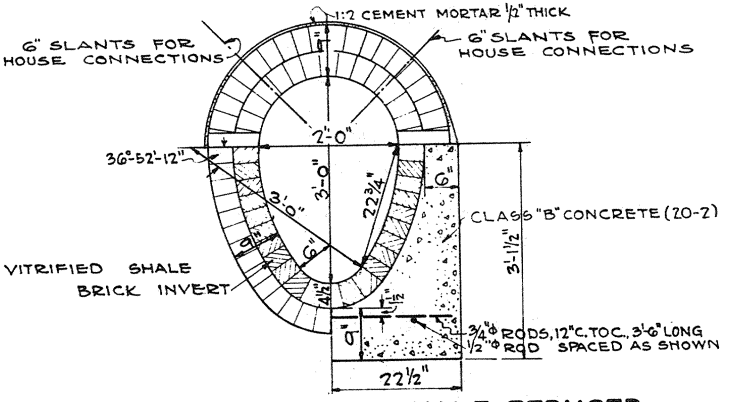
HALF MINIMUM SECTION

HALF REDUCED CRADLE SECTION



HALF MINIMUM SECTION

HALF REDUCED CRADLE SECTION



HALF MINIMUM SECTION

HALF REDUCED CRADLE SECTION

PLATE 6

1947

EGG-SHAPED BRICK SEWERS

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
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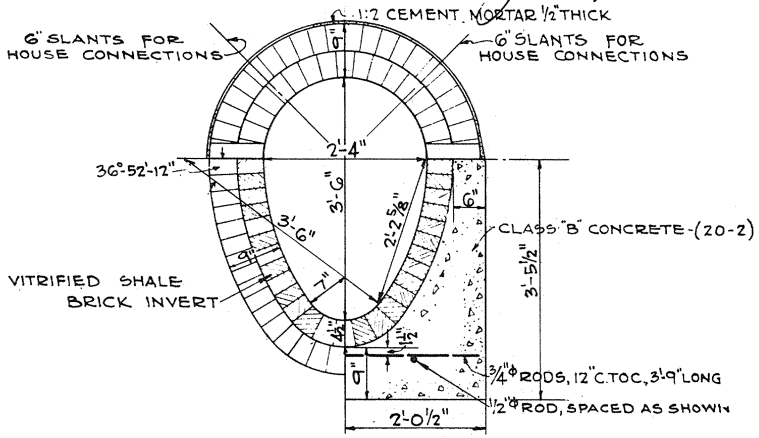
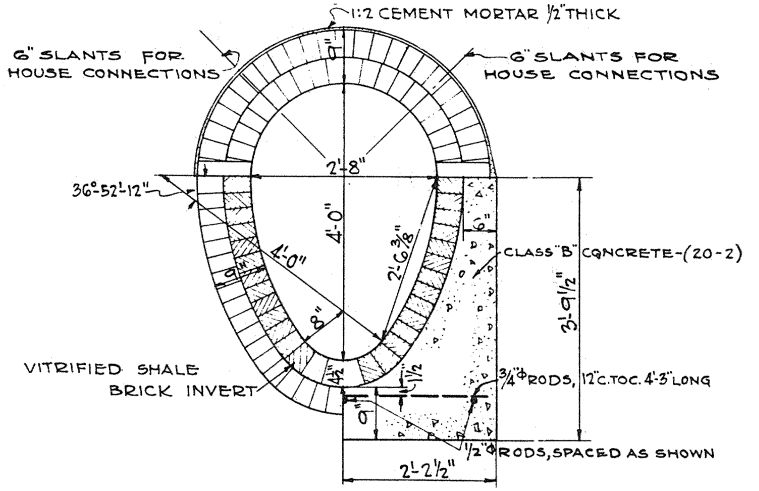
CHIEF ENGINEER



HALF MINIMUM SECTION

HALF REDUCED CRADLE SECTION



HALF MINIMUM SECTION

HALF REDUCED CRADLE SECTION

EGG-SHAPED BRICK SEWERS

DEPARTMENT OF PUBLIC WORKS
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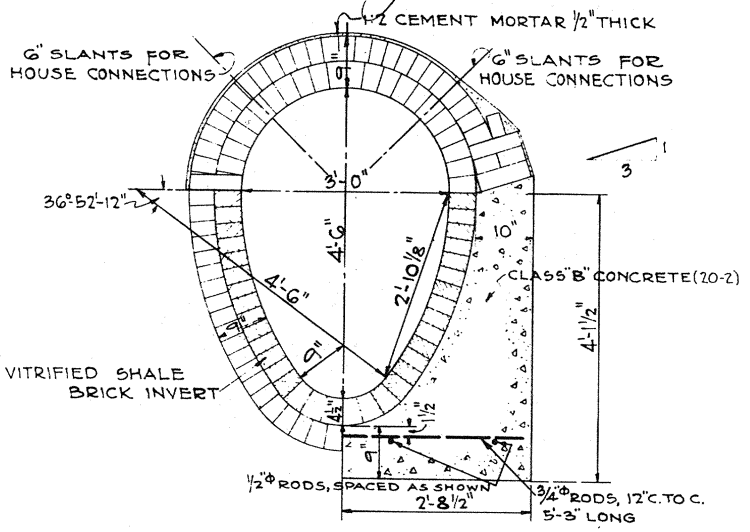
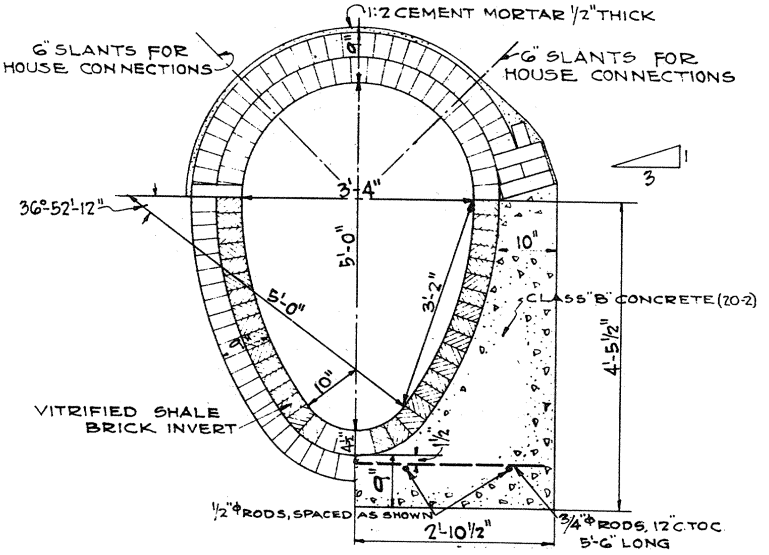


HALF MINIMUM SECTION

HALF REDUCED CRADLE SECTION



HALF MINIMUM SECTION

HALF REDUCED CRADLE SECTION

PLATE 8

1947

EGG-SHAPED BRICK SEWERS

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
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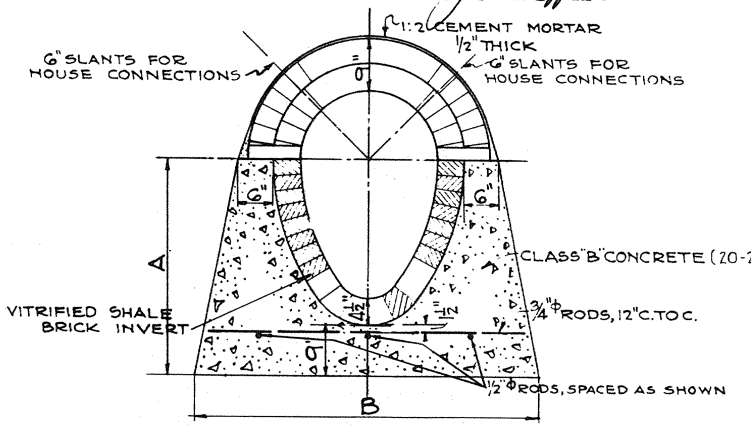
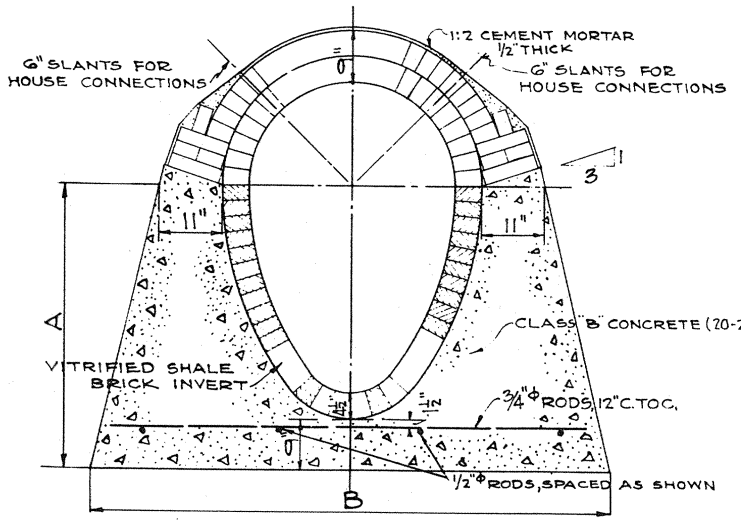


SECTION IN FULL CRADLE

FOR SIZES 4'-0" x 2'-8" AND UNDER



SECTION IN FULL CRADLE

FOR SIZES 4'-6" x 3'-0" AND 5'-0" x 3'-4"

NOTE:- For sewer details not shown see Standard Sections.

SIZE	A	B	ROD LENGTH
2'-3" x 1'-6"	2'-7½"	4'-3	3'-9"
2'-6" x 1'-8"	2'-9½"	4'-6	4'-0"
3'-0" x 2'-0"	3'-1½"	5'-0"	4'-6"
3'-6" x 2'-4"	3'-5½"	5'-6"	5'-0"
4'-0" x 2'-8"	3'-9½"	5'-11"	5'-6"
4'-6" x 3'-0"	4'-1½"	7'-6"	7'-0"
5'-0" x 3'-4"	4'-5½"	8'-0"	7'-6"

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EGG-SHAPED BRICK SEWERS

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
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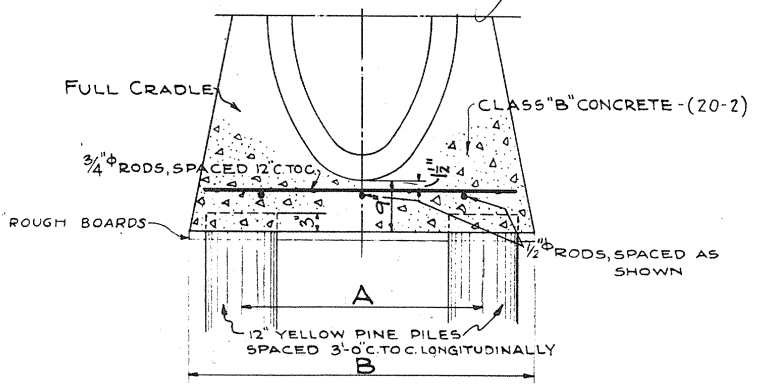
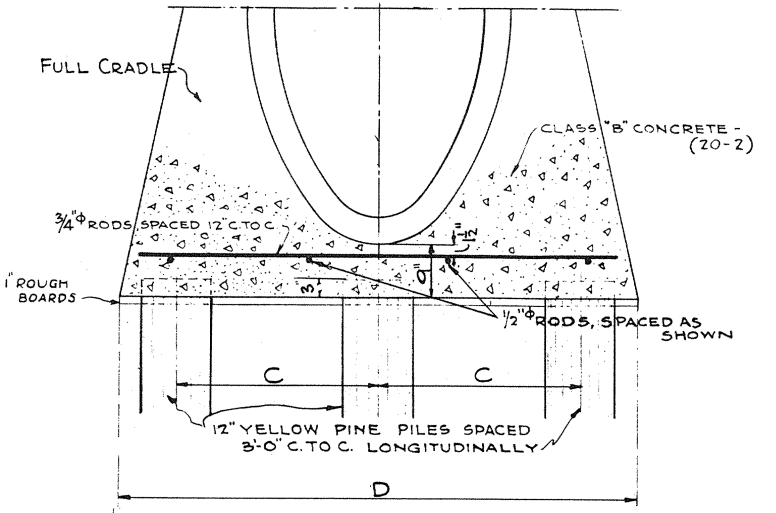


SECTION ON PILES
FOR SIZES 4'-0" x 2'-8" AND UNDER

NOTE:- For sewer details not shown see Standard Sections.



SECTION ON PILES
FOR SIZES 4'-6" x 3'-0" AND 5'-0" x 3'-4"

SIZE	A	B	C	D	ROD LENGTH
2'-3" x 1'-6"	2'-10"	4'-3"			3'-9"
2'-6" x 1'-8"	3'-0"	4'-6"			4'-0"
3'-0" x 2'-0"	3'-6"	5'-0"			4'-6"
3'-6" x 2'-4"	4'-0"	5'-6"			5'-0"
4'-0" x 2'-8"	4'-6"	5'-11"			5'-6"
4'-6" x 3'-0"			2'-11"	7'-6"	7'-0"
5'-0" x 3'-4"			3'-2"	8'-0"	7'-6"

PLATE 10

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REINFORCED CONCRETE CIRCULAR PIPE SEWERS

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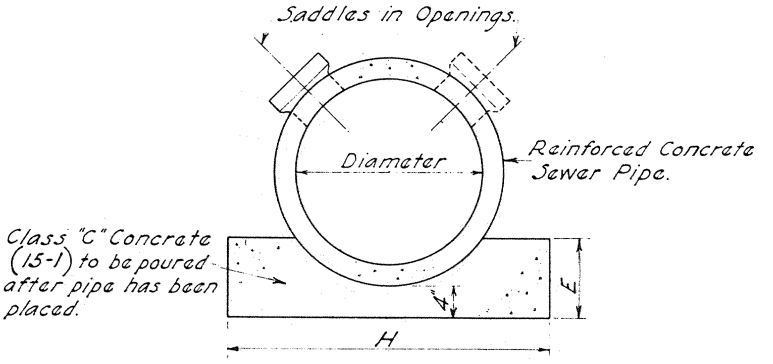

Diameter	E	H
15"	8½"	2'-7"
18"	9"	2'-11"
21"	10"	3'-2½"
24"	10½"	3'-6"
27"	11"	3'-9"
30"	12"	4'-1"
33"	12½"	4'-4½"
36"	13½"	4'-8"
42"	14½"	5'-6"
48"	16"	6'-1"
54"	17½"	6'-8"
60"	19"	7'-3"

Notes

All reinforced concrete pipe shall conform to the requirements of and shall be tested in accordance with the Standard Specifications for Reinforced Concrete Sewer Pipe of the A.S.T.M., current at the time of receipt of bids.

In hard rock excavation, the width of the concrete base shall be reduced to a width 3" greater than the outside diameter of the sewer pipe.

VITRIFIED PIPE SEWERS

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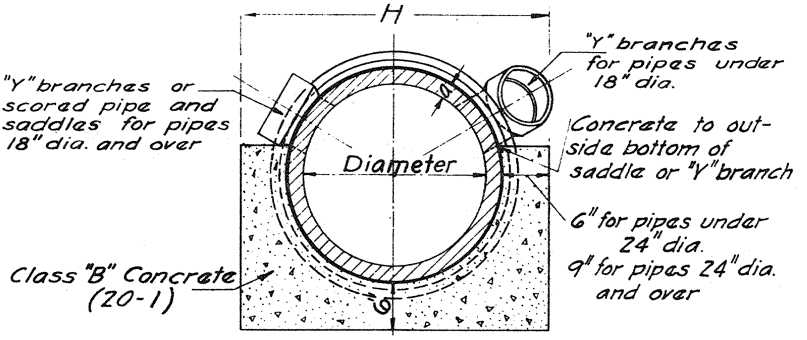

Dia.	a		H
10"	7/8"		2'-3 3/4"
12"	1"		2'-2"
15"	1 1/4"		2'-5 1/2"
18"	1 1/2"		2'-9"
21"	1 3/4"		3'-0 1/2"
24"	2"		3'-10"
27"	2 1/4"		4'-1 1/2"
30"	2 1/2"		4'-5"
33"	2 5/8"		4'-8 1/4"
36"	2 3/4"		4'-11 1/2"

1947

SEPARATE SYSTEM

VITRIFIED PIPE SEWER WITH VITRIFIED PIPE STORMWATER CONDUIT

DEPARTMENT OF PUBLIC WORKS
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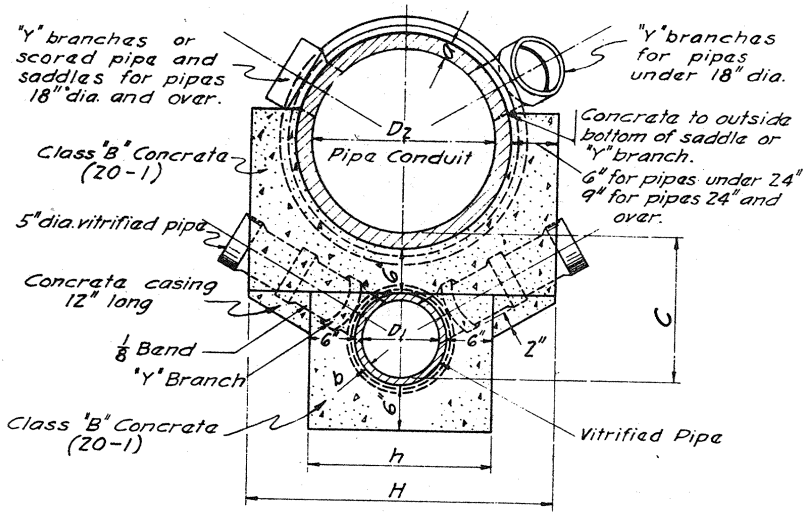

NOTE: The cross sections of the separate system must conform in all respects to the general details of vitrified pipe sewers.

Size		a	b		H	h	C
D1	Dz						
10"	15"	$1\frac{1}{4}$"	$\frac{7}{8}$"		2'-$5\frac{1}{2}$"	$23\frac{3}{4}$"	1.51'
10"	18"	$1\frac{1}{2}$"	$\frac{7}{8}$"		2'-9"	$23\frac{3}{4}$"	1.53'
10"	21"	$1\frac{3}{4}$"	$\frac{7}{8}$"		3'-$0\frac{1}{2}$"	$23\frac{3}{4}$"	1.55'
10"	24"	2"	$\frac{7}{8}$"		3'-10"	$23\frac{3}{4}$"	1.57'
10"	27"	$2\frac{1}{4}$"	$\frac{7}{8}$"		4'-$1\frac{1}{2}$"	$23\frac{3}{4}$"	1.59'
10"	30"	$2\frac{1}{2}$"	$\frac{7}{8}$"		4'-5"	$23\frac{3}{4}$"	1.61'
10"	33"	$2\frac{5}{8}$"	$\frac{7}{8}$"		4'-$8\frac{1}{4}$"	$23\frac{3}{4}$"	1.63'
10"	36"	$2\frac{3}{4}$"	$\frac{7}{8}$"		4'-$11\frac{1}{2}$"	$23\frac{3}{4}$"	1.64'
12"	30"	$2\frac{1}{2}$"	1"		4'-5"	2'-2"	1.79'
12"	33"	$2\frac{5}{8}$"	1"		4'-$8\frac{1}{4}$"	2'-2"	1.80'
12"	36"	$2\frac{3}{4}$"	1"		4'-$11\frac{1}{2}$"	2'-2"	1.81'

SEPARATE SYSTEM
VITRIFIED PIPE SEWER WITH BRICK STORMWATER CONDUIT

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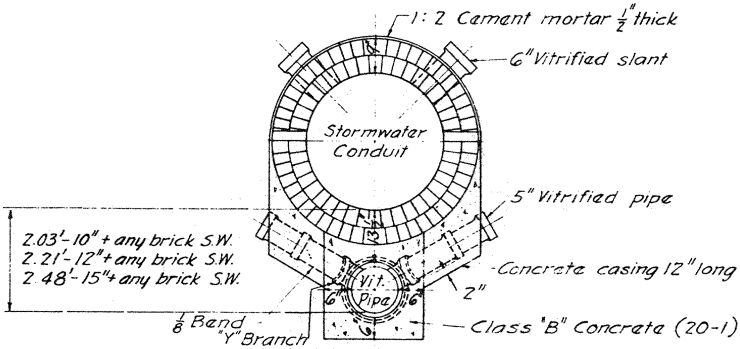
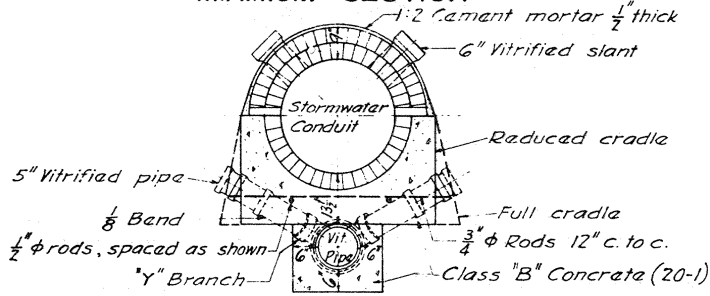
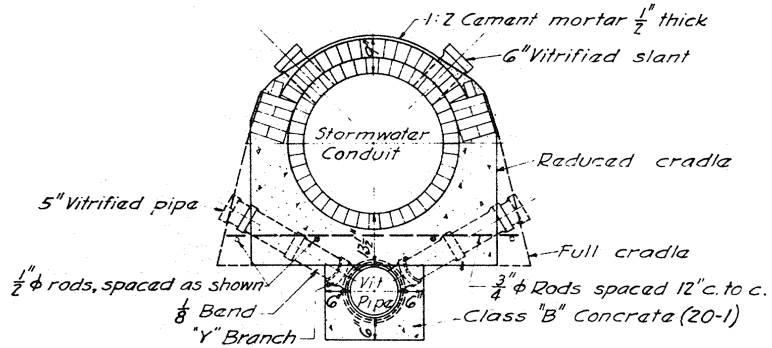


MINIMUM SECTION



SECTION IN CRADLE
FOR SEWERS 2'-0" DIA. AND 2'-6" DIA.



SECTION IN CRADLE
FOR SEWERS OVER 2'-6" DIAMETER

Note: The cross-sections of the separate system sewers must conform in all respects to the General Details of Brick and Pipe Sewers.

PLATE 14

1947

SEPARATE SYSTEM

VITRIFIED PIPE SEWER WITH REINFORCED CONCRETE PIPE STORMWATER CONDUIT

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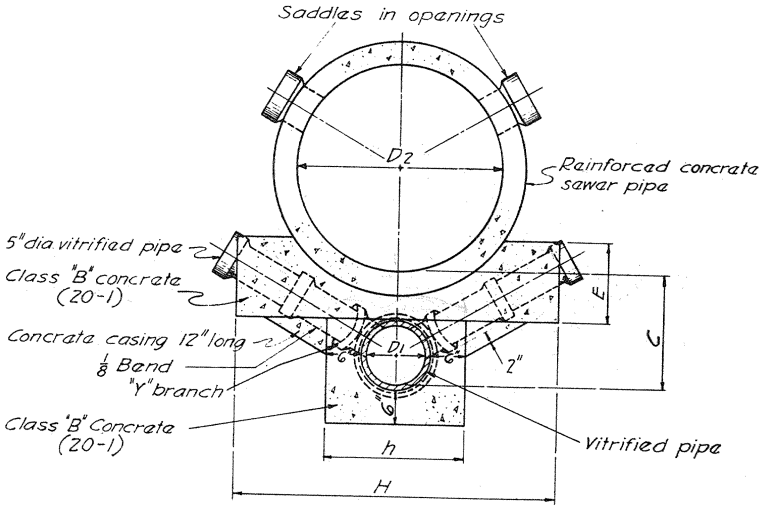

Size		h	H	E	C
D1	D2				
10"	15"	23 3/4"	2'-7"	9 1/2"	1.51'
10"	18"		2'-11"	10"	1.53'
10"	21"		3'-2 1/2"	11"	1.55'
10"	24"		3'-6"	11 1/2"	1.57'
10"	27"		3'-9"	12 1/4"	1.59'
10"	30"		4'-1"	13"	1.61'
10"	33"		4'-4 1/2"	13 1/2"	1.63'
10"	36"		4'-8"	14 3/8"	1.64'
12"	30"	2'-2"	4'-1"	13"	1.79'
12"	33"		4'-4 1/2"	13 3/8"	1.80'
12"	36"		4'-8"	14 1/4"	1.81'
12"	42"		5'-6"	15"	2.21'
12"	48"		6'-1"	15 1/2"	2.21'
15"	48"	2'-5 1/2"	6'-1"	15 1/2"	2.48'
15"	54"	2'-5 1/2"	6'-8"	16"	2.48'

NOTE: All reinforced concrete pipe shall conform to the requirements of, and shall be tested in accordance with, the Standard Specifications for Reinforced Concrete Sewer Pipe of the A.S.T.M. current at the time of receipt of bids.

PLATE 15

1947

STANDARD TURNOUTS FOR SEPARATE SYSTEM

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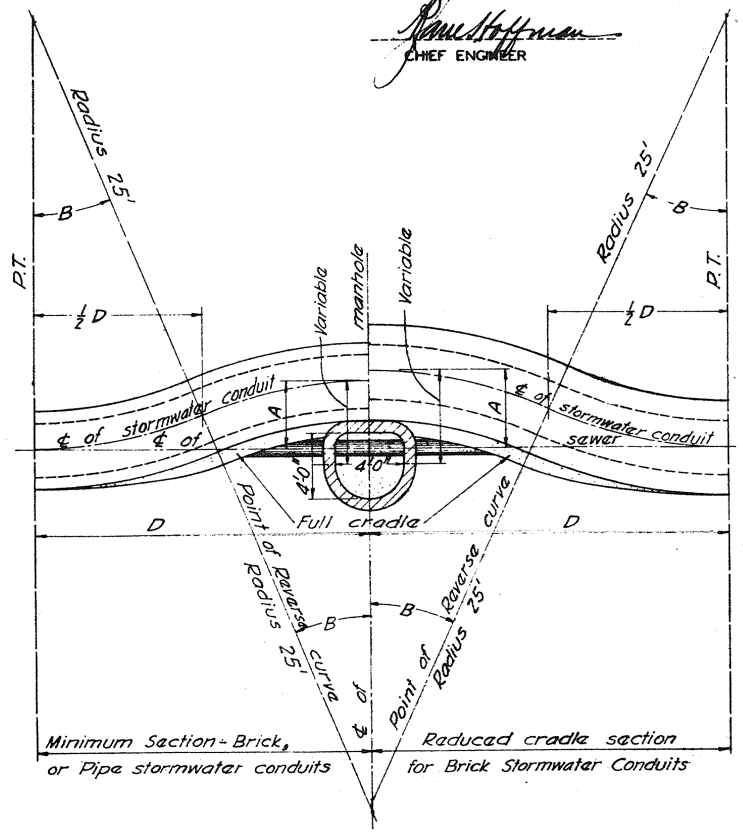

Type of S.W. Conduit	Size of S.W. Conduit	A	B	D
Minimum Section	2'-0" to 4'-6" incl.	$4'-8\frac{1}{4}"$	25°00'	$21'-1\frac{5}{8}"$
Reduced Cradle	2'-0" to 4'-6" incl.	5'-3"	26°30'	$22'-3\frac{3}{4}"$
Vitrified Pipe	15" to 36" incl.	$3'-11\frac{3}{4}"$	23°00'	$19'-6\frac{1}{2}"$
R.C. Pipe	15" to 36" incl.	$3'-11\frac{3}{4}"$	23°00'	$19'-6\frac{1}{2}"$

BRICK MANHOLE
FOR CIRCULAR SEWERS 3'-0" DIA. AND OVER

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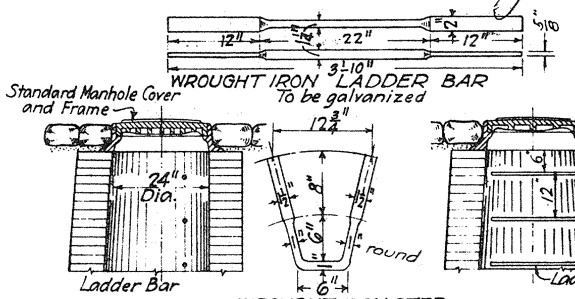
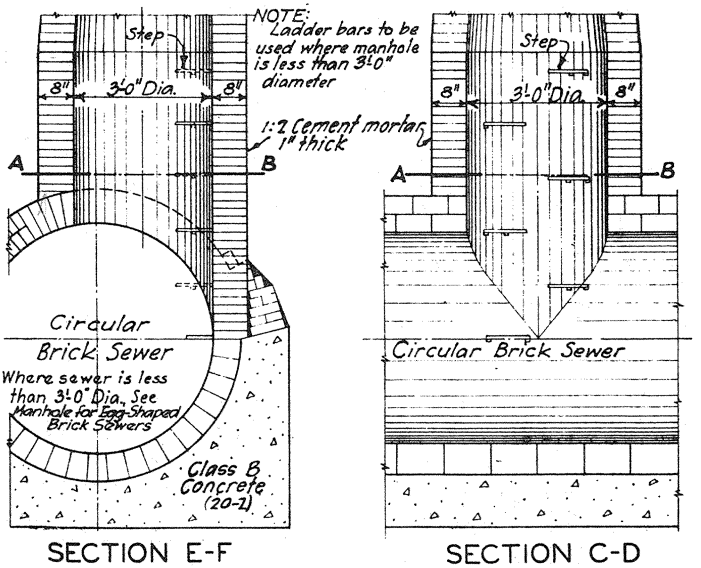
PHILADELPHIA

CHIEF ENGINEER

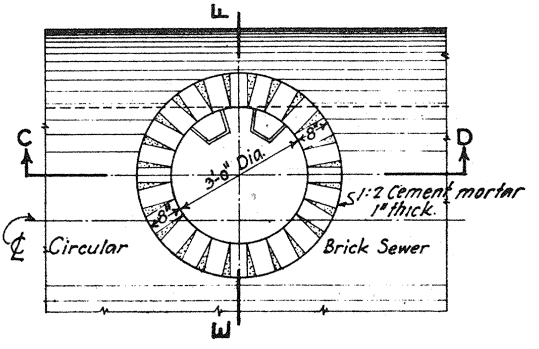




SECTION E-F

SECTION C-D

NOTE: In hard rock, the foundation may be reduced in accordance with the Standard Specifications.



PLAN A-B

PLATE 17

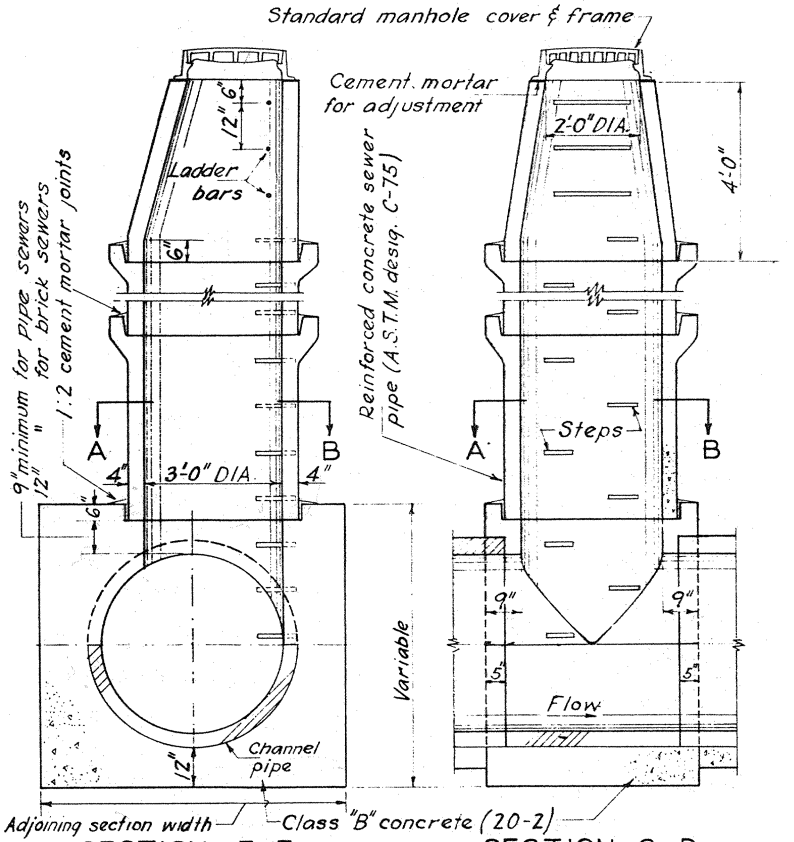
1947

R.C. MANHOLE

FOR CIRCULAR SEWERS 3'-0" DIA. AND OVER

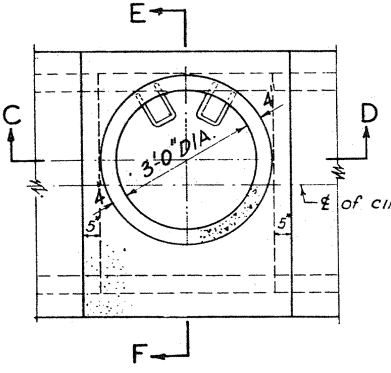
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
PHILADELPHIA

CHIEF ENGINEER



SECTION E-F

SECTION C-D



SECTION A-B

Note:
For details of steps and ladder bars, see Plate No. 20

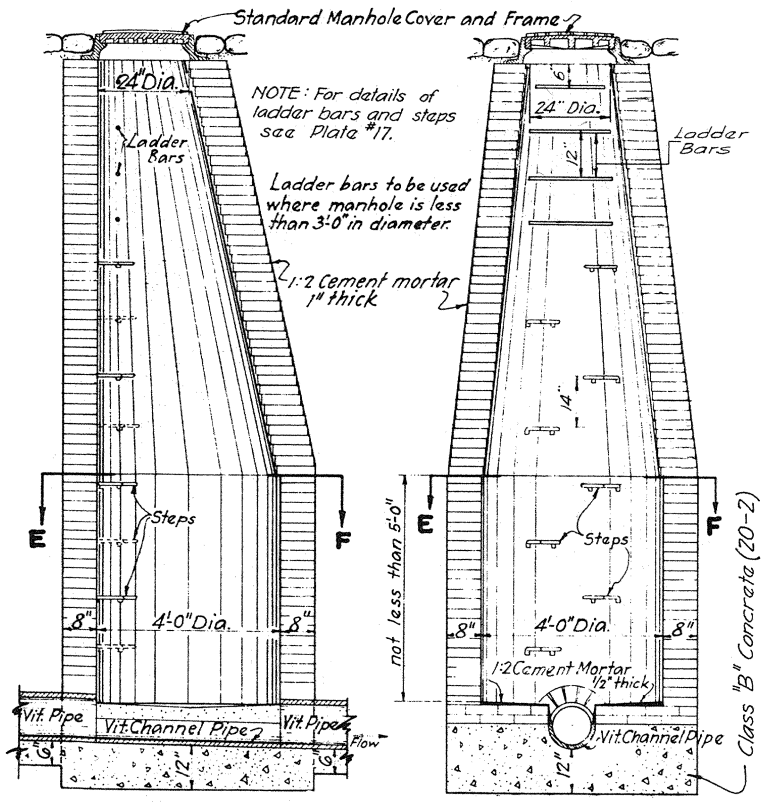
PLATE 18

1947

BRICK MANHOLE
(FOR PIPES UNDER 36" DIA.)

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS AND ZONING
PHILADELPHIA

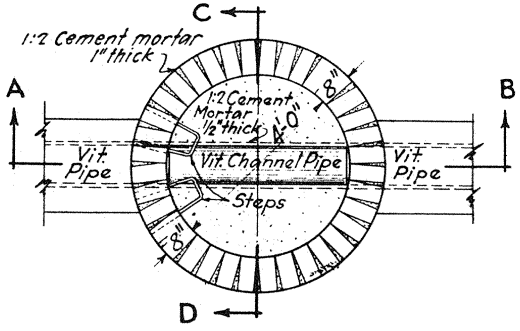
CHIEF ENGINEER



SECTION A-B

SECTION C-D

NOTE: Vitrified Channel Pipe in pipe manholes shall be double strength.



SECTION E-F

PLATE 19

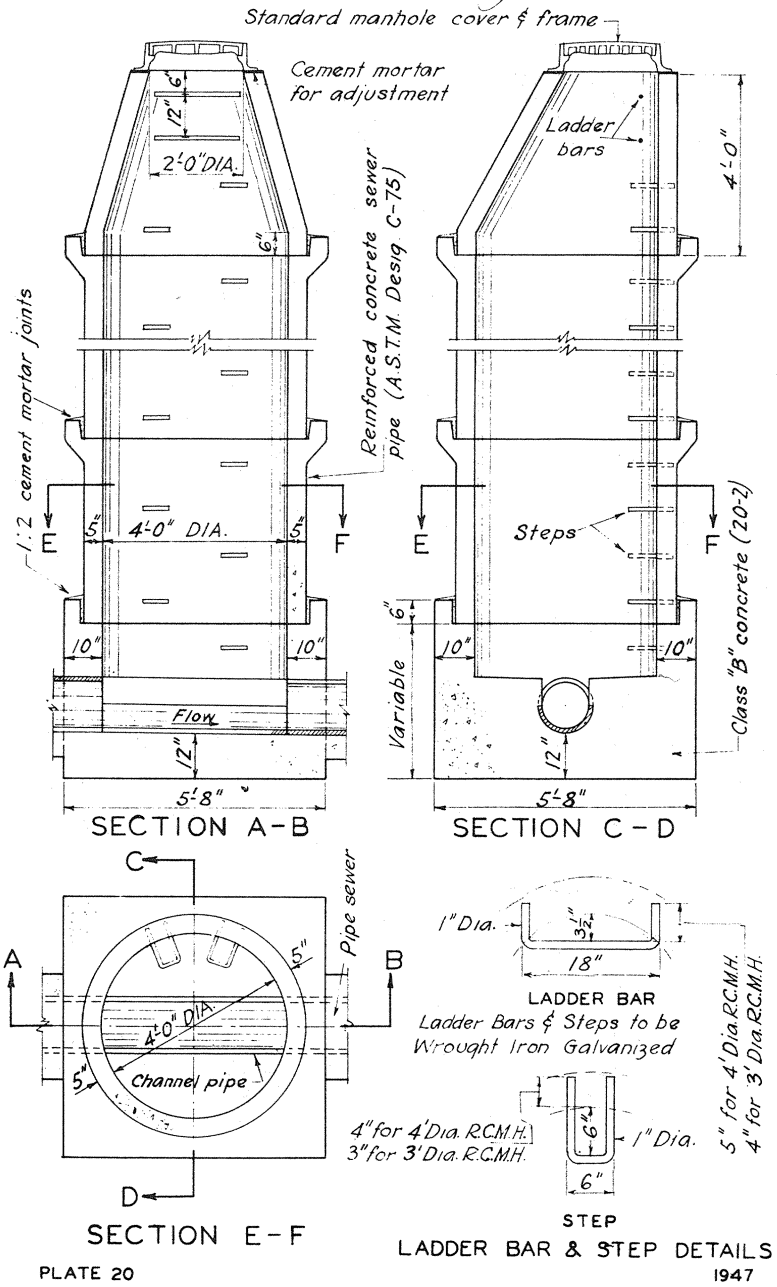
1947

R.C. MANHOLE

FOR CIRCULAR SEWERS UNDER 36" DIA.

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
PHILADELPHIA

CHIEF ENGINEER



LADDER BAR & STEP DETAILS

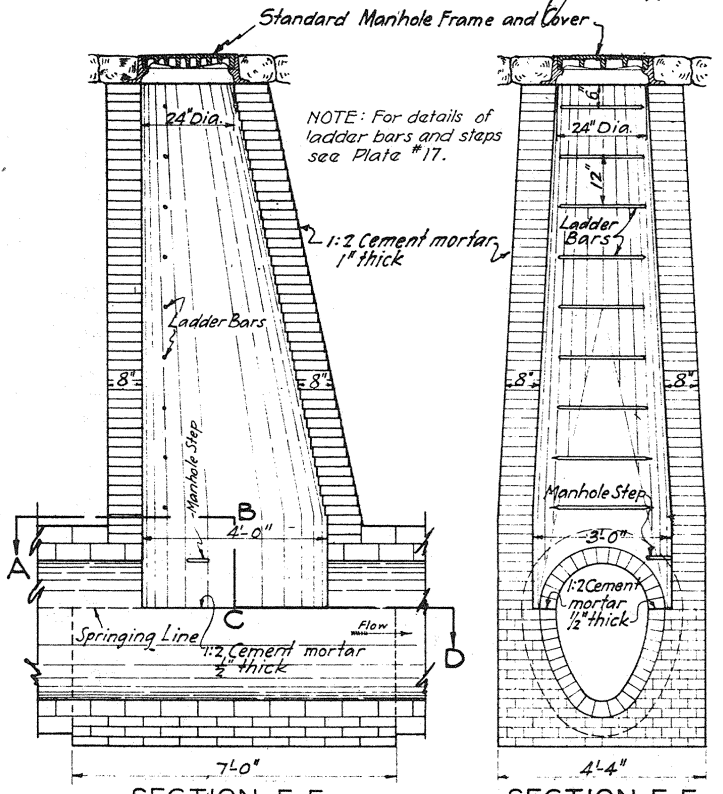
PLATE 20

1947

BRICK MANHOLE
FOR
EGG-SHAPED BRICK SEWERS
AND CIRCULAR BRICK SEWERS UNDER 3'-0" DIA.

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS AND ZONING
PHILADELPHIA

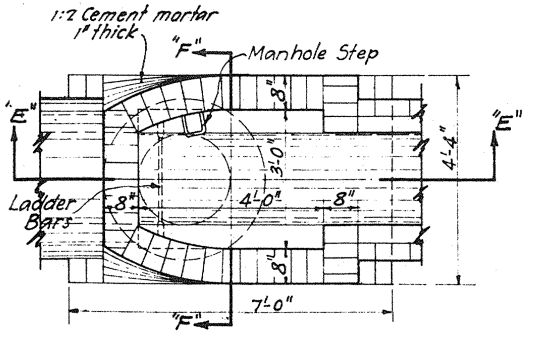
CHIEF ENGINEER



SECTION E-E

SECTION F-F

NOTE: In hard rock the foundation may be reduced in accordance with the Standard Specifications.



PLAN A-B-C-D

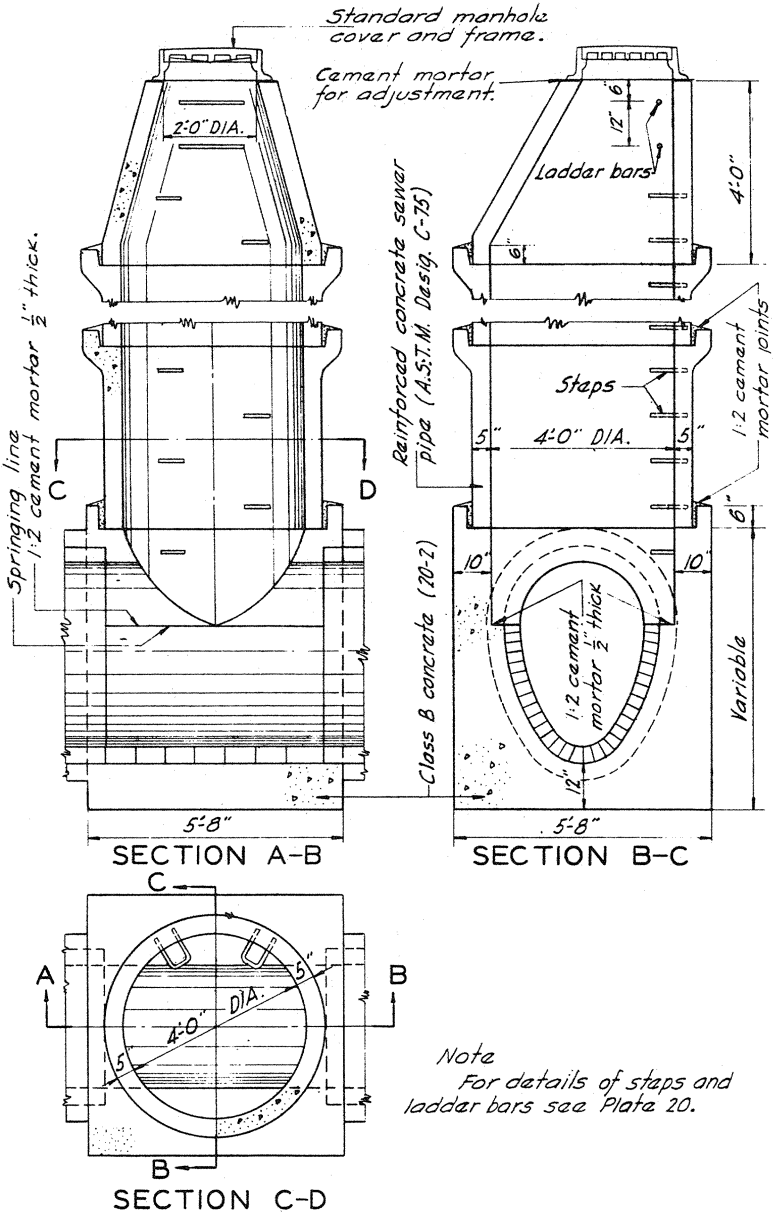
PLATE 21

1947

R.C. MANHOLE
FOR
EGG-SHAPED BRICK SEWERS

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
PHILADELPHIA

Paul Hoffman
CHIEF ENGINEER



Note
For details of steps and ladder bars see Plate 20.

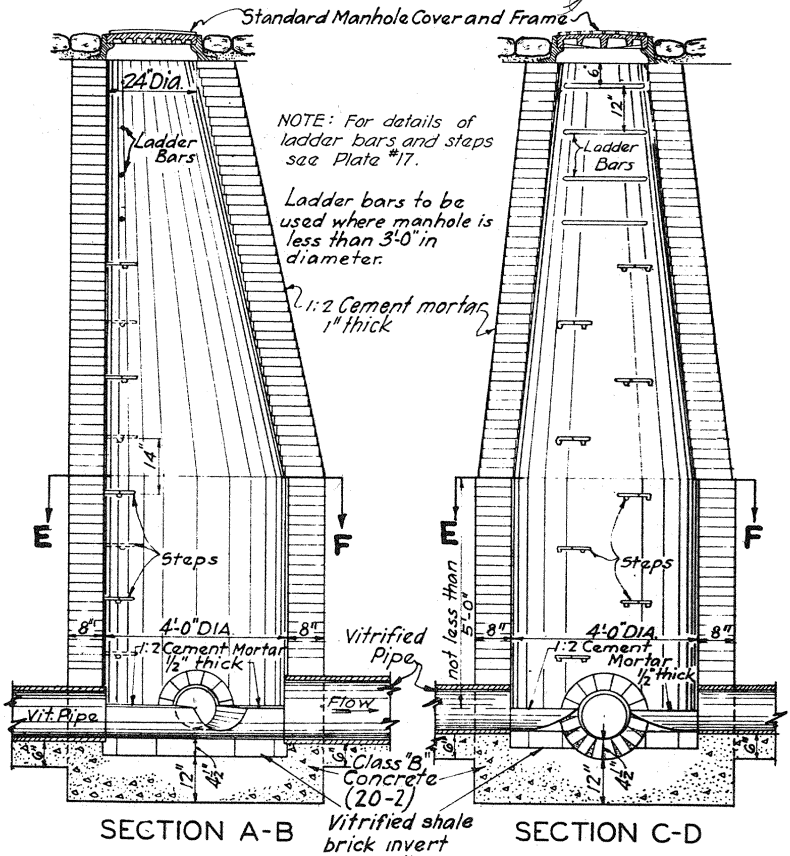
PLATE 22

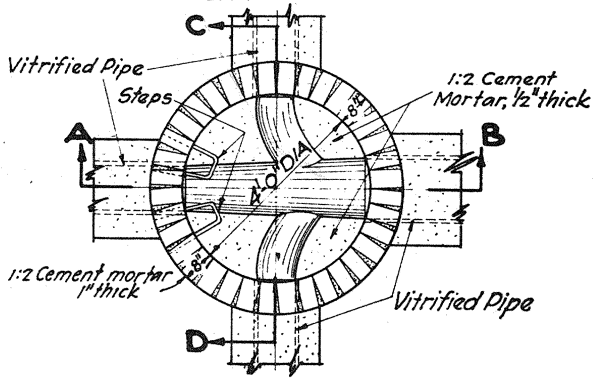
1947

BRICK JUNCTION MANHOLE

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS AND ZONING
PHILADELPHIA

CHIEF ENGINEER





SECTION E-F

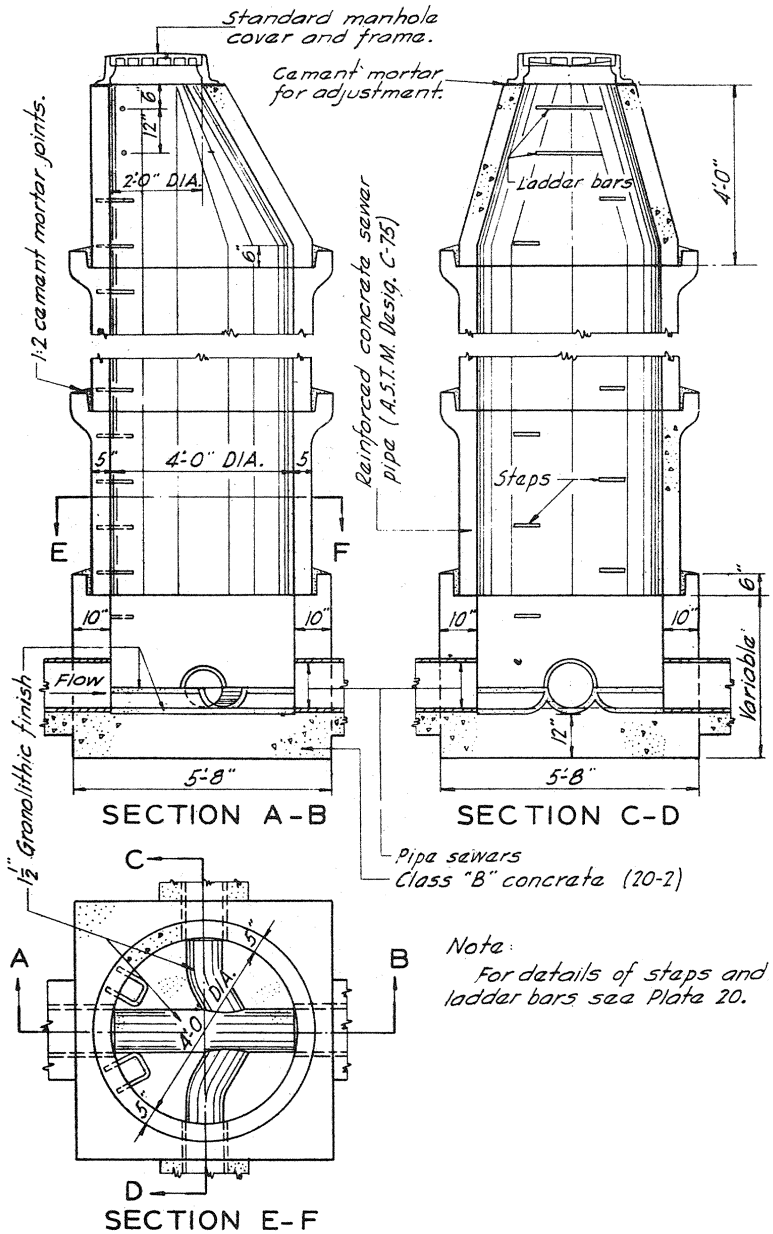
PLATE 23

1947

R.C. JUNCTION MANHOLE

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
PHILADELPHIA

Rene Hoffman
CHIEF ENGINEER



Note:
For details of steps and ladder bars see Plate 20.

PLATE 24

1947

PIPE SEWER
DROP MANHOLE

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS AND ZONING
PHILADELPHIA

CHIEF ENGINEER

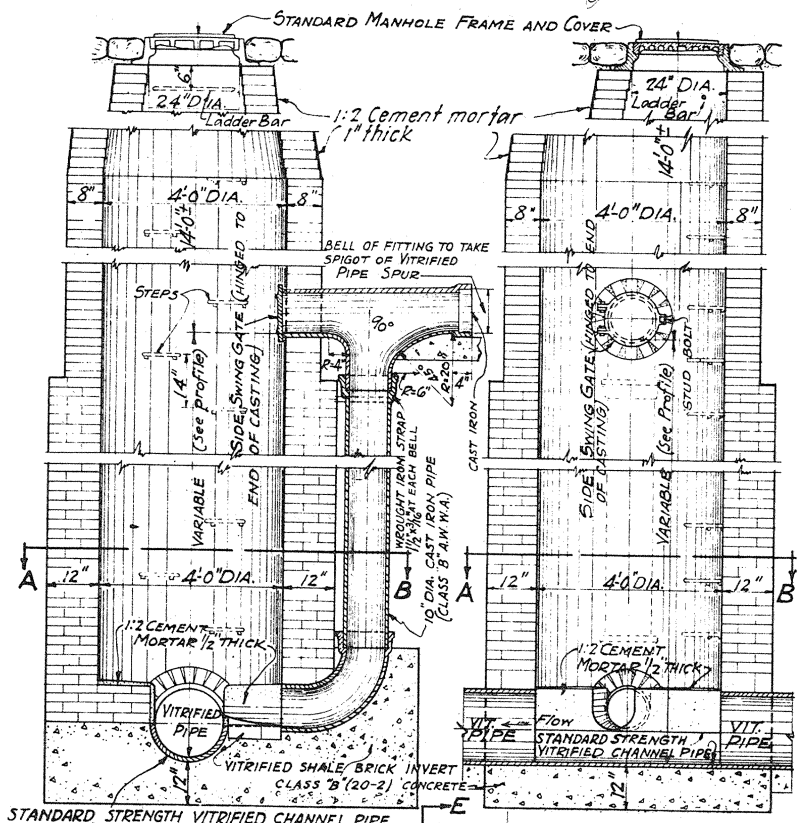


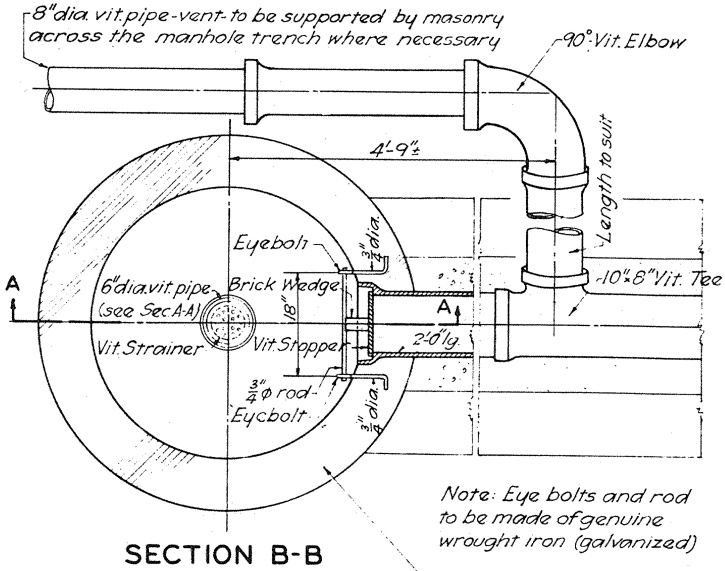
PLATE 25

1947

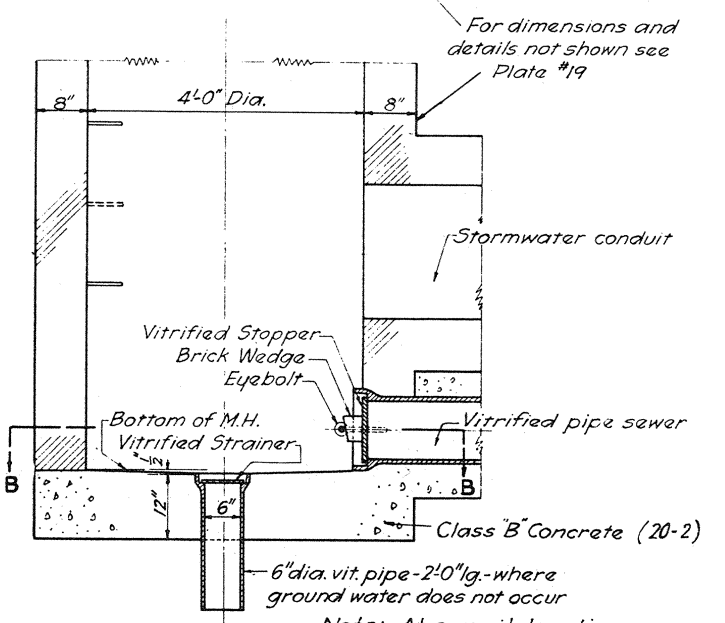
SPECIAL MANHOLE

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
PHILADELPHIA

Paul Hoffman
CHIEF ENGINEER



SECTION B-B



SECTION A-A

Note: At summit locations construction must be similar at opposite side of manhole

PLATE 26

1947

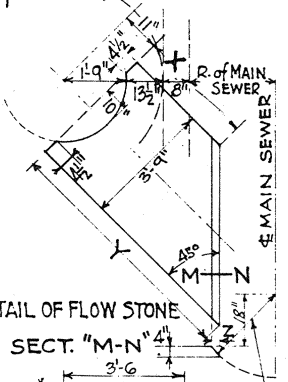
STANDARD WELLHOLE DETAILS

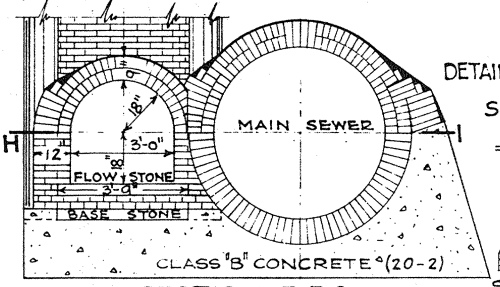
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
PHILADELPHIA

Paul Hoffman
CHIEF ENGINEER

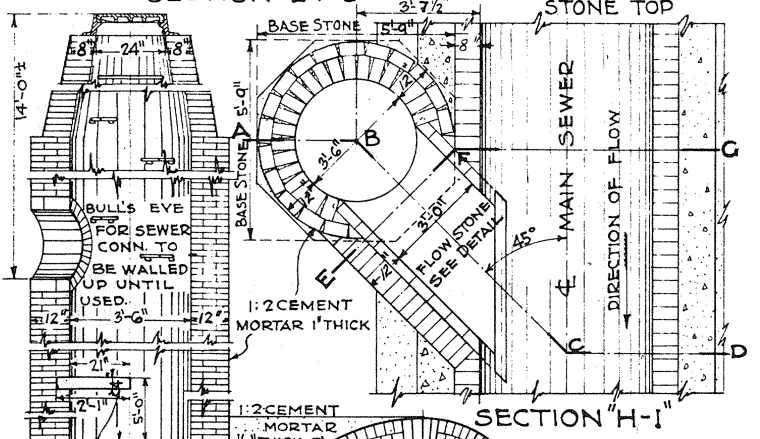
SEWER DIA.	X	Y	Z	SEWER DIA.	X	Y	Z
4'-0"	4'-0 1/4"	7'-9 1/4"	6"	9'-6"	2'-10 1/4"	6'-7 1/4"	1 5/8"
4'-6"	3'-8"	7'-5	4 1/2"	10'-0"	2'-9 7/8"	6'-6 7/8"	1 1/2"
5'-0"	3'-5 5/8"	7'-2 5/8"	3 1/2"	10'-6"	2'-9 5/8"	6'-6 5/8"	1 1/2"
5'-6"	3'-3 3/8"	7'-0 3/8"	3"	11'-0"	2'-9 3/8"	6'-6 3/8"	1 3/8"
6'-0"	3'-2 5/8"	6'-11 5/8"	2 1/2"	11'-6"	2'-9 1/8"	6'-6 1/8"	1 3/8"
6'-6"	3'-1 5/8"	6'-10 5/8"	2 3/8"	12'-0"	2'-8 7/8"	6'-5 7/8"	1 1/4"
7'-0"	3'-0 7/8"	6'-9 7/8"	2 1/4"	12'-6"	2'-8 3/4"	6'-5 3/4"	1 1/4"
7'-6"	3'-0 1/8"	6'-9 1/4"	2"	13'-0"	2'-8 1/2"	6'-5 1/2"	1 1/8"
8'-0"	2'-11 5/8"	6'-8 5/8"	1 3/4"	13'-6"	2'-8 1/4"	6'-5 1/4"	1 1/8"
8'-6"	2'-11 1/8"	6'-8 1/8"	1 5/8"	14'-0"	2'-8 1/8"	6'-5 1/8"	1"
9'-0"	2'-10 3/4"	6'-7 3/4"	1 5/8"	14'-6"	2'-8"	6'-5"	1"

NOTE:
Drip Stones shall be 5'-0" apart, if possible, as shown.





SECTION E-F-G



SECTION "H-I"

SECTION A-B-C-D

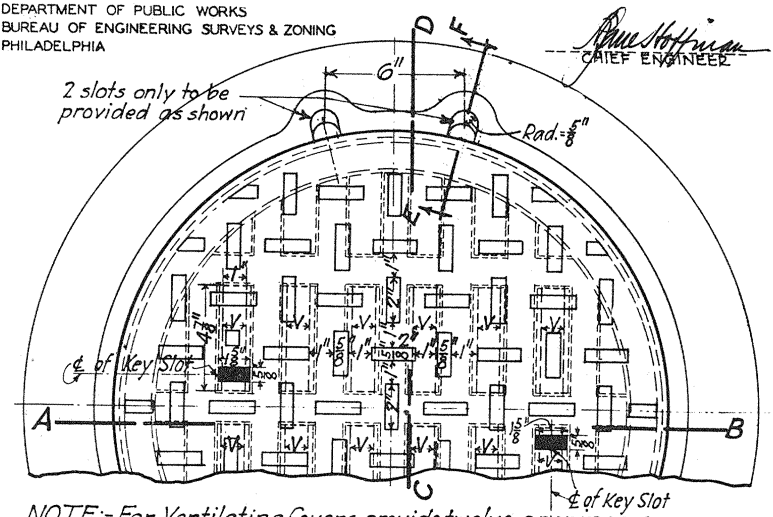
PLATE 27

1947

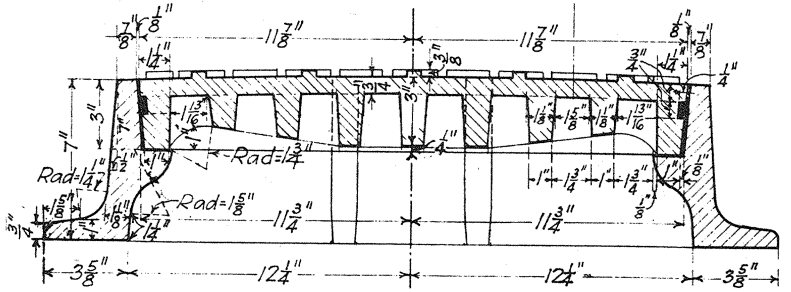
CAST IRON MANHOLE COVER AND FRAME

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING SURVEYS & ZONING
PHILADELPHIA

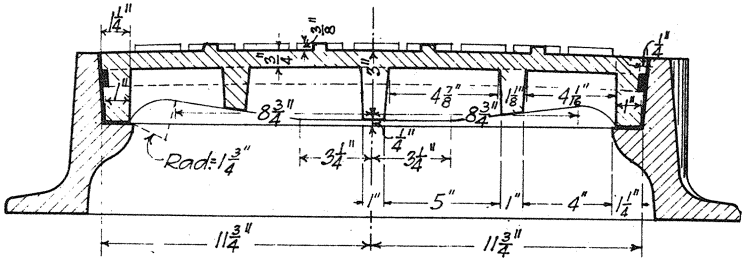
Rene Hoffman
CHIEF ENGINEER



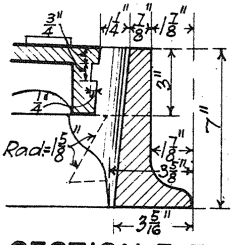
NOTE:- For Ventilating Covers, provide twelve openings as shown by dotted lines where marked "V."



SECTION A-B



SECTION C-D



SECTION E-F

WEIGHTS

Ventilating Cover	= 200 lbs.
Closed Cover	= 215 lbs.
Frame	= 270 lbs.

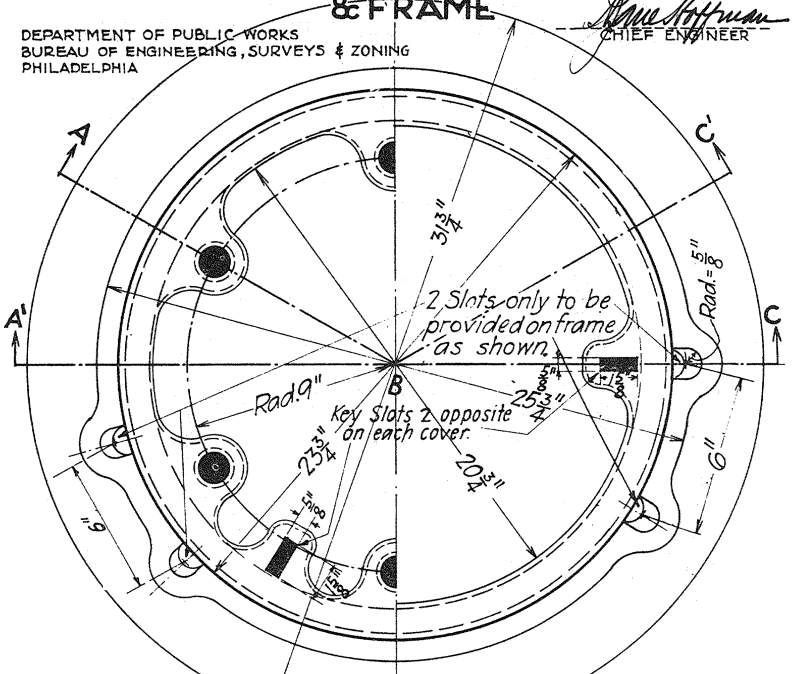
PLATE 28

1947

ASPHALT FILLED MANHOLE COVER & FRAME

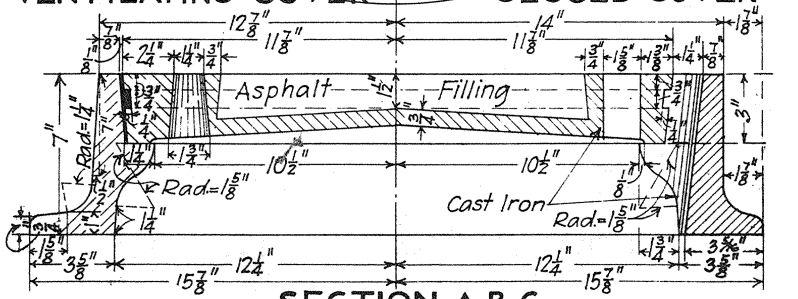
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
PHILADELPHIA

CHIEF ENGINEER

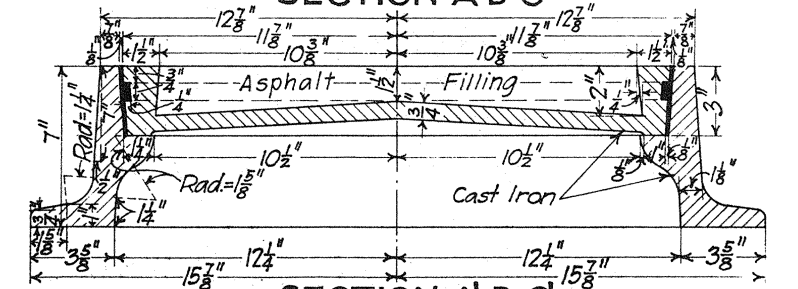


HALF PLAN VENTILATING COVER

HALF PLAN CLOSED COVER



SECTION A-B-C



SECTION A'-B-C'

Weights

Closed Cover (without filling)	*142 lbs.*
Ventilating Cover (without filling)	*165 lbs.*
Frame	*270 lbs.*

PLATE 29

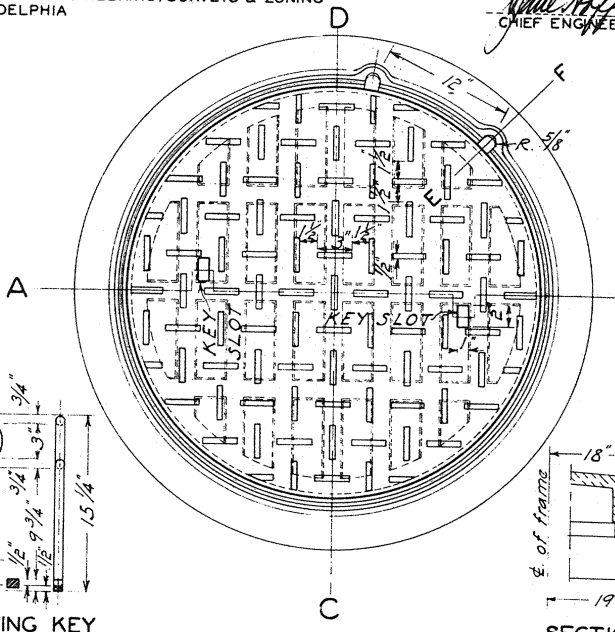
1947

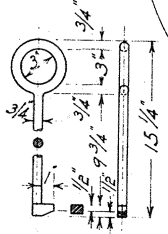
CAST STEEL MANHOLE COVER AND FRAME 3'-0" DIAMETER

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
PHILADELPHIA

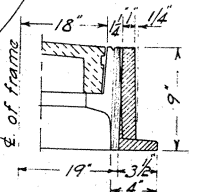
Dave Hoffman
CHIEF ENGINEER

Cover 748
Frame - 540

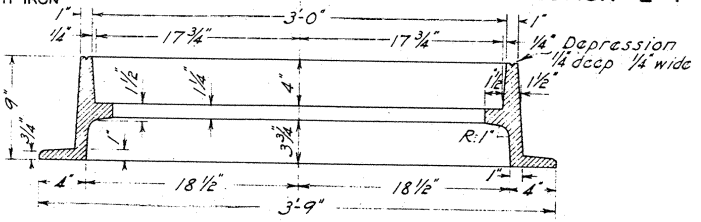




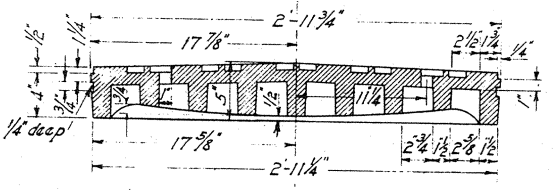
LIFTING KEY
WROUGHT IRON



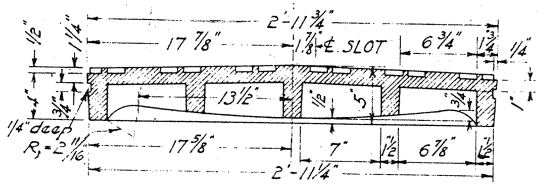
SECTION E-F



SECTION OF FRAME ON LINE A-B



SECTION OF COVER ON LINE A-B



SECTION OF COVER ON LINE C-D

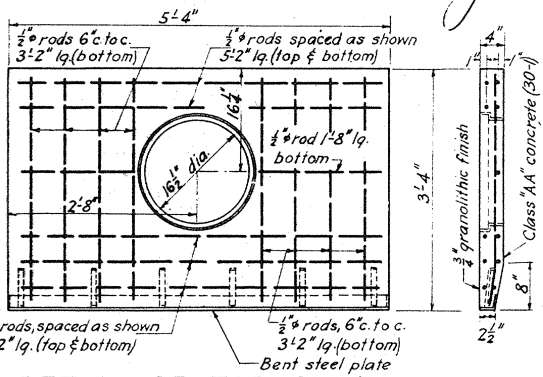
PLATE 30

1947

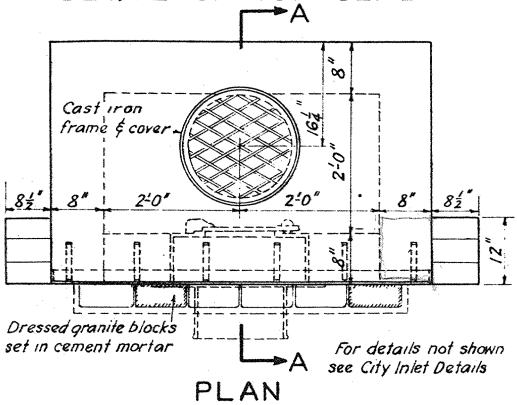
CITY INLET

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS AND ZONING
PHILADELPHIA

Dave Hoffman
CHIEF ENGINEER

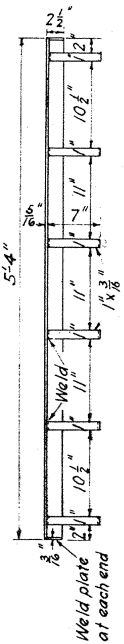


DETAIL OF TOP SLAB



PLAN

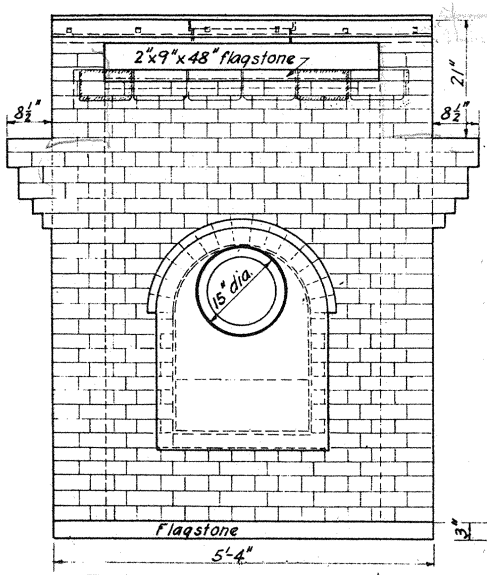
For details not shown see City Inlet Details



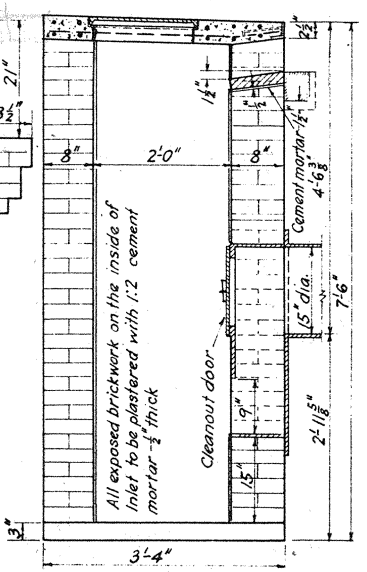
DETAIL OF BENT STEEL PLATE & ANCHORS

(To be hot dipped galvanized after assembly)

Flagstone shall be natural cleft Wyoming Valley (Pa.) or Hudson Valley (N.Y.) flagging.



FRONT ELEVATION

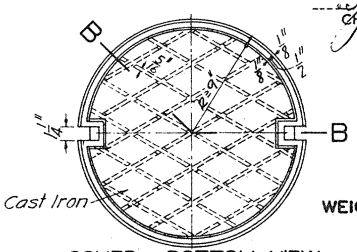


SECTION A-A

CITY INLET DETAILS

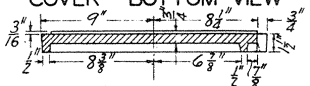
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
PHILADELPHIA

CHIEF ENGINEER

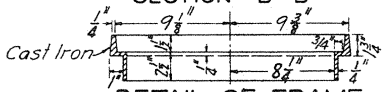


WEIGHT OF COVER = 59 LBS.

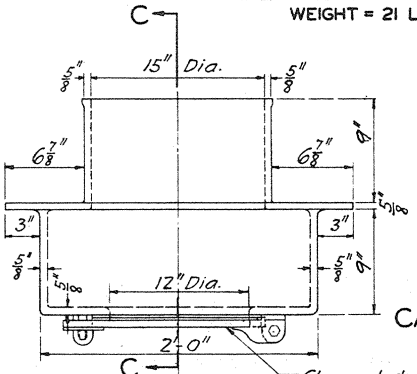
COVER BOTTOM VIEW



SECTION B-B

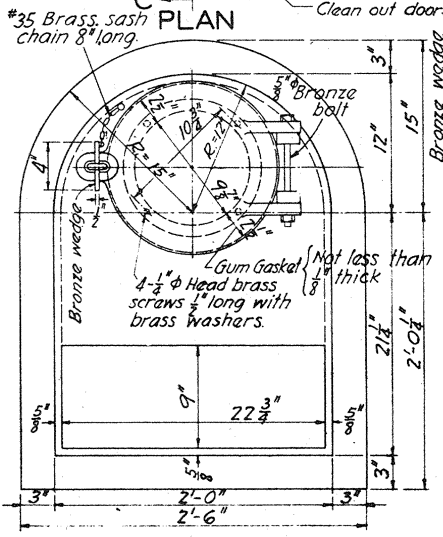


DETAIL OF FRAME
WEIGHT = 21 LBS.

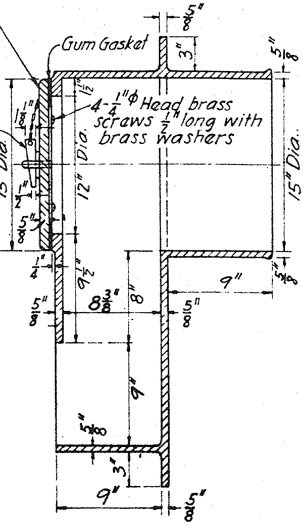


PLAN

DETAIL OF
CAST IRON OUTLET
WEIGHT = 465 LBS.



REAR ELEVATION



SECTION C-C

PLATE 32

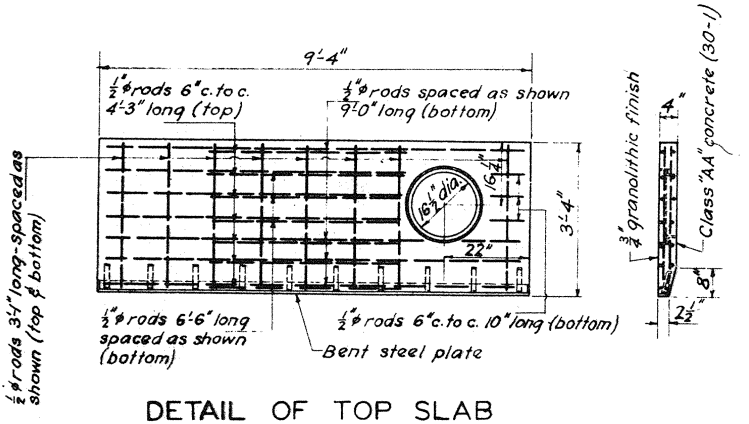
SHEET 2 OF 2 SHEETS

1947

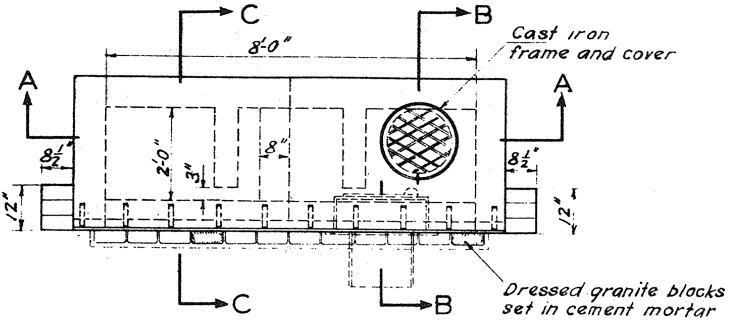
DOUBLE CITY INLET

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
PHILADELPHIA

CHIEF ENGINEER

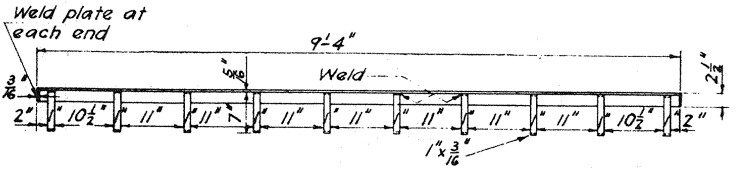


DETAIL OF TOP SLAB



PLAN

For details not shown see City Inlet details



DETAIL OF BENT STEEL PLATE & ANCHORS

(To be hot dipped galvanized after assembly)

SHEET 1 OF 2 SHEETS

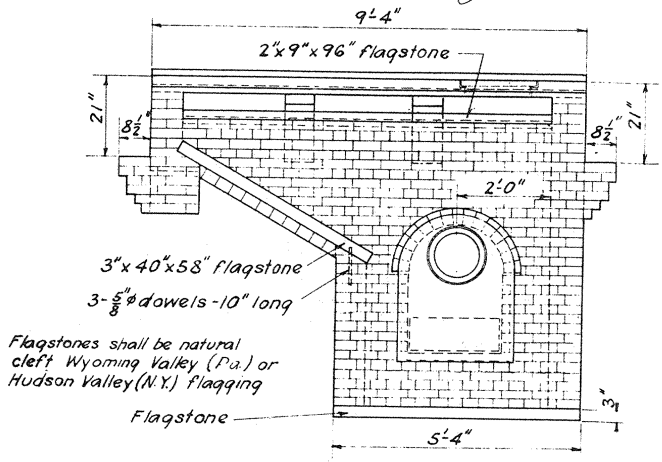
PLATE 33

1947

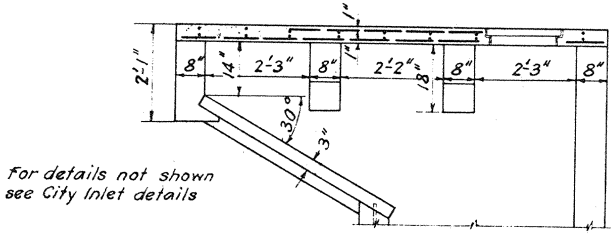
DOUBLE CITY INLET

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
PHILADELPHIA

CHIEF ENGINEER

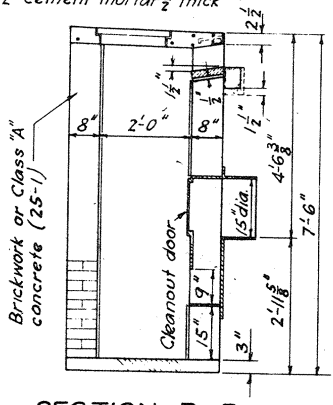


FRONT ELEVATION

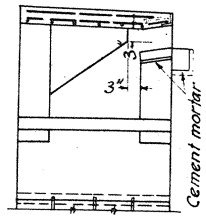


SECTION A - A

All exposed brickwork on the inside of inlet to be plastered with 1:2 cement mortar ½" thick



SECTION B-B



SECTION C-C

SHEET 2 OF 2 SHEETS

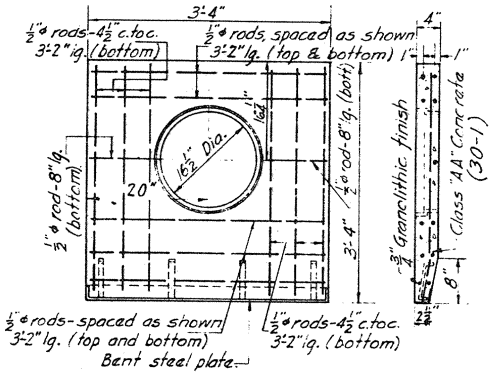
PLATE 34

1947

INLET "B"

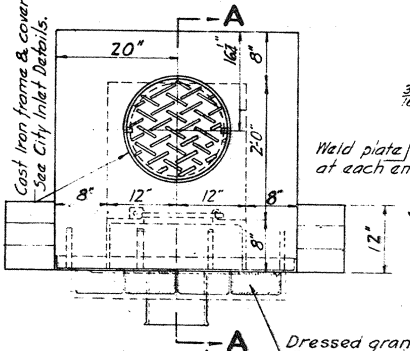
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
PHILADELPHIA

CHIEF ENGINEER

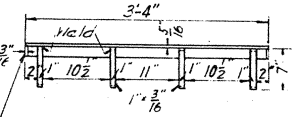


Flagstone shall be natural cleft Wyoming Valley (Pa.) or Hudson Valley (N.Y.) flagging.

DETAIL OF TOP SLAB



PLAN

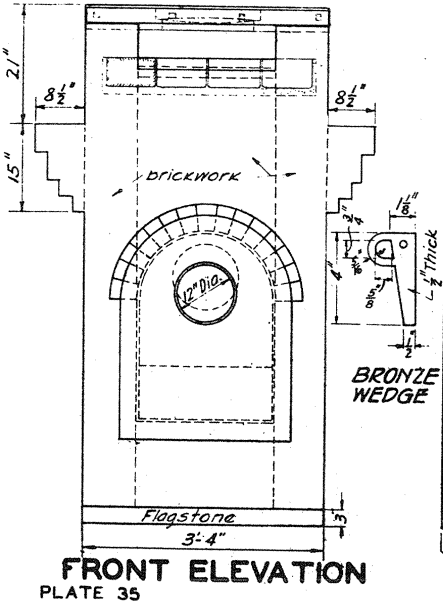


Weld plate at each end.

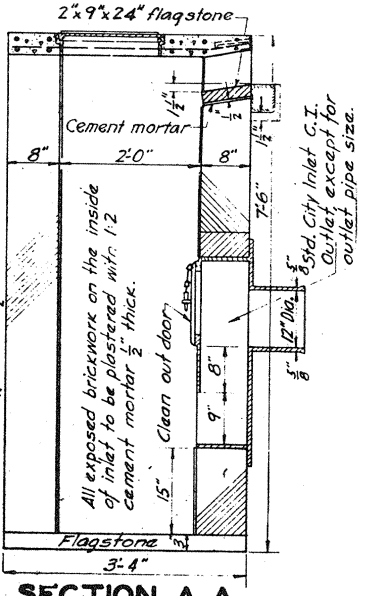
DETAIL OF BENT STEEL PLATE AND ANCHORS

(To be hot dipped galvanized after assembly)

Dressed granite blocks set in cement mortar



FRONT ELEVATION



SECTION A-A

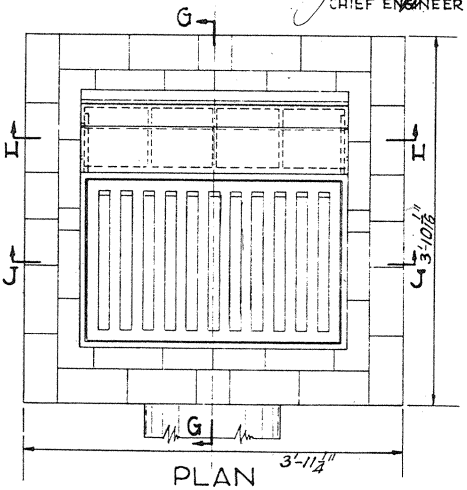
PLATE 35

1947

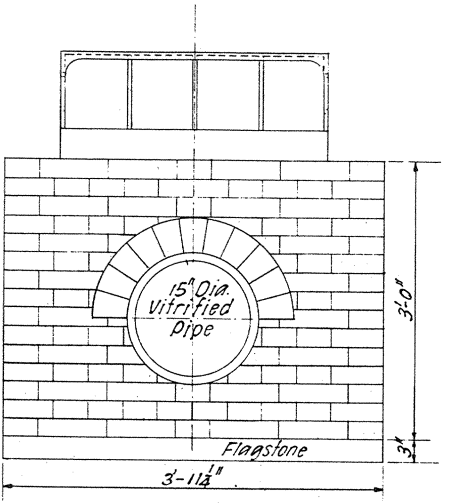
OPEN MOUTH-GRATE INLET
ASSEMBLED DETAILS

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
PHILADELPHIA

Rene Hoffman
CHIEF ENGINEER



PLAN



FRONT ELEVATION

NOTE:-
All Inlets shall be set approximately 2" below the grade of the gutter or ditch as directed by the Engineer in each case.

SHEET 1 OF 4 SHEETS

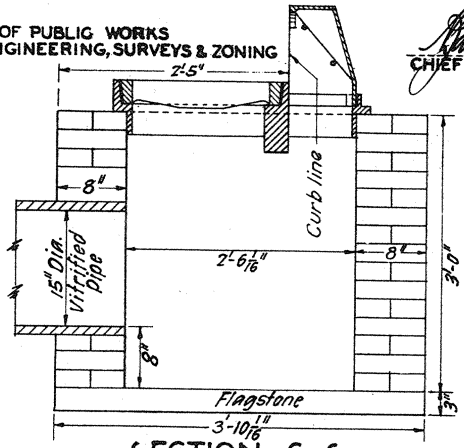
PLATE 36

1947

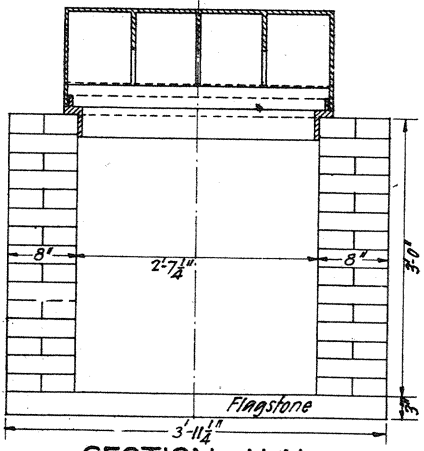
OPEN MOUTH-GRATE INLET
ASSEMBLED DETAILS

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
PHILADELPHIA

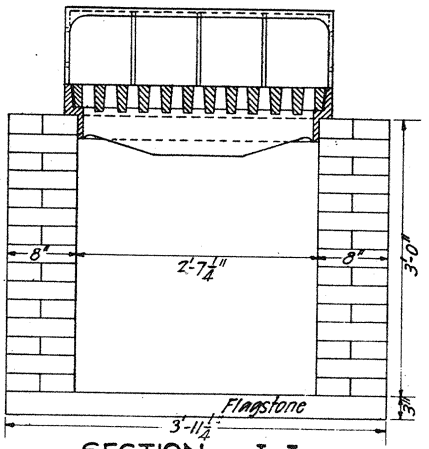
CHIEF ENGINEER



SECTION G-G



SECTION H-H



SECTION J-J

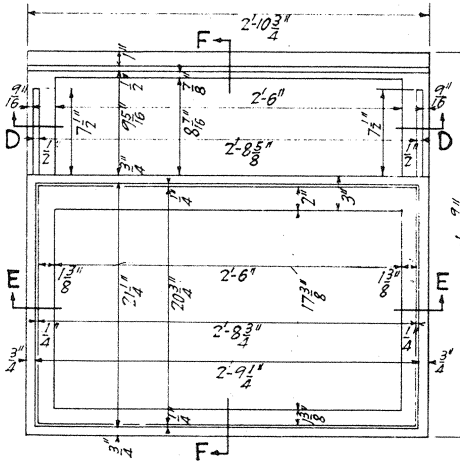
OPEN MOUTH-GRATE INLET

FRAME DETAILS

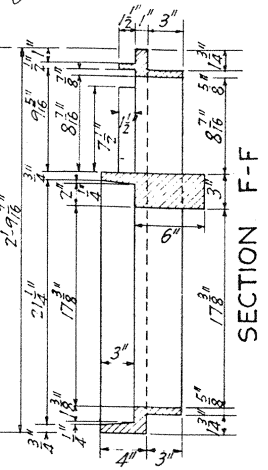
CAST IRON

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
PHILADELPHIA

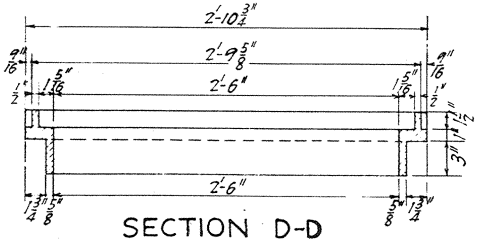
Rene Hoffman
CHIEF ENGINEER



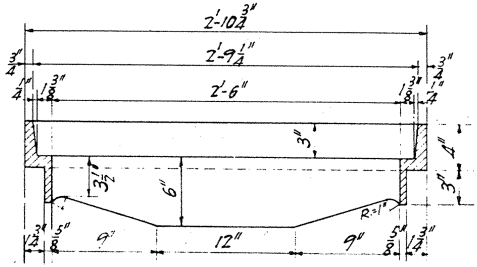
PLAN OF FRAME



SECTION F-F



SECTION D-D



SECTION E-E

Estimated weight of Frame = 345 lbs.

SHEET 3 OF 4 SHEETS

PLATE 38

1947

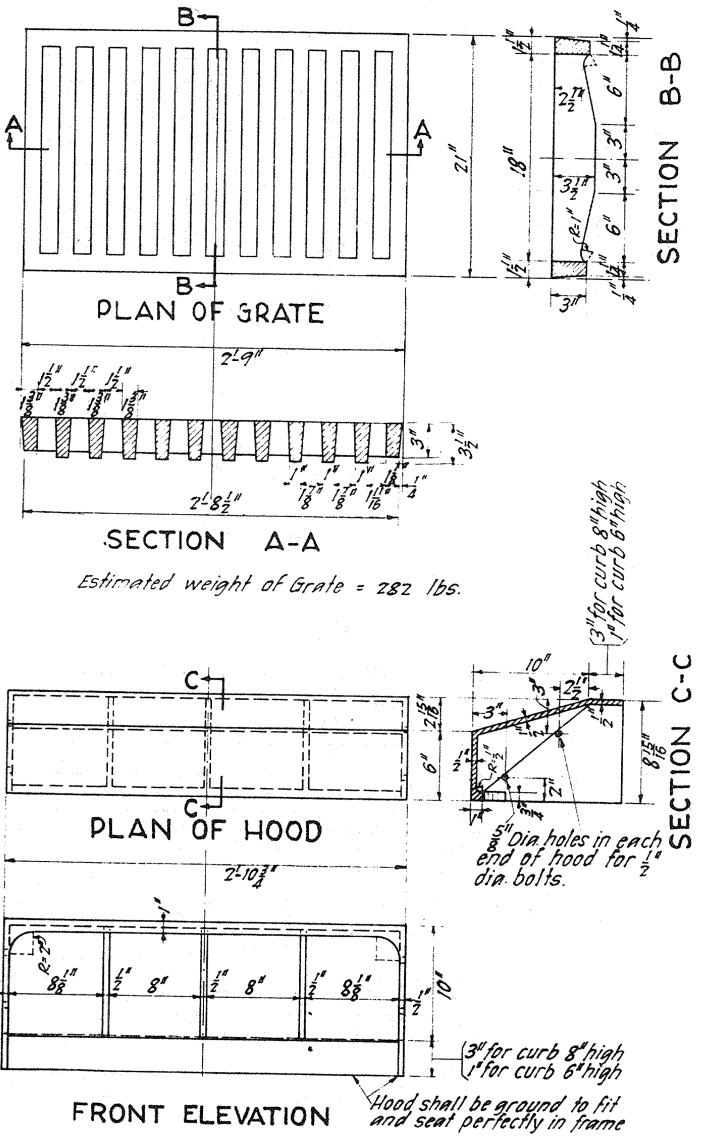
OPEN MOUTH-GRATE INLET

GRATE AND HOOD DETAILS

CAST IRON

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
PHILADELPHIA

CHIEF ENGINEER



Estimated weight of Grate = 282 lbs.

Estimated weight of Hood for curb 8" high = 124 lbs.
" " " " " " 6 " = 110 "

SHEET 4 OF 4 SHEETS

PLATE 39

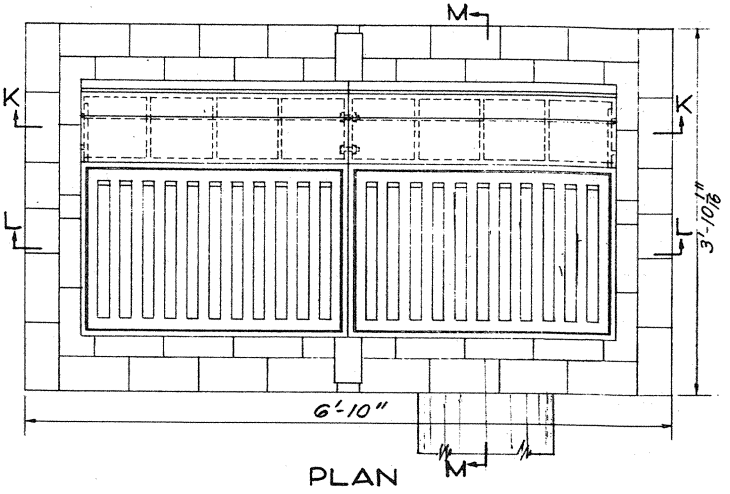
1947

MULTIPLE OPEN MOUTH-GRATE INLET

ASSEMBLED DETAILS

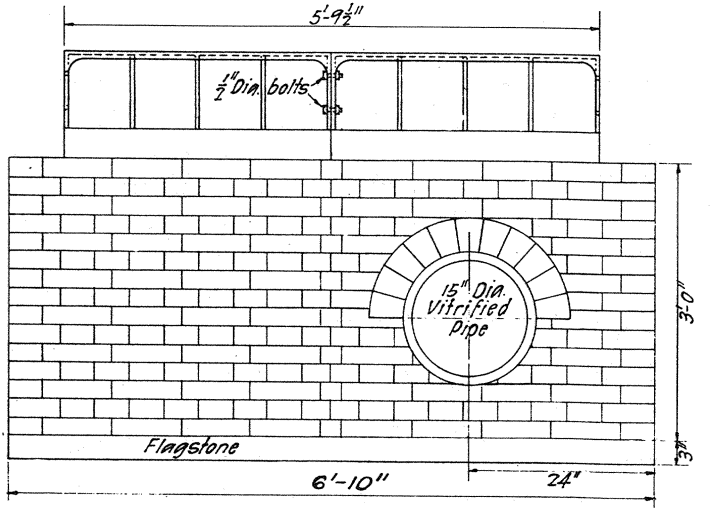
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
PHILADELPHIA

CHIEF ENGINEER



PLAN

For frame, grate and hood details see plates #38 and #39.



FRONT ELEVATION

NOTE:-
All Inlets shall be set approximately 2" below the grade of the gutter or ditch as directed by the Engineer in each case.

SHEET 1 OF 2 SHEETS

PLATE 40

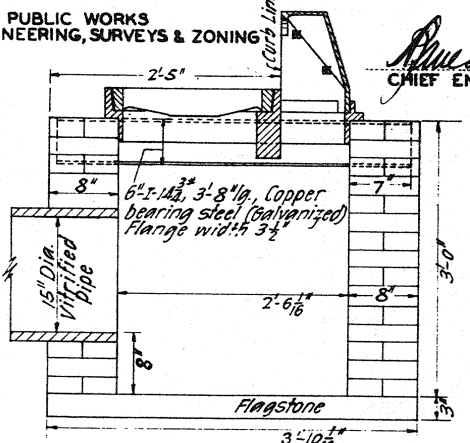
1947

MULTIPLE OPEN MOUTH-GRATE INLET

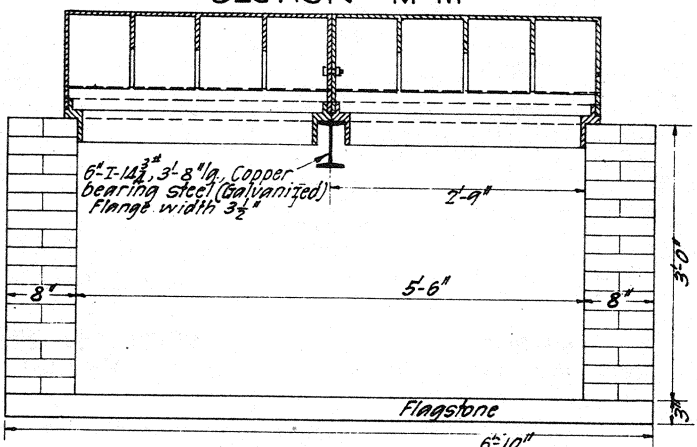
ASSEMBLED DETAILS

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS & ZONING
PHILADELPHIA

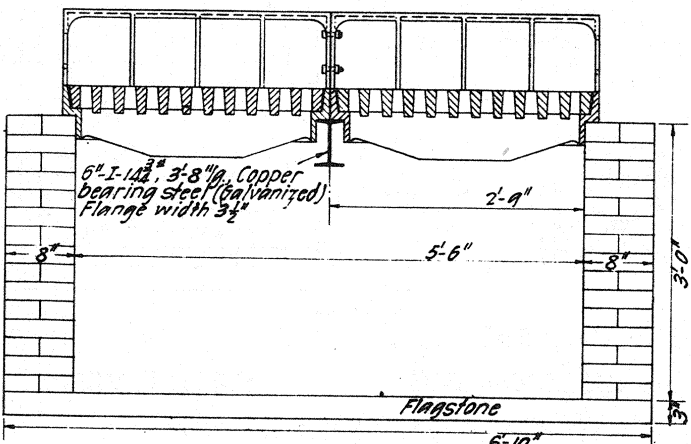
Paul Hoffman
CHIEF ENGINEER



SECTION M-M



SECTION K-K



SECTION L-L

PLATE 41

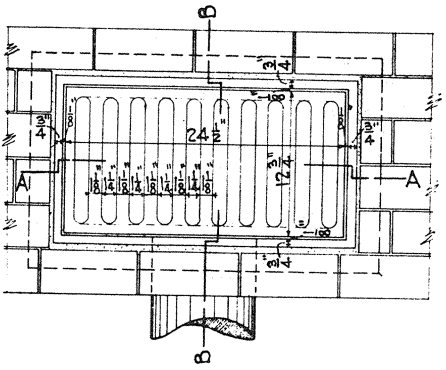
SHEET 2 OF 2 SHEETS

1947

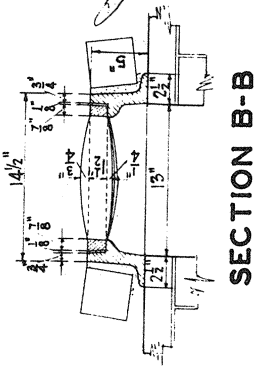
GRATE TOP
COUNTRY ROAD INLET

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS AND ZONING
PHILADELPHIA

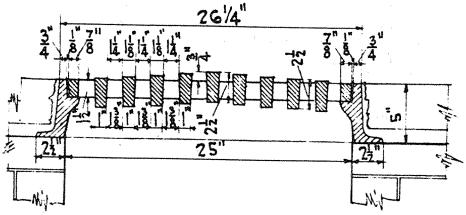
Rane Hoffman
CHIEF ENGINEER



TOP VIEW

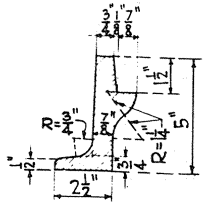


SECTION B-B

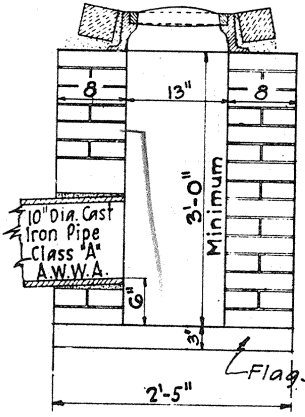


SECTION A-A

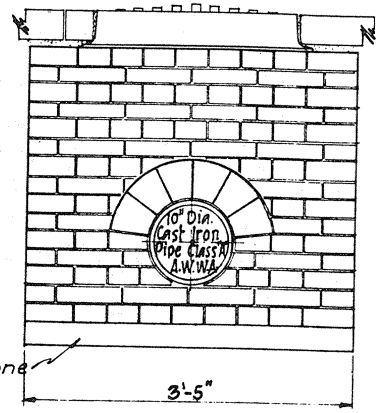
WEIGHT.
Grate and Frame = 217 lbs.



SECTION THRU FRAME



SECTION B-B



FRONT VIEW

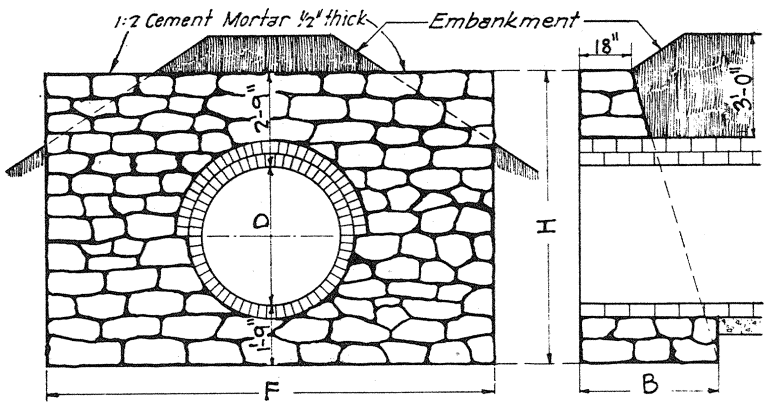
PLATE 42

1947

STANDARD WALLS
(INTAKE AND OUTLET)
FOR SEWERS OF FIVE FEET OR LESS DIAMETER

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS AND ZONING
PHILADELPHIA

CHIEF ENGINEER



ELEVATION SECTION

Foundation to extend to satisfactory bottom. Wall to be concrete (Class "C", 15-2) or rubble masonry, pointed as directed.

CIRCULAR SEWERS				
D	H	B	F	Cu. Yds.
12"	5'-6"	2'-6"	6'-0"	2.26
15"	5'-9"	2'-8"	7'-0"	2.86
18"	6'-0"	2'-9"	8'-0"	3.41
2'-0"	6'-6"	3'-0"	9'-0"	3.53
2'-6"	7'-0"	3'-3"	10'-0"	4.34
3'-0"	7'-6"	3'-6"	11'-0"	5.01
3'-6"	8'-0"	3'-9"	12'-0"	6.04
4'-0"	8'-6"	4'-0"	13'-0"	7.18
4'-6"	9'-0"	4'-3"	14'-0"	8.50
5'-0"	9'-6"	4'-6"	15'-0"	8.60

EGG-SHAPED SEWERS				
D	H	B	F	Cu. Yds.
2'-3"x1'-6"	6'-9"	3'-3"	8'-0"	3.31
2'-6"x1'-8"	7'-0"	3'-5"	8'-6"	3.89
3'-0"x2'-0"	7'-6"	3'-6"	9'-0"	4.18
3'-3"x2'-2"	7'-9"	3'-7½"	9'-6"	4.66
3'-6"x2'-4"	8'-0"	3'-9"	10'-0"	5.16
4'-0"x2'-8"	8'-6"	4'-0"	10'-6"	5.86
4'-6"x3'-0"	9'-0"	4'-3"	11'-0"	6.20
5'-0"x3'-4"	9'-6"	4'-6"	11'-6"	6.93