

CITY OF
ALBUQUERQUE-NEW MEXICO
STORM SEWER PROJECT
NO. 4

CITY MANAGER

CHAS. E. WELLS

CITY ENGINEER

E.O. BETTS

C O N S U L T I N G E N G I N E E R S

HERKENHOFF AND TURNEY

SANTA FE

EDMUND ROSS

ALBUQUERQUE

HASIE AND GREEN

ALBUQUERQUE

CHAIRMAN
ERNEST W. EVERLY

COMMISSIONERS

J.A. GILBERT

DON WILSON

PAUL BATSEL

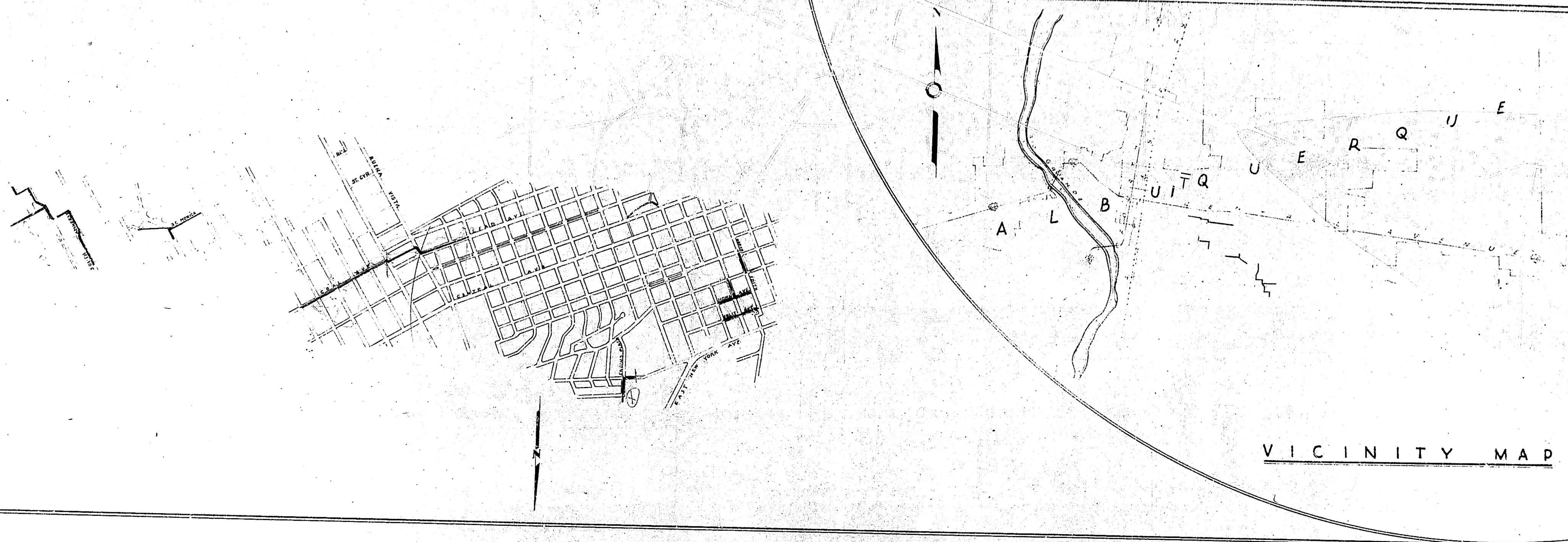
CLYDE TINGLEY

INDEX SHEET

1. TITLE SHEET
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C-1 AND APPURTENANCES
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5. TYPE A CURB INLET-STANDARD MANHOLE
FRAME AND COVER
6. STANDARD METHOD OF REPAIRING CUTS
IN PAVEMENT-ALSO-STANDARD LOCAL
DEPRESSIONS FOR CATCH BASINS
- 7-13. STORM SEWER LINE-PLAN PROFILE

M A R C H - 1 9 5 1

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This is to certify that we are Registered Profession
Engineers, that the following maps or plans were
prepared from field notes of actual surveys
made by me or under my direction and that
the same are true and correct to the best of
my belief.

Coleman L. Masie

CITY OF ALBUQUERQUE		
PROPOSED STORM SEWERS		
DESIGNED:	CONSULTING ENGINEERS	DATE DESIGNED:
DRAWN:	HASIE & GREEN	DATE REVISED:
CHECKED:	HER ENHOF & TURNER	
SCALE:	EDMOND ROSS	2 SHEET OF 13

08	51	7	02	51		01					06			
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STANDARD CATCH BASIN - TYPE B. STEEL LIST

SCALE: 1/4" = 1' 0"

1- 3/4" x 3/4" x 8'-0"

14- 3/4" x def bars 3 1/2' long

3- 2'-0" "

6- 2'-0" " - 7' 10"

4- Dowels - see detail

3- Anchors " "

1- Step-3/4" round-see plan

1/2" x def. bars

STEEL LIST

1-3 $\frac{3}{4}$ "x3 $\frac{3}{4}$ "x1 $\frac{1}{2}$ "x4'-6" L.
0=1/2" def. bars 11" long
2-Dowels - see detail
3-Anchors " "
1-Step-3/4" round-see detail

PLAN
DOUBLE GRATE STANDARD CATCH BASIN - TYPE 0
Scale 1" = 12"

SECTION A-A

Diagram illustrating the detail of an anchor for a crotch basin. The anchor consists of a steel bar bent into an L-shape. The horizontal leg is 10 inches long, and the vertical leg is 3 inches high. The bar is welded to a concrete wall. The wall thickness is 3 inches. The anchor is 10 inches long and 3 inches high. The diagram is labeled "DETAIL OF ANCHOR".

DETAIL OF DOWEL
To be used when top is poured separate

BOTTOM PLAN OF COVER
Scale 1"=6'

PLAN OF FRAME
AND COVER

FRAME AND COVER
CONNECTION

SECTION D-D

SECTION G - G
(TYPE C)

Section above this line
is identical with that of TYPE "C"

34 1/2"

PLAN
STANDARD FRAME AND GRATING
Scale $\frac{1}{8}'' = 1'$

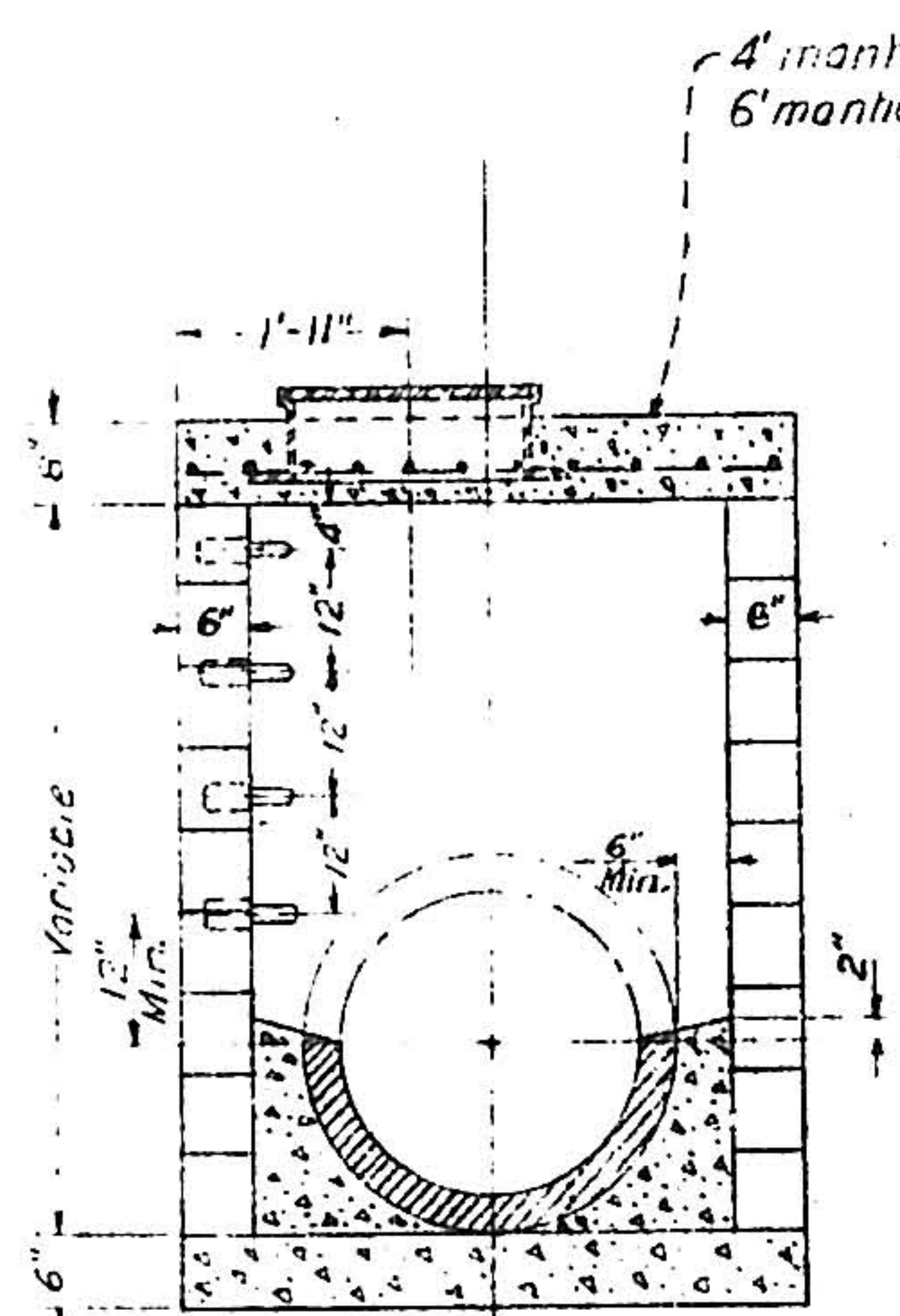
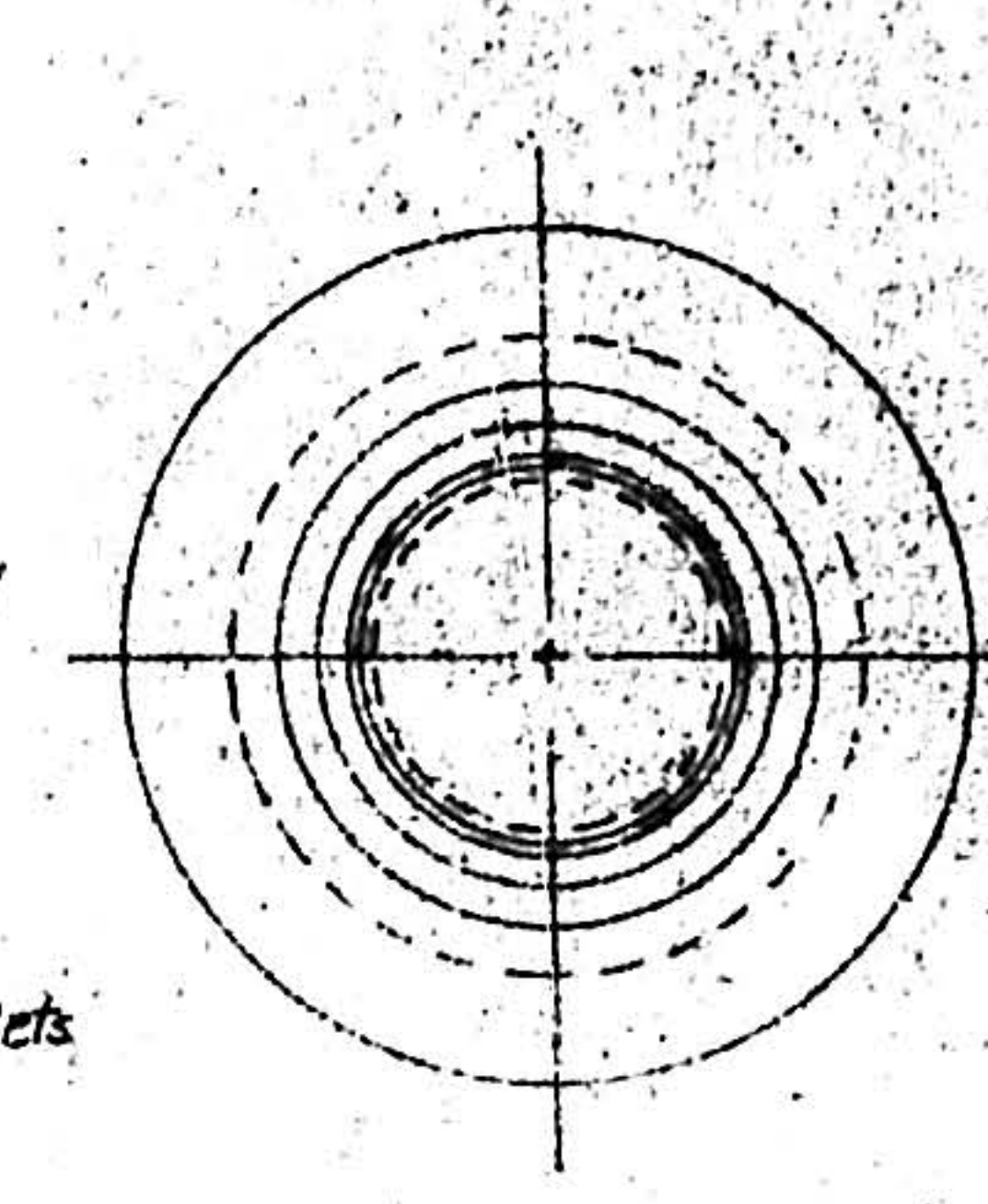
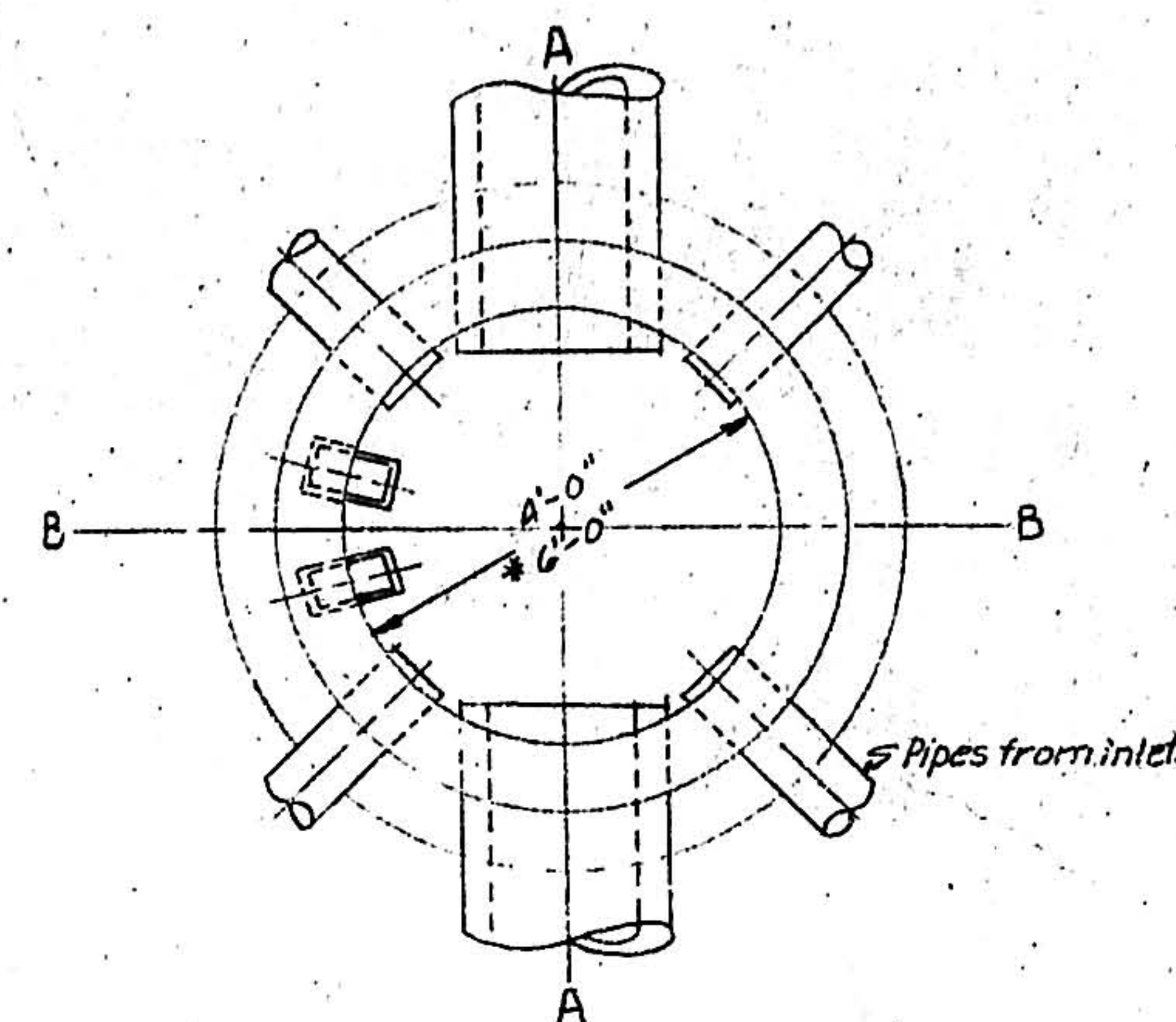
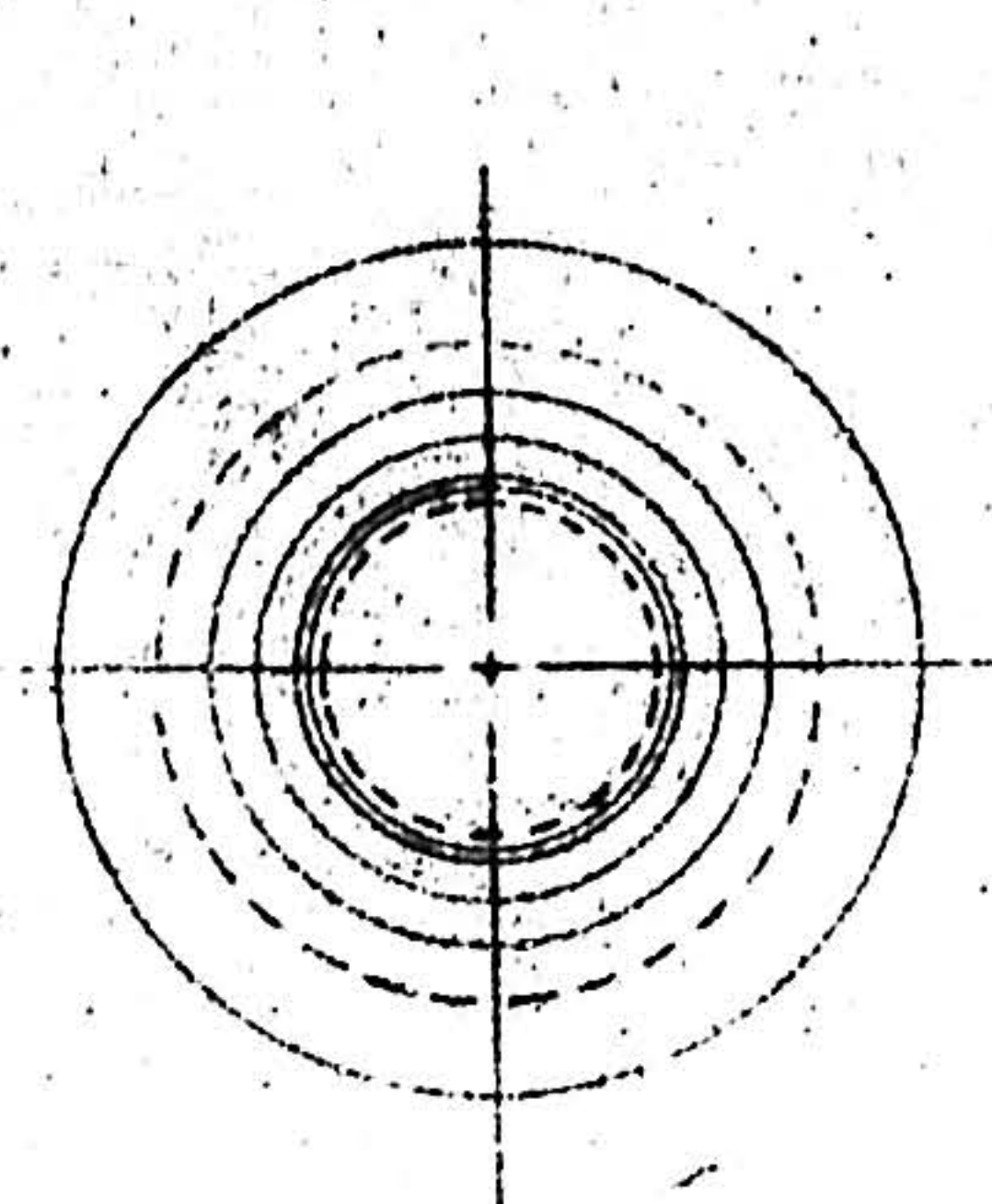
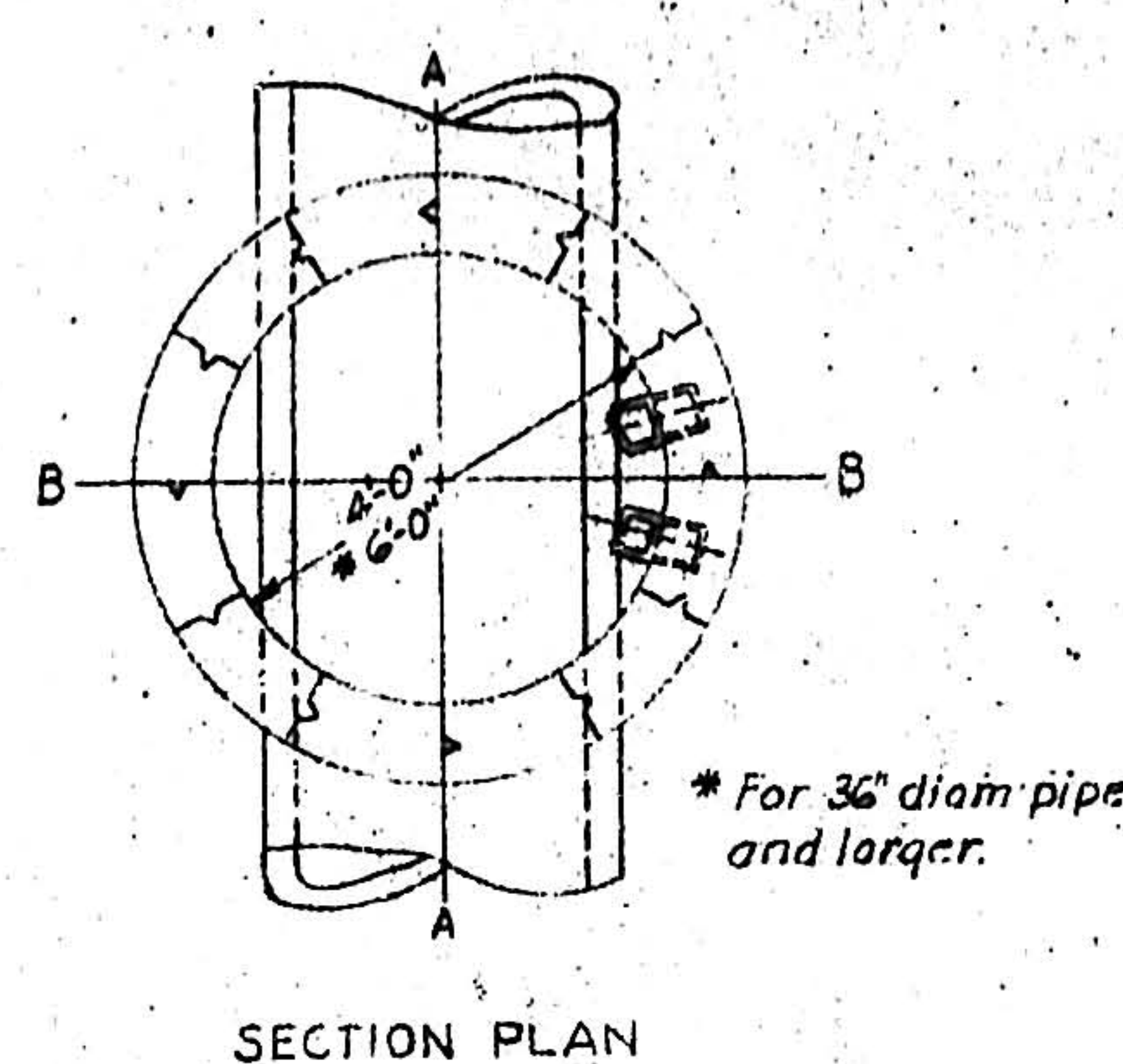
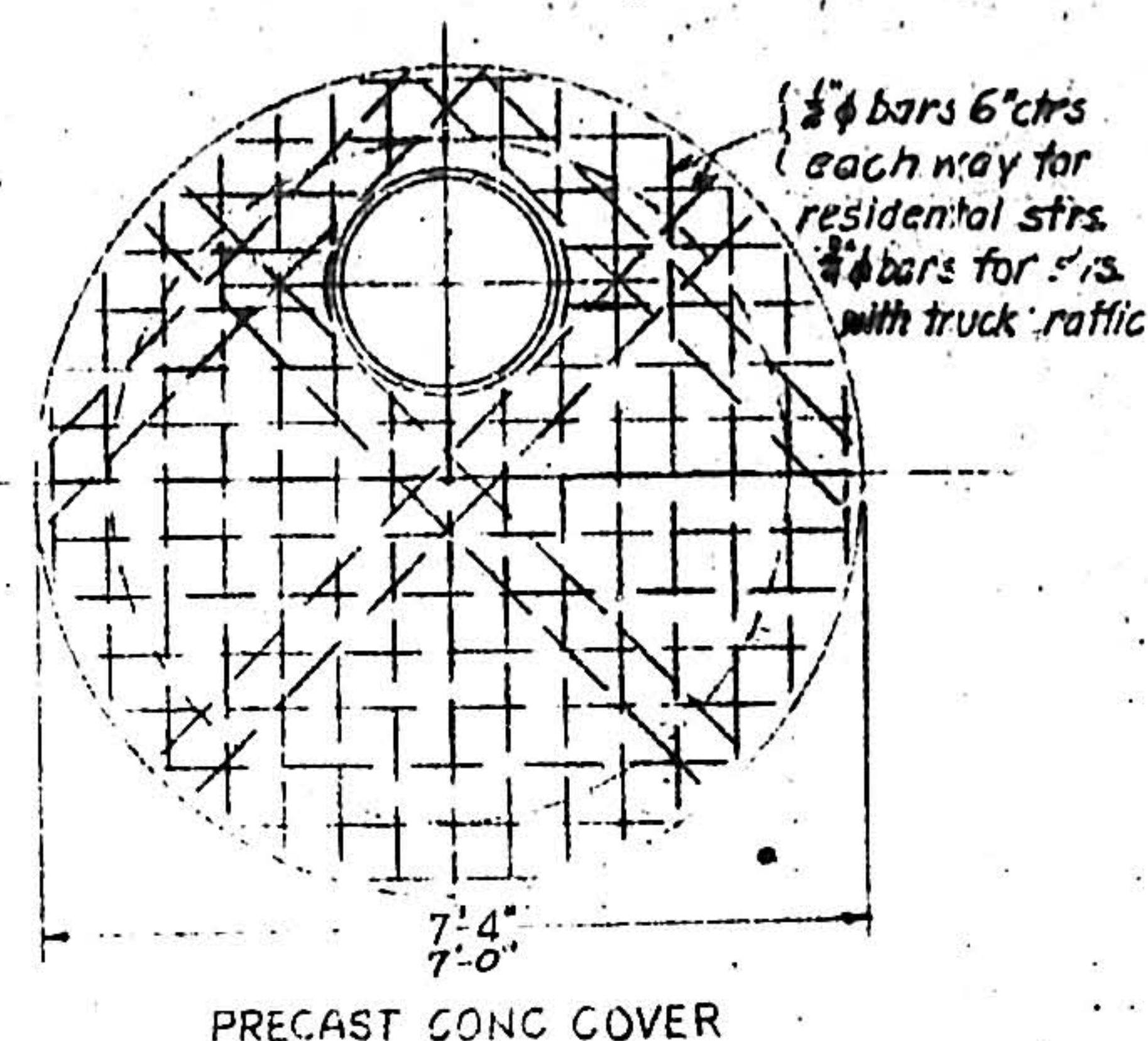
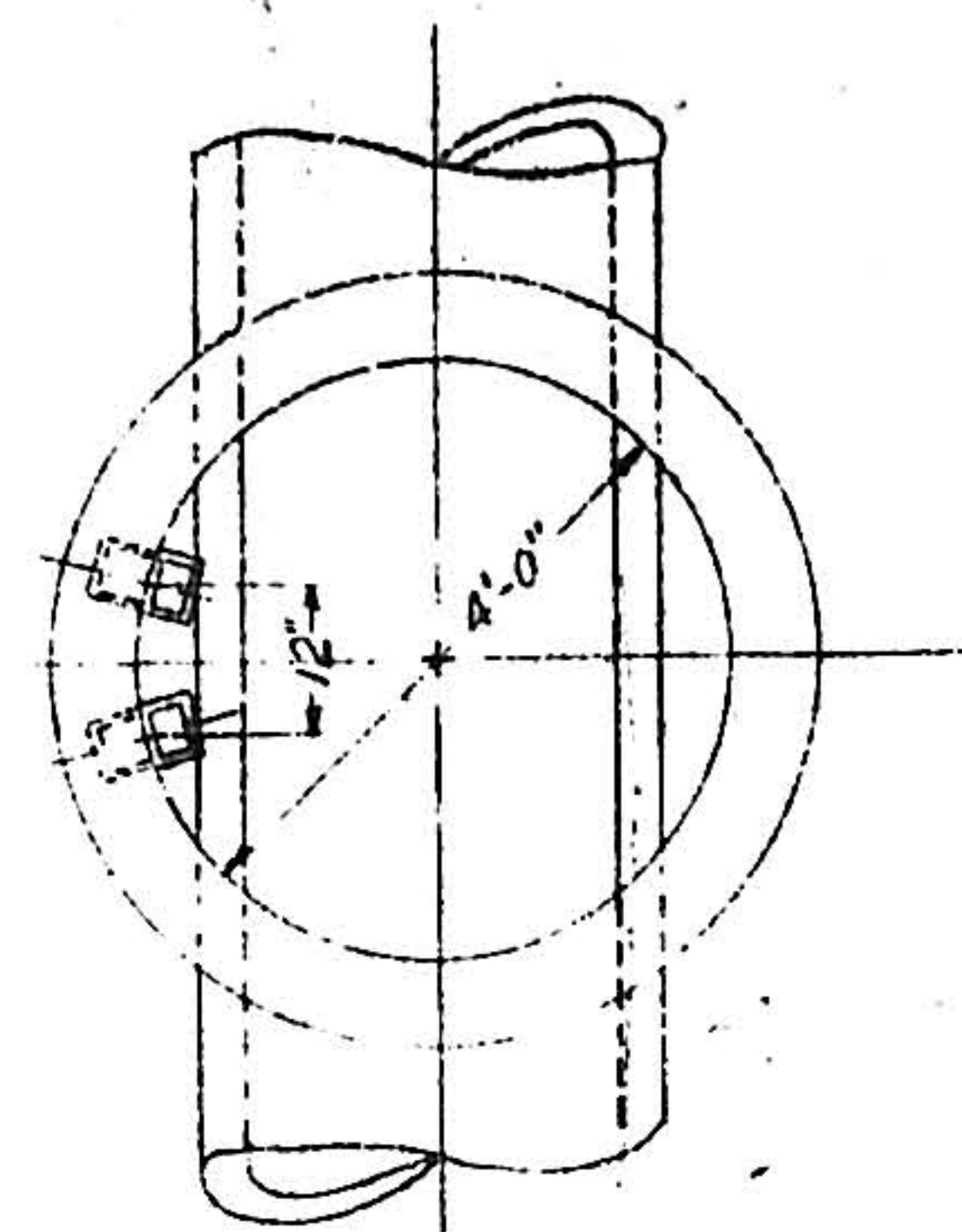
All bolts used
Center Support s

5" - 18.9" x 1/2" E-Beam C.B.

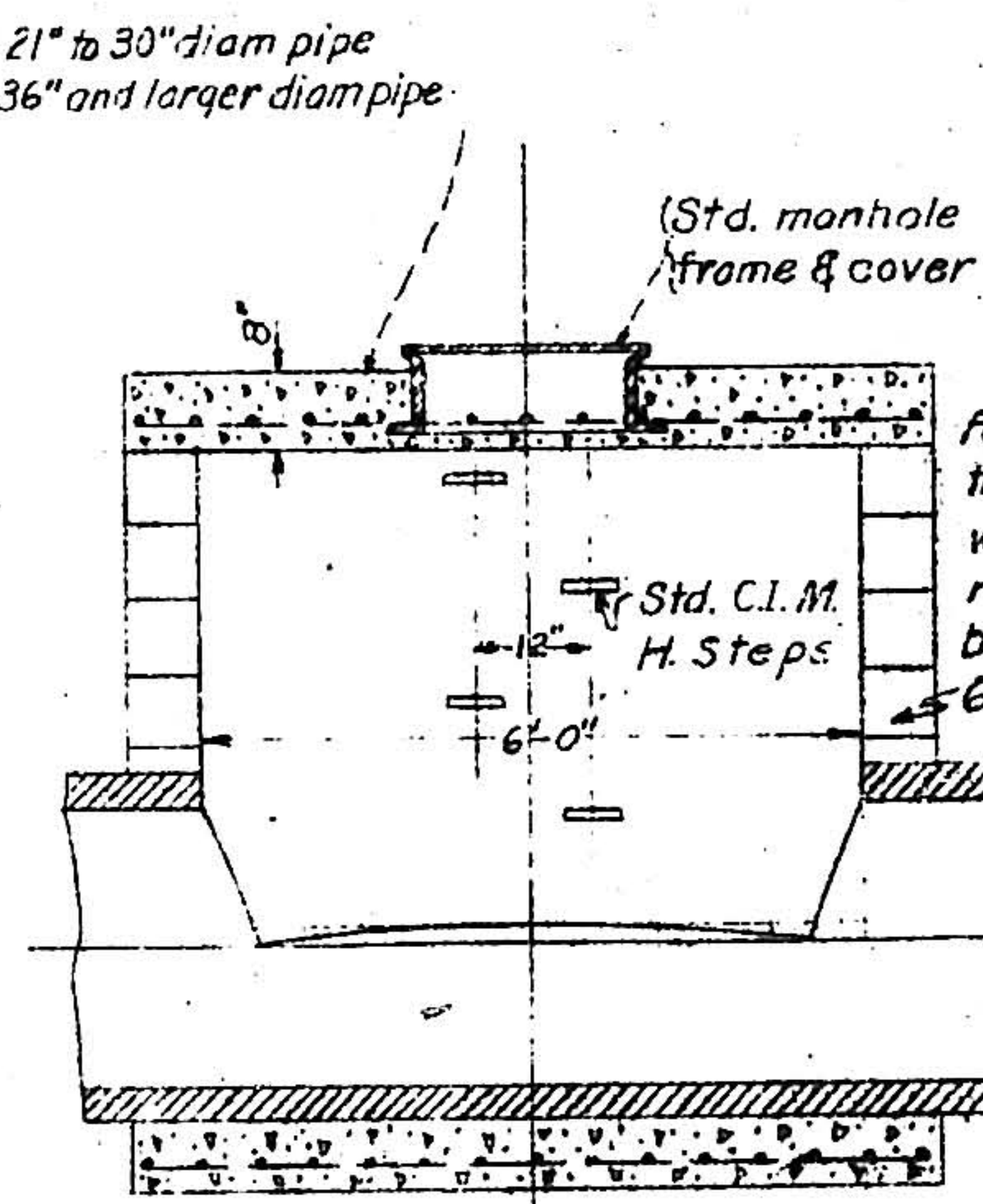
44"

ELEVATION

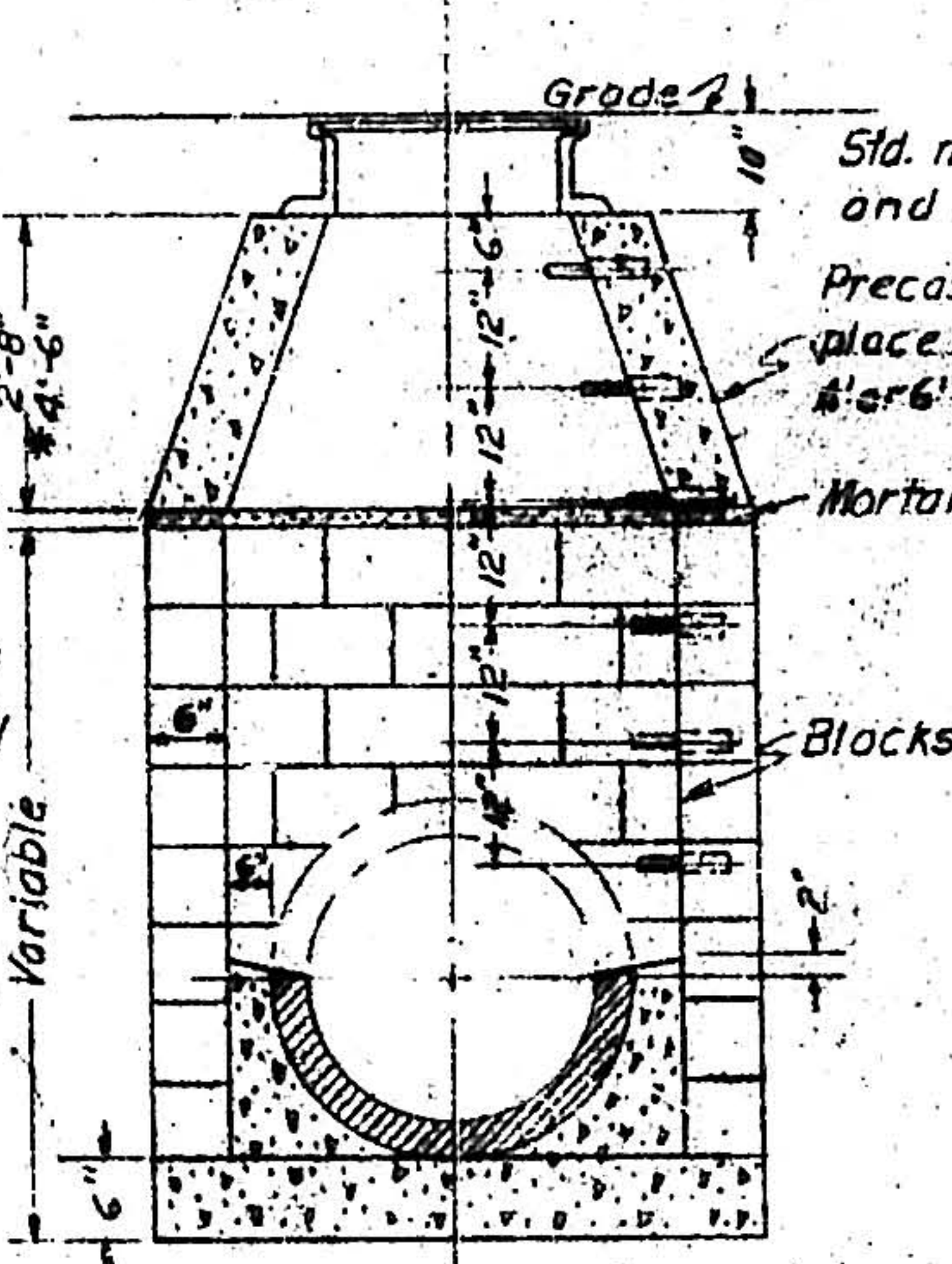
CENTER SUPPORT ASSEMBLY



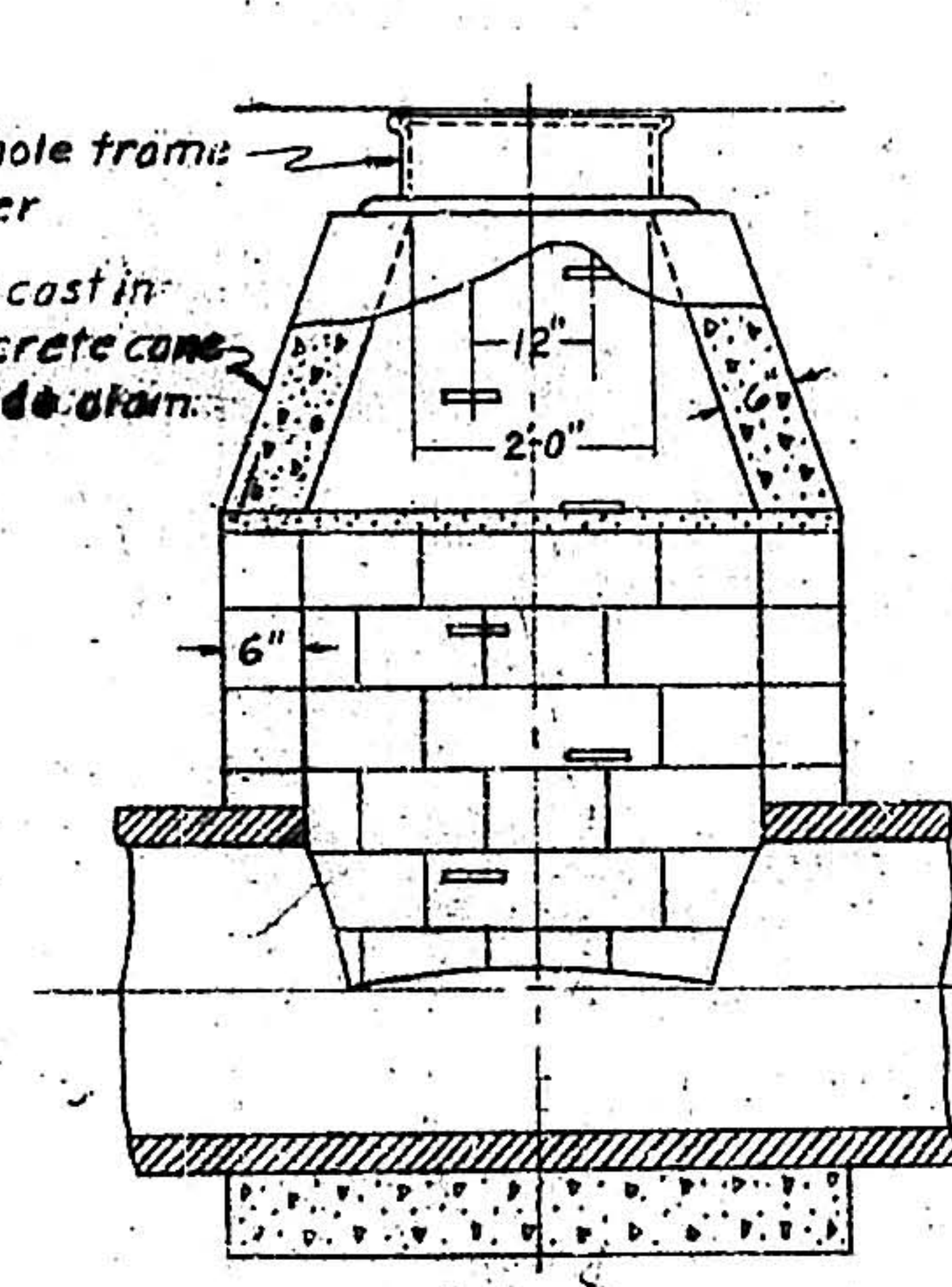
SECT. 4 FOOT M.H.
STANDARD STORM SEWER MANHOLE TYPE "A"



SECT. 6 FOOT M.H.
STANDARD STORM SEWER MANHOLE TYPE "A"

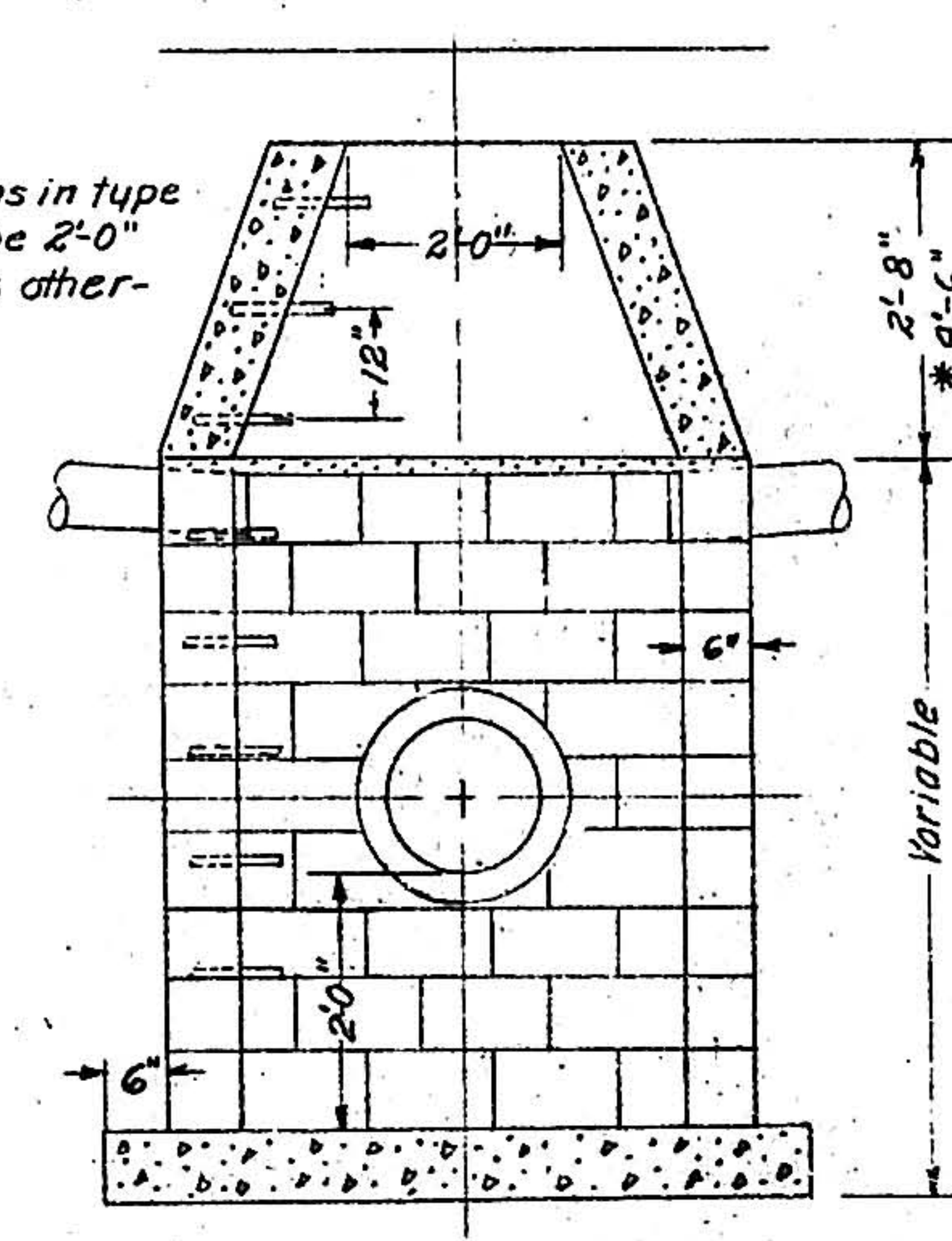


SECTION B-B
STANDARD STORM SEWER MANHOLE TYPE "B"

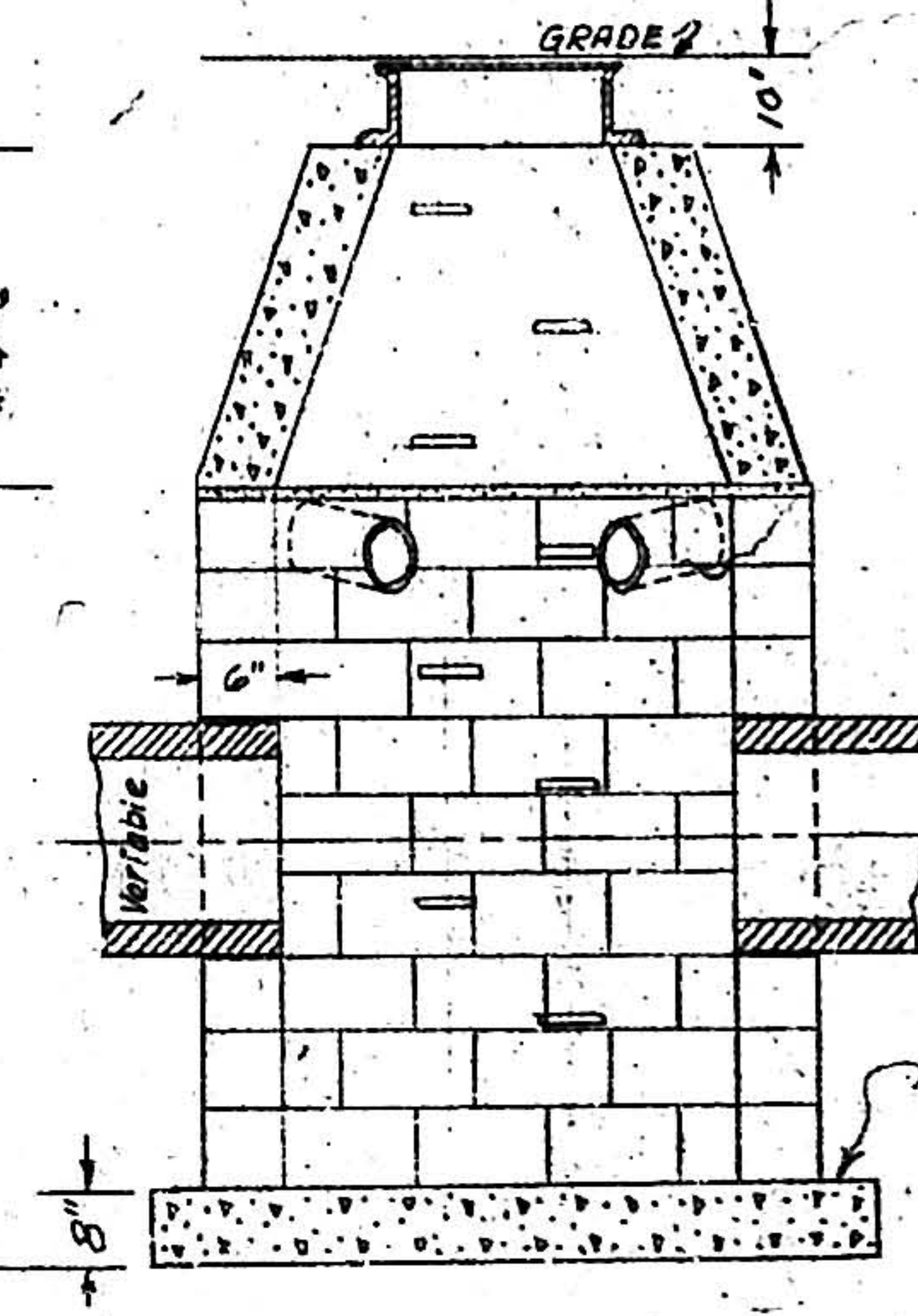


SECTION A-A

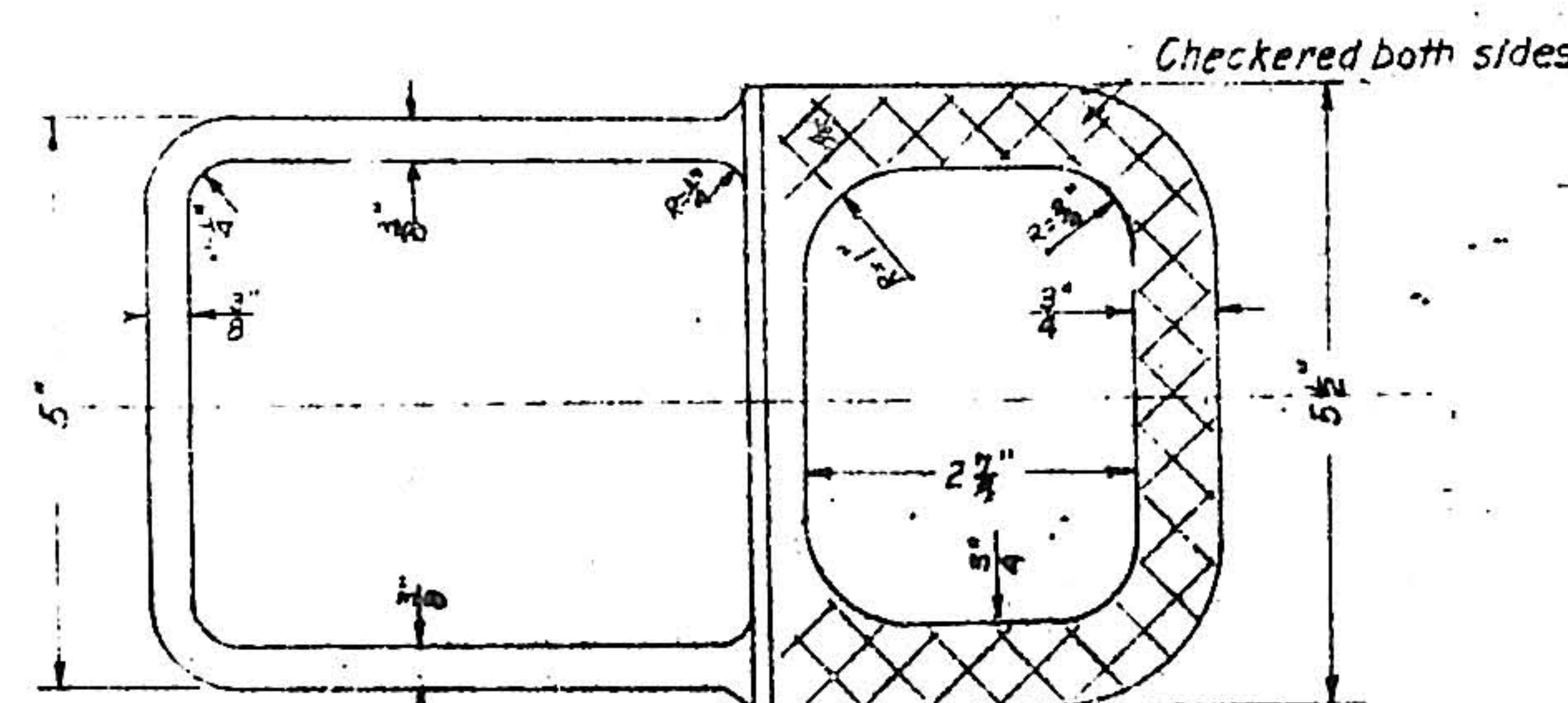
NOTE:
All catch basins in type
"C" manholes to be 2'-0"
in depth unless other-
wise noted.



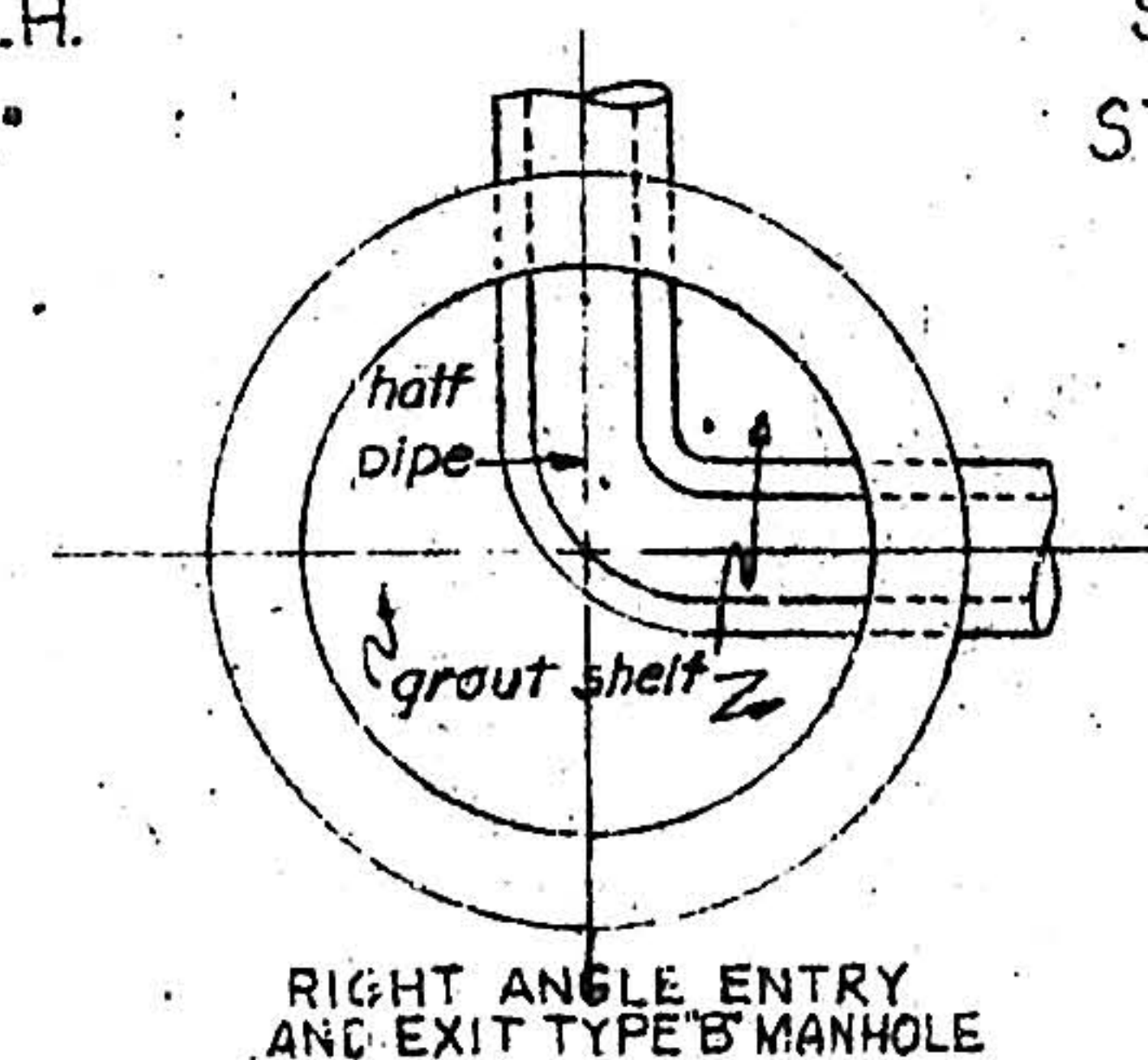
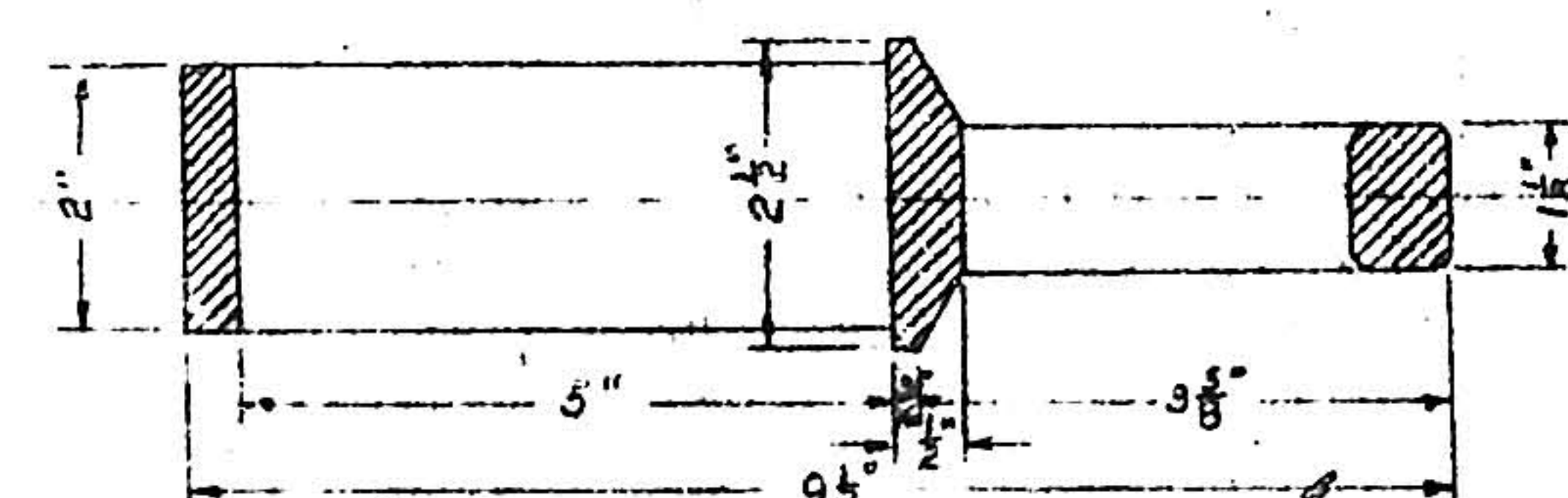
SECTION B-B
STANDARD STORM SEWER MANHOLE TYPE "C"



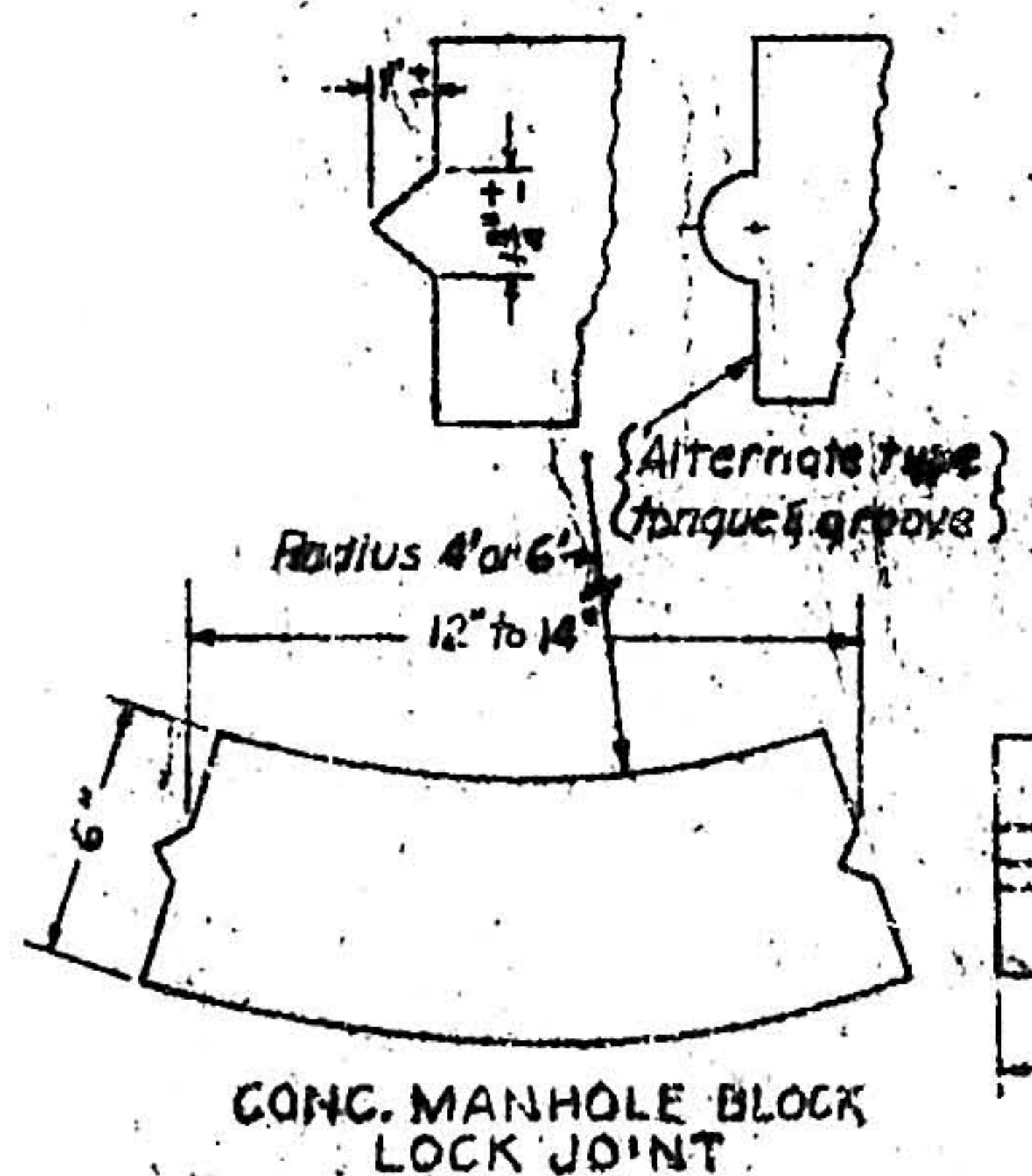
This Elevation
used to deter-
mine depth for
payment.



STANDARD MANHOLE STEP



RIGHT ANGLE ENTRY
AND EXIT TYPE "B" MANHOLE

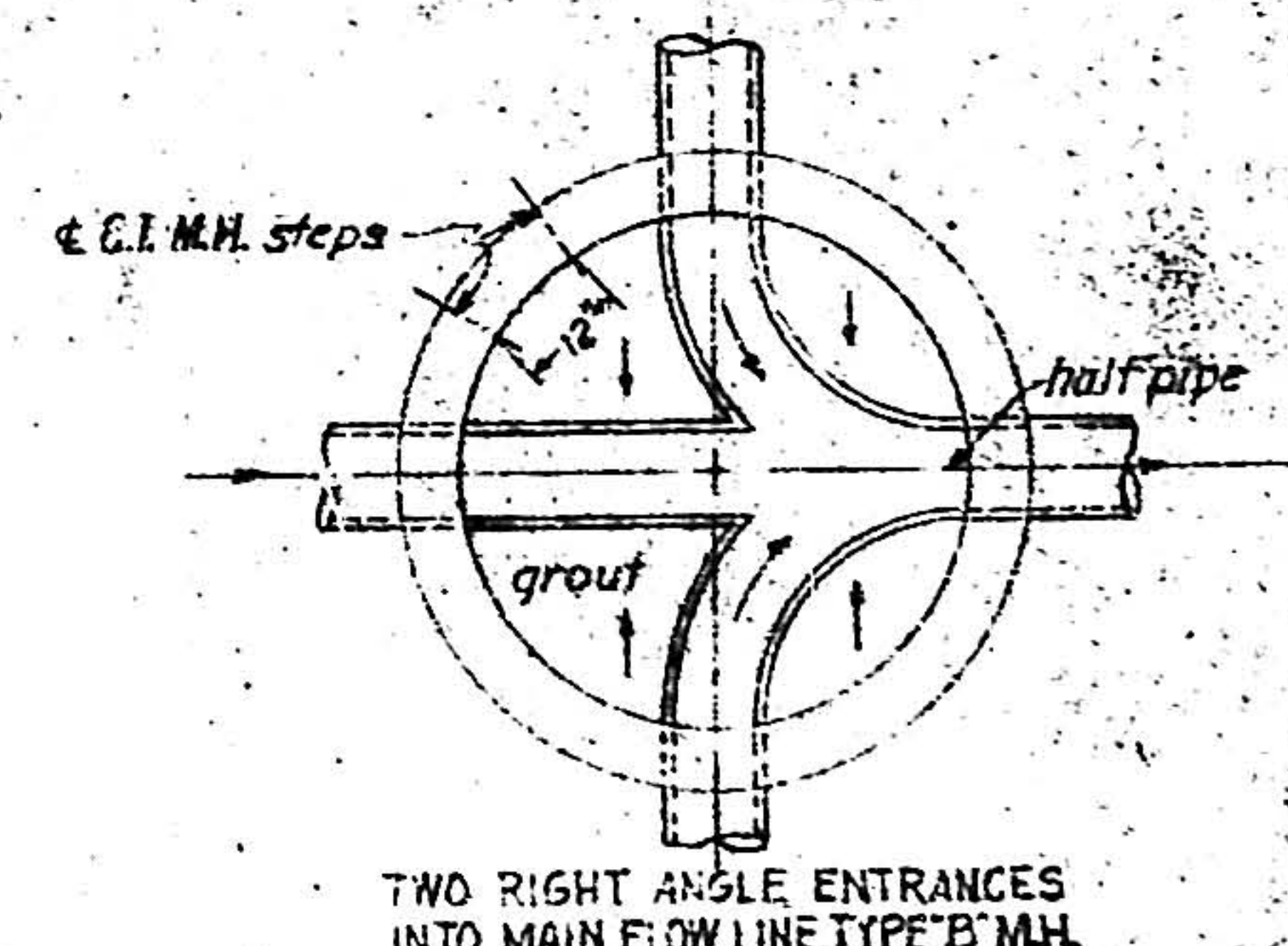


CONC. MANHOLE BLOCK
LOCK JOINT

MANHOLE SPECIFICATIONS

The contractor has the option of building the masonry walls of all manholes of solid concrete or block. If solid concrete is used, the walls must have a thickness of not less than six inches. Block for six inch walls must have a thickness of not less than eight (8) inches, and a width of not less than six (6) inches, a length of twelve (12) to fourteen (14) inches and shall be lock joint type. The concrete from which such blocks are constructed shall meet the specifications for class "A" as set forth in governing concrete specifications for this project. Type of block must be approved by the Engineer and each block shall be molded with a curvature equal to and matching exactly that of the manhole being built. All concrete blocks shall conform in all respects to the standard specifications for "Concrete Masonry Units for construction of Catch Basins & Manholes" ASTM Designation C 139-39 or any subsequent revisions thereof. Cores may be poured in place, or precast and then grouted to manhole barrel. All manhole frames, covers and steps to be standard cast iron as shown. In wet sewer construction manhole barrels shall be constructed of poured conc. to a pre-determined elevation as shown on plan & profile sheets. Remainder of barrel may be constructed of curved conc. block set in water proof mortar.

All conc. for manholes & blocks class "B" 3000*psi min.
All reinf. steel structure grade - 18000*psi min.



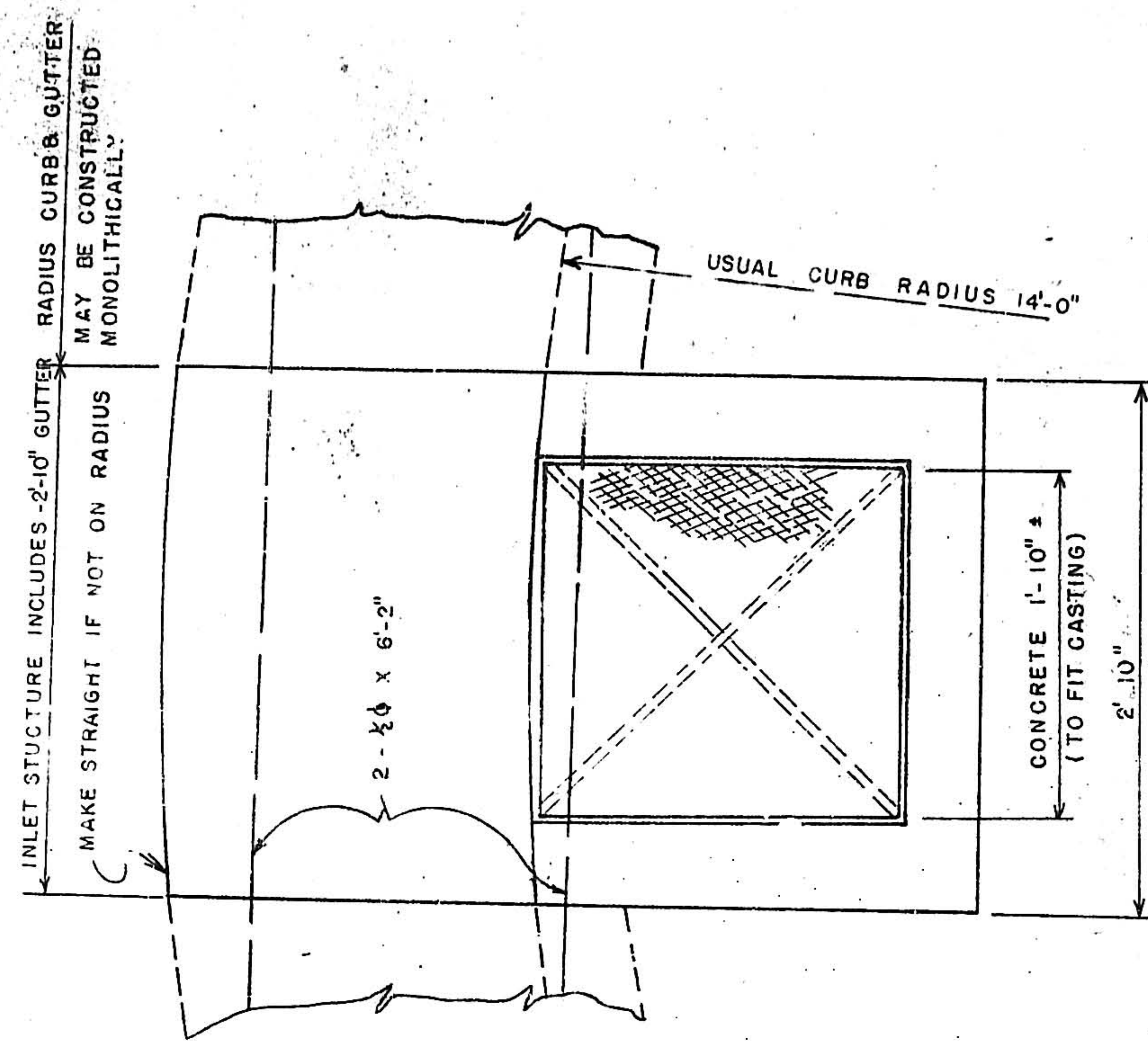
TWO RIGHT ANGLE ENTRANCES
INTO MAIN FLOW LINE TYPE "B" MH.

08 51 7 04 51 110

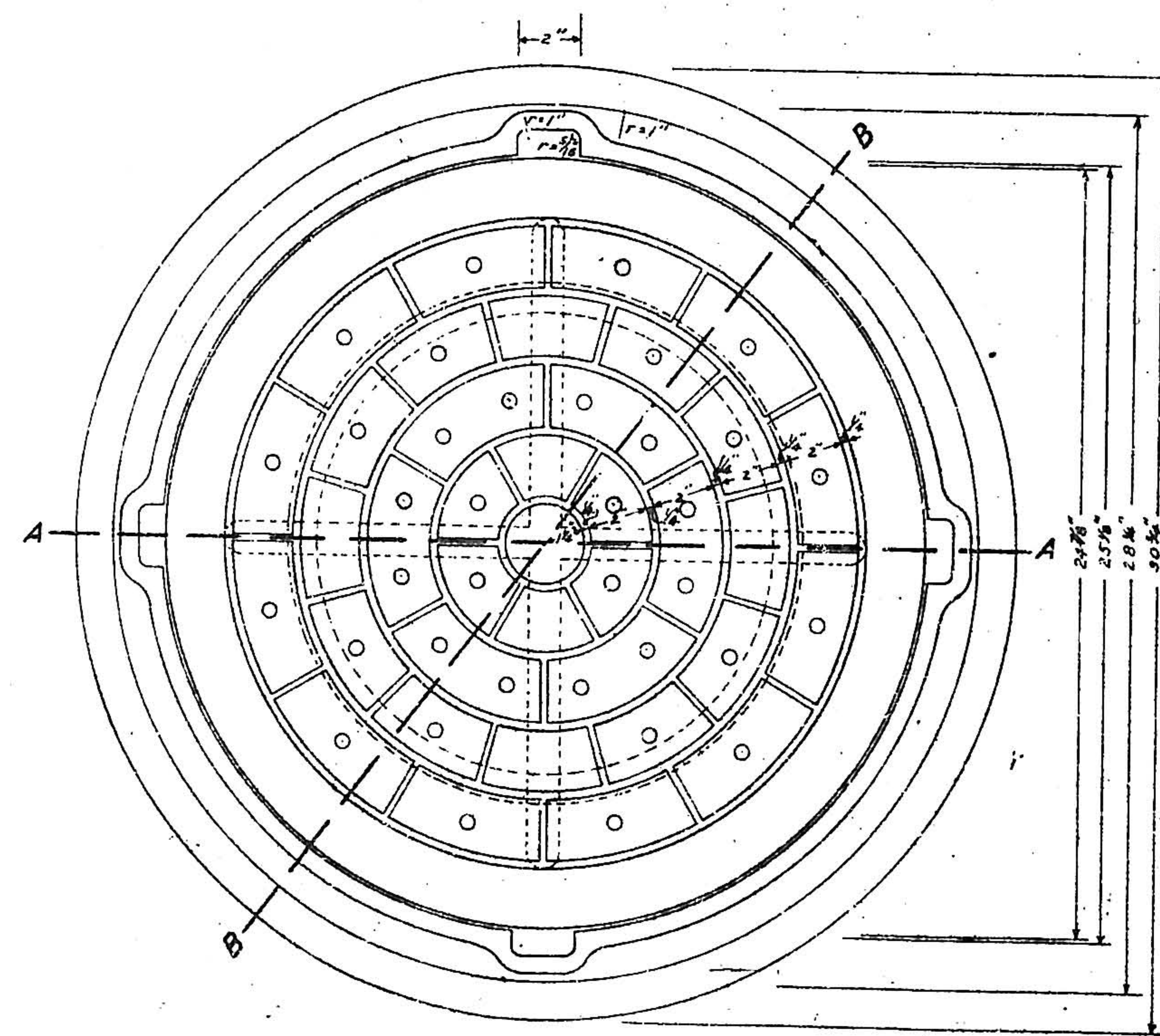
CITY OF ALBUQUERQUE

STANDARD MANHOLE DESIGNS

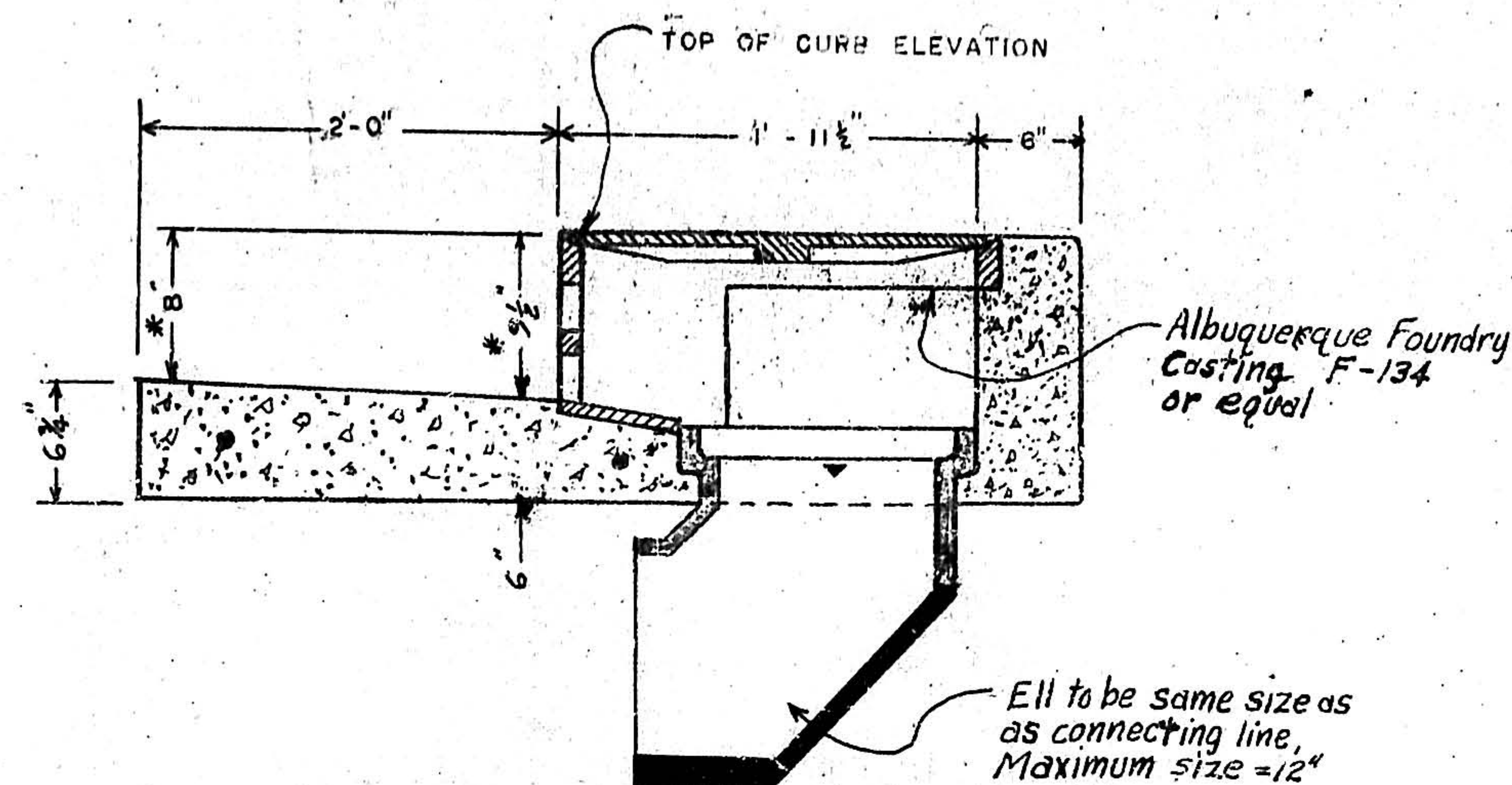
DESIGNED	CONSULTING ENGINEERS	DATE DESIGNED
TRACED	HASIE AND GREEN	DATE REVISED
CHECKED	HERKENHOFF AND TURNER	4 SHEET
SCALE	EDMUND ROSS	OF 12



PLAN - CURB INLET (CASTING F-134)
Scale $1\frac{1}{2}'' = 1'$

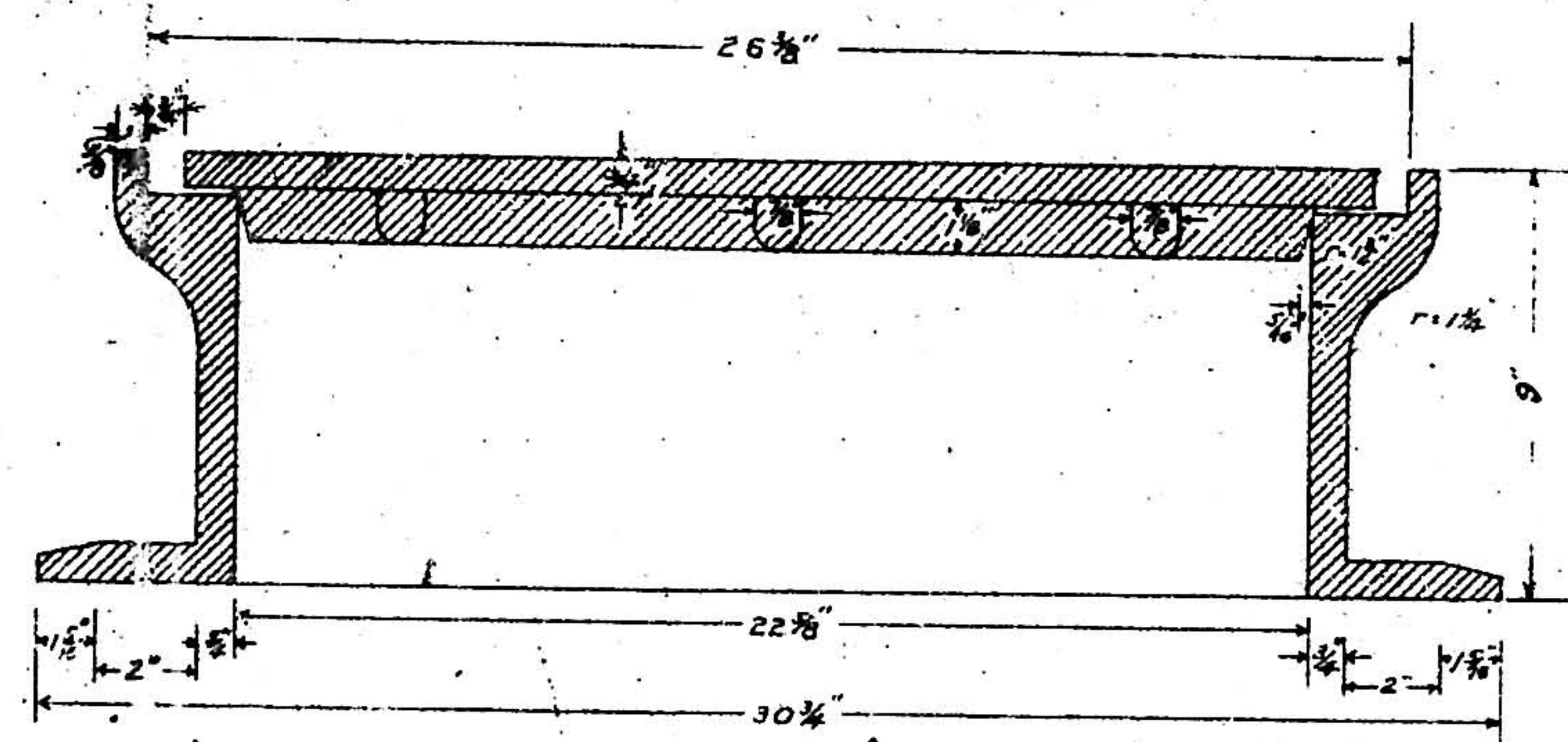


PLAN
STANDARD MANHOLE FRAME AND COVER
Scale $1/2'' = 1'$

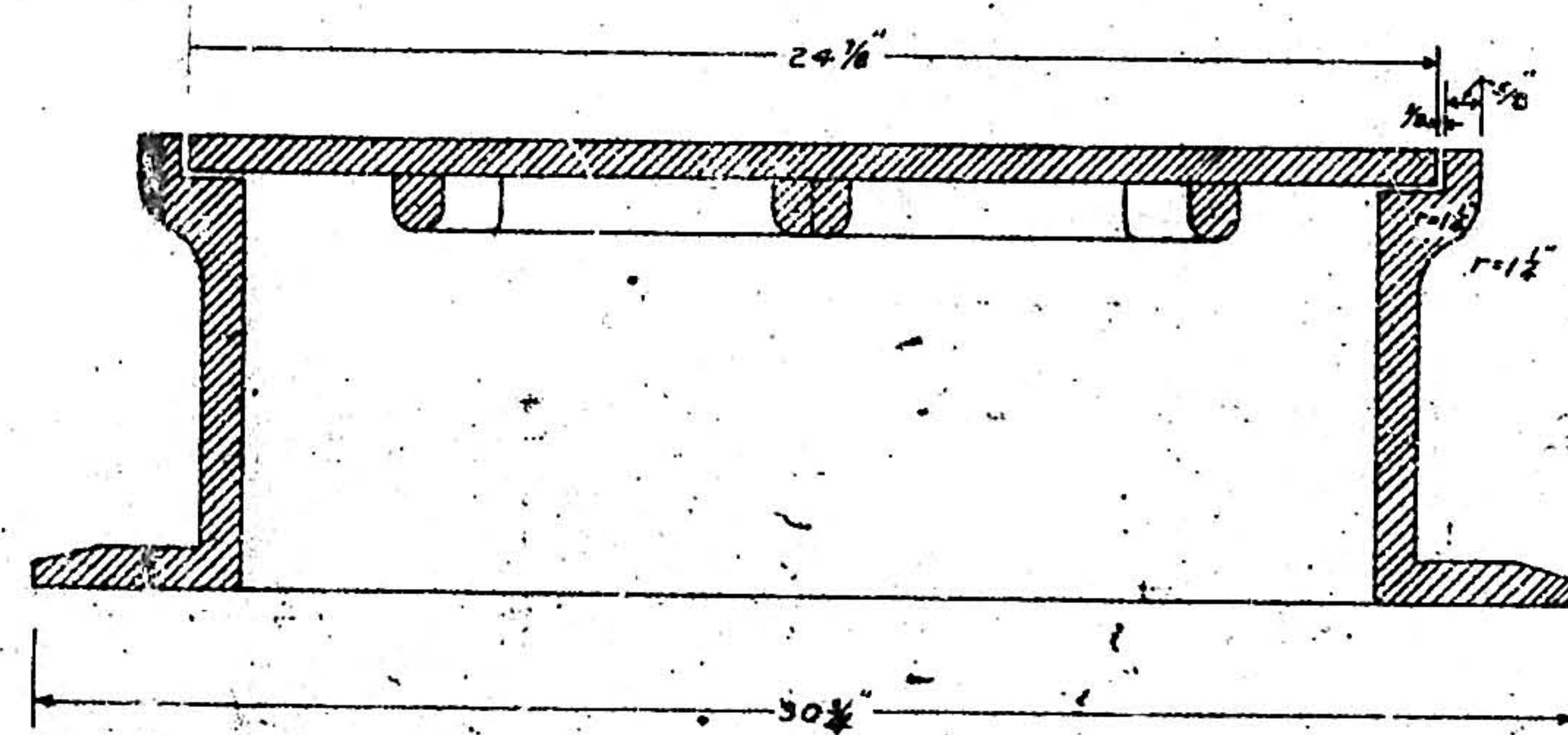


SECTION - CURB INLET

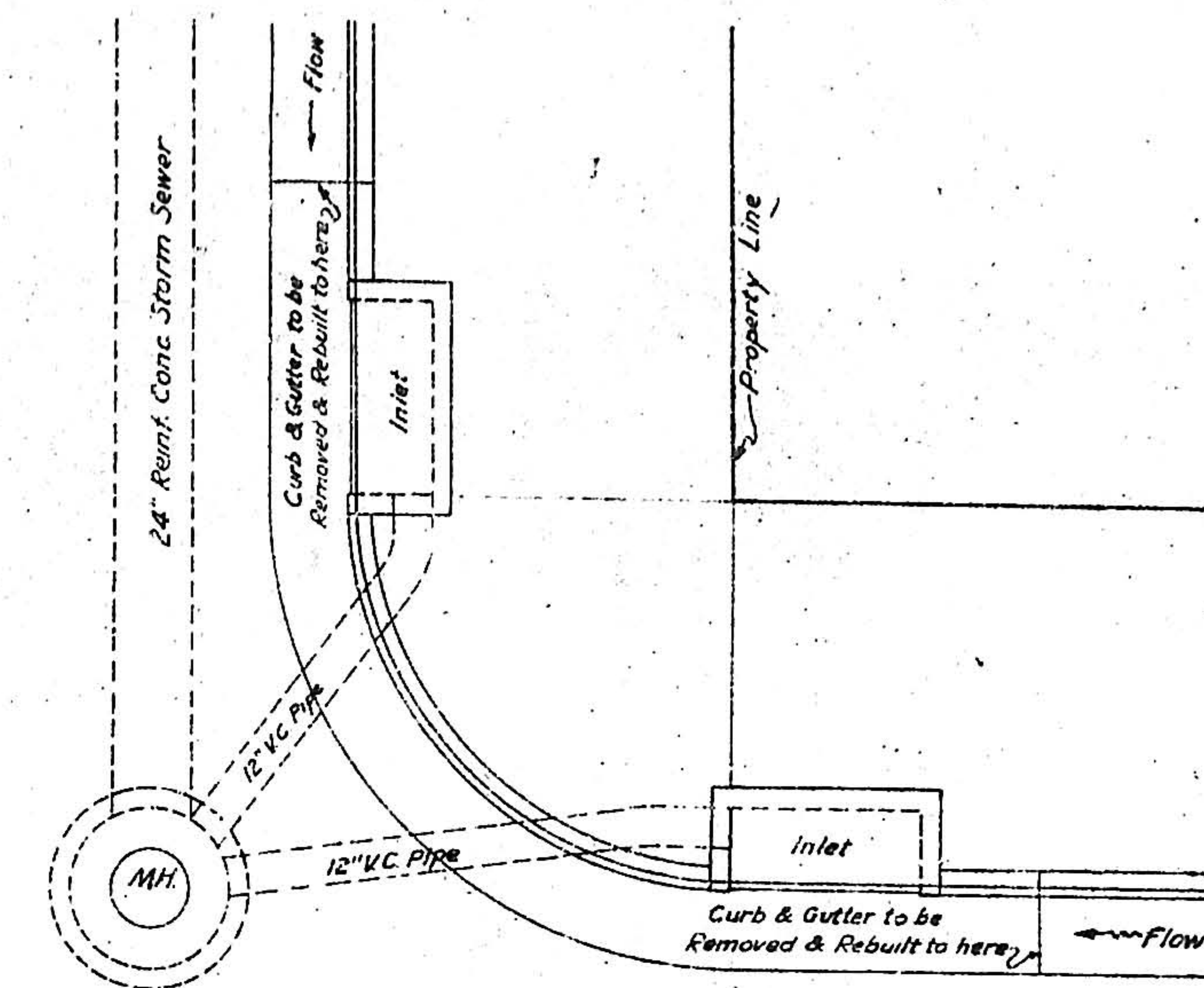
* Note - Usually the Inlet will be placed in the mid-point of the radius. The 8" dimension will diminish to 7 1/4" at the tangent point of the radius and the 9 1/2" diminishes to 8". These dimensions may be modified by the Engineer for special circumstances.
Radius Curb & gutter not included unless specified.
When constructed in existing curb remove 7"



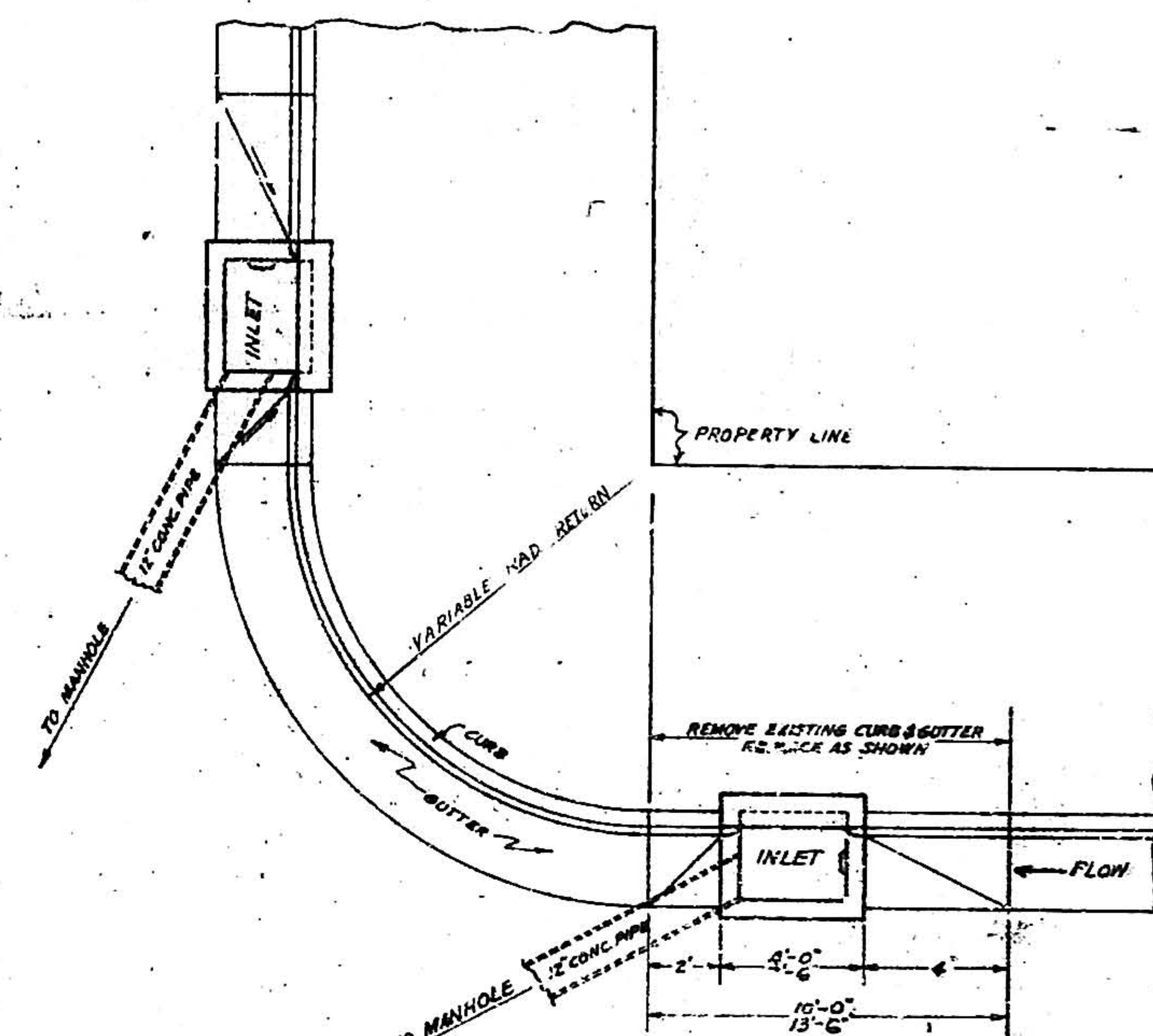
SECTION A-A



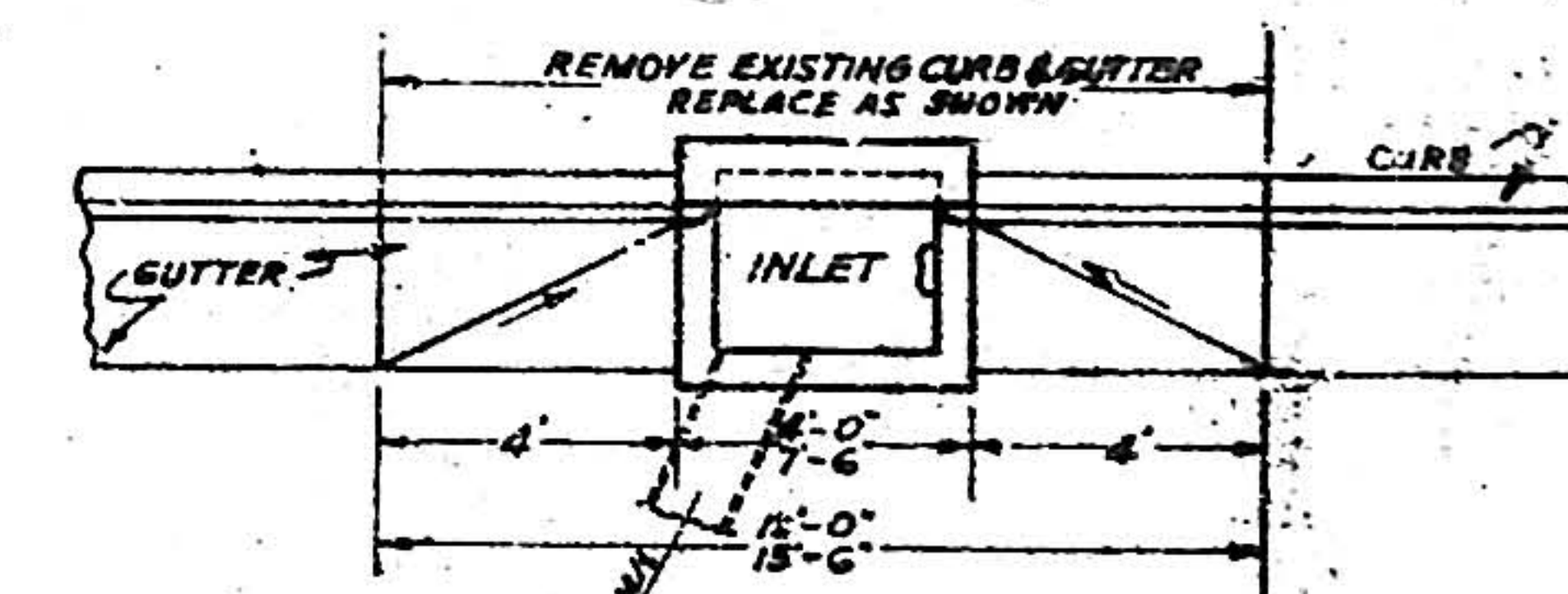
SECTION B-B



LOCATION OF INLETS IN STREET-TYPE "A"
Scale $1/4'' = 1'-0''$



LOCATION OF TYPE "C" & "C-1" INLETS IN STREET



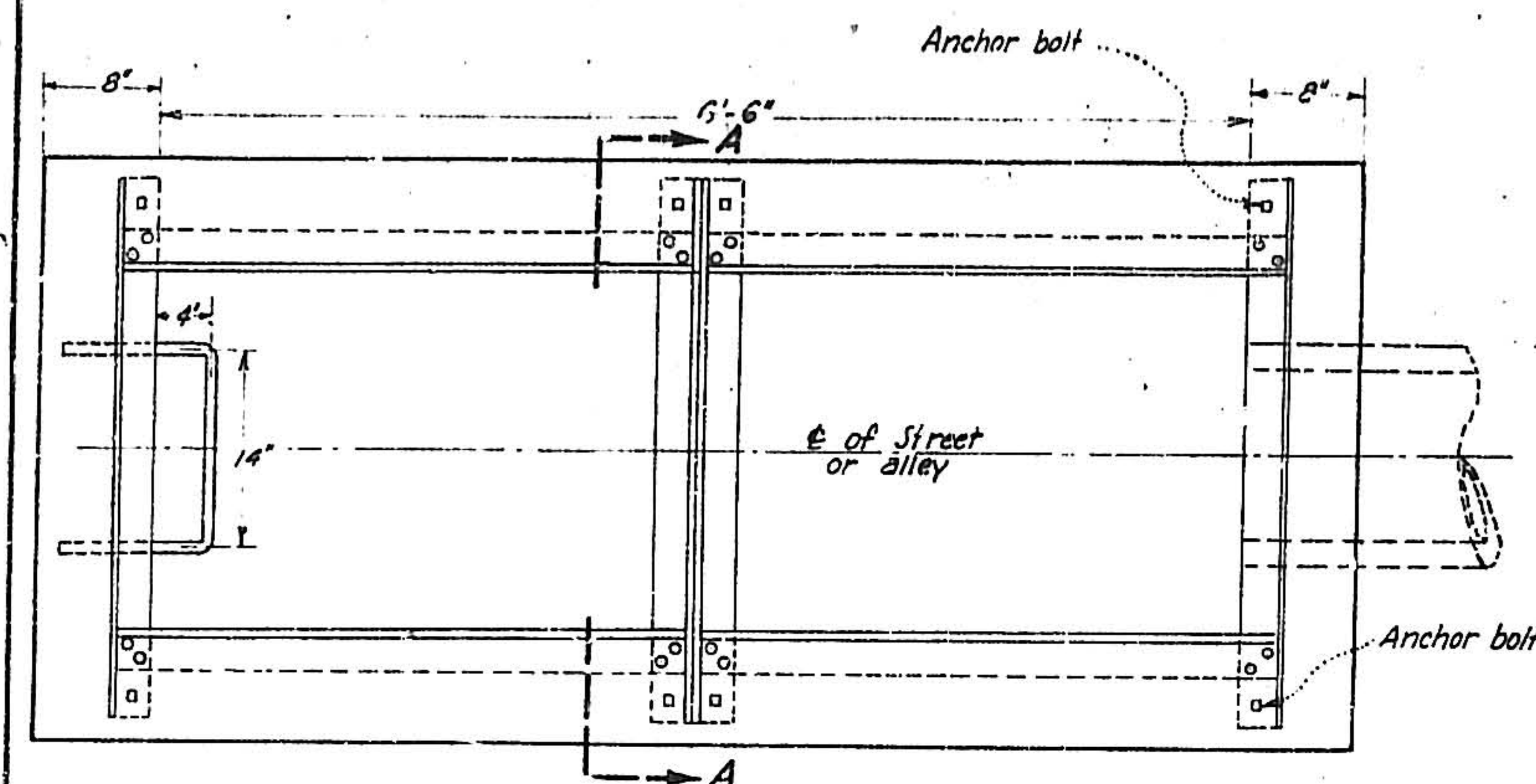
LOCATION OF TYPE "C" & "C-1" INLET IN STREET TANGENT

CITY OF ALBUQUERQUE

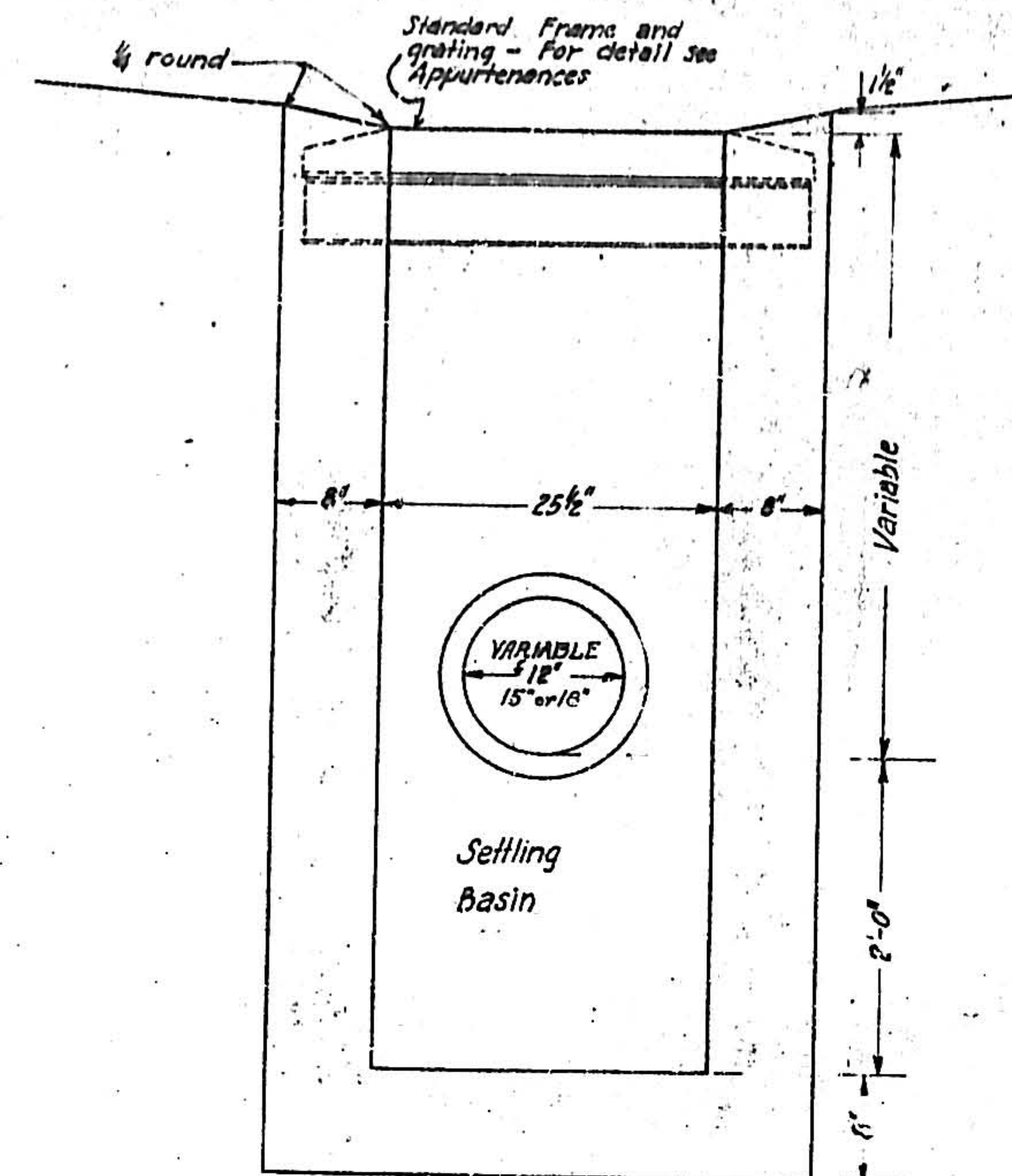
TYPE A CURB INLET STANDARD MANHOLE FRAME AND COVER

DESIGNED	CONSULTING ENGINEERS	DATE DESIGNED
TRACED	HASIE AND GREEN	DATE REVISED
CHECKED	HERKENHOFF AND TURNER	
SCALE	EDMUND ROSS	

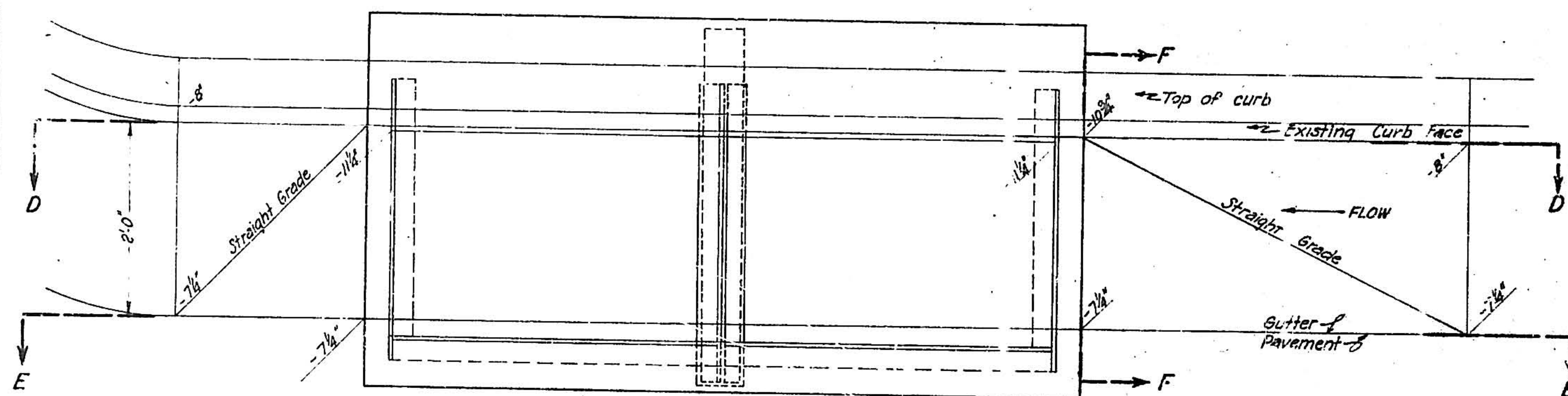
5 SHEET
OF 12



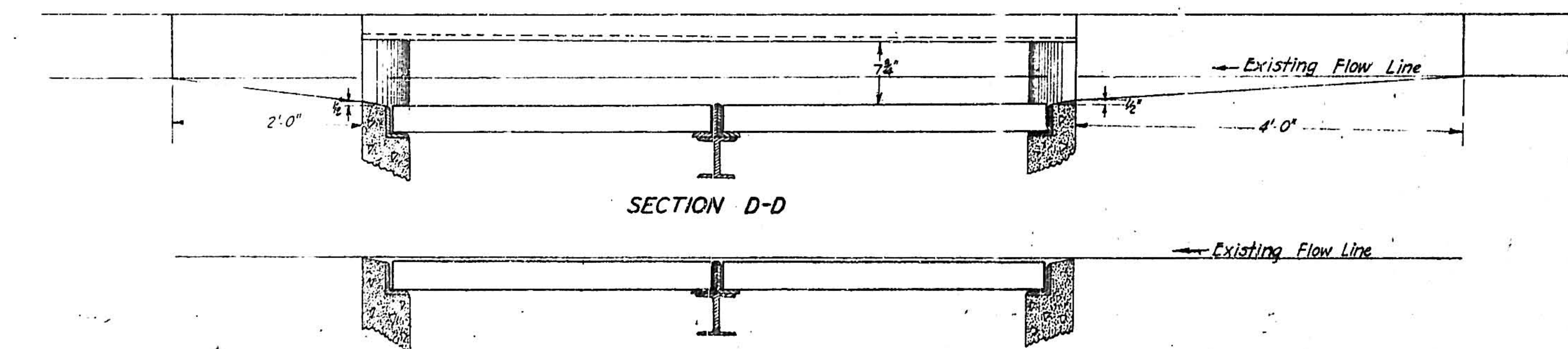
PLAN
STANDARD CATCH BASIN TYPE-D
Scale 1"=1'



SECTION A-A



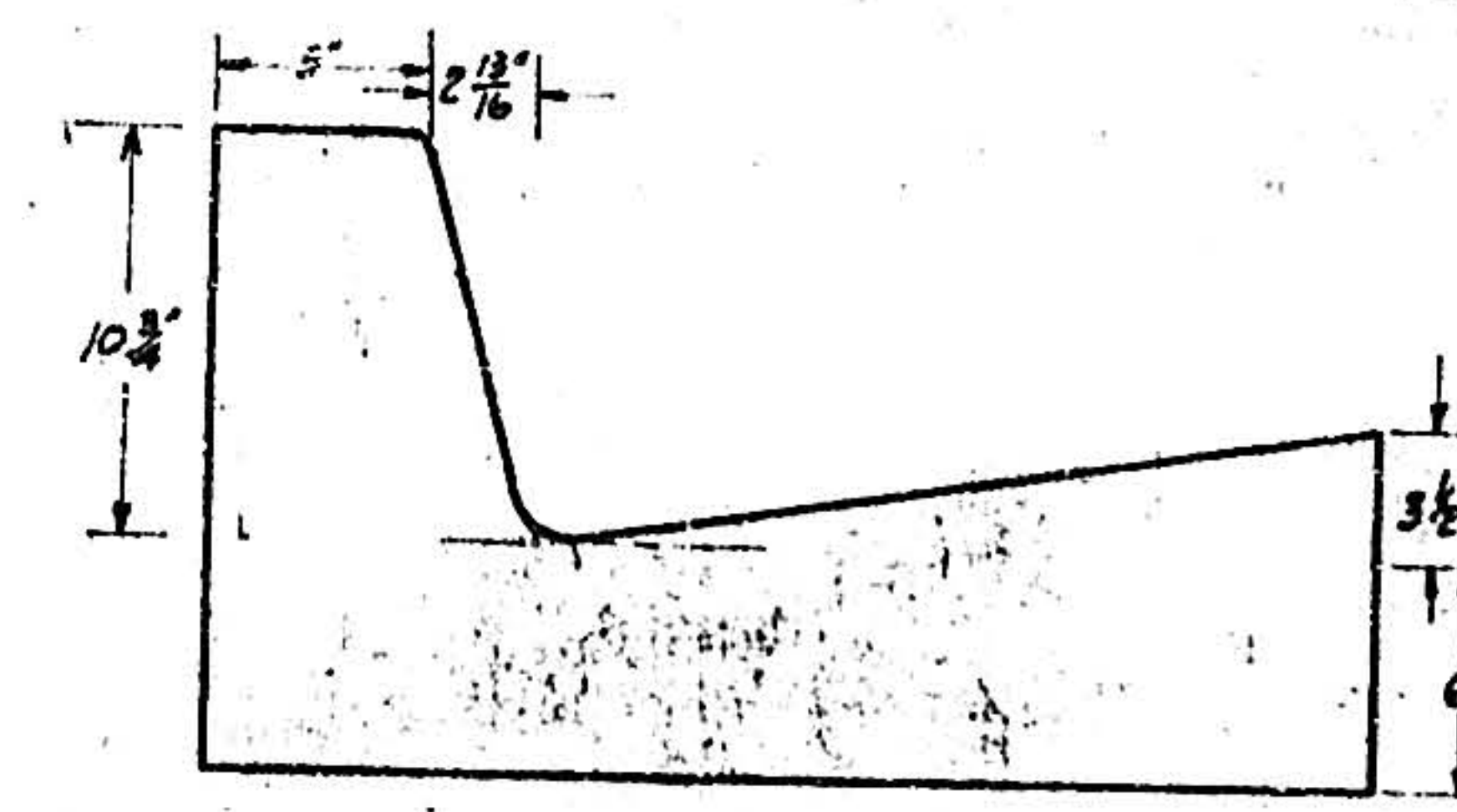
PLAN
STANDARD LOCAL DEPRESSIONS FOR CATCH BASINS
TYPES A, B AND C & C-1



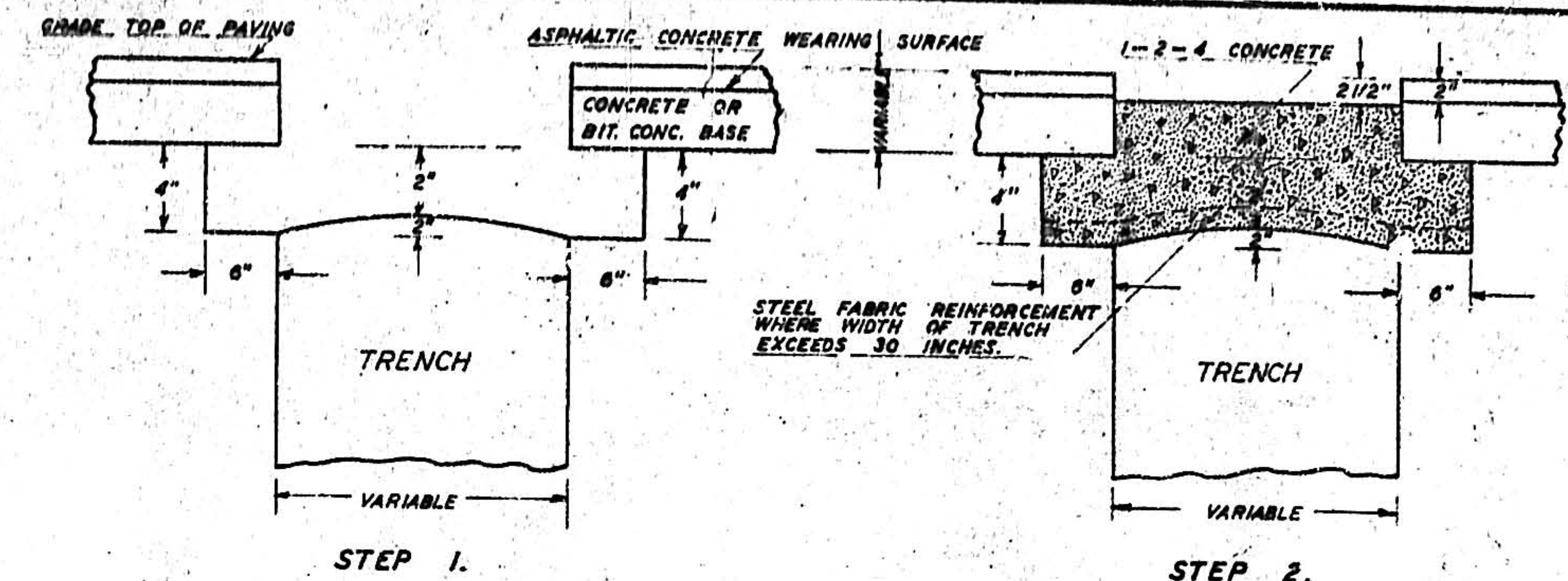
SECTION D-D



SECTION E-E

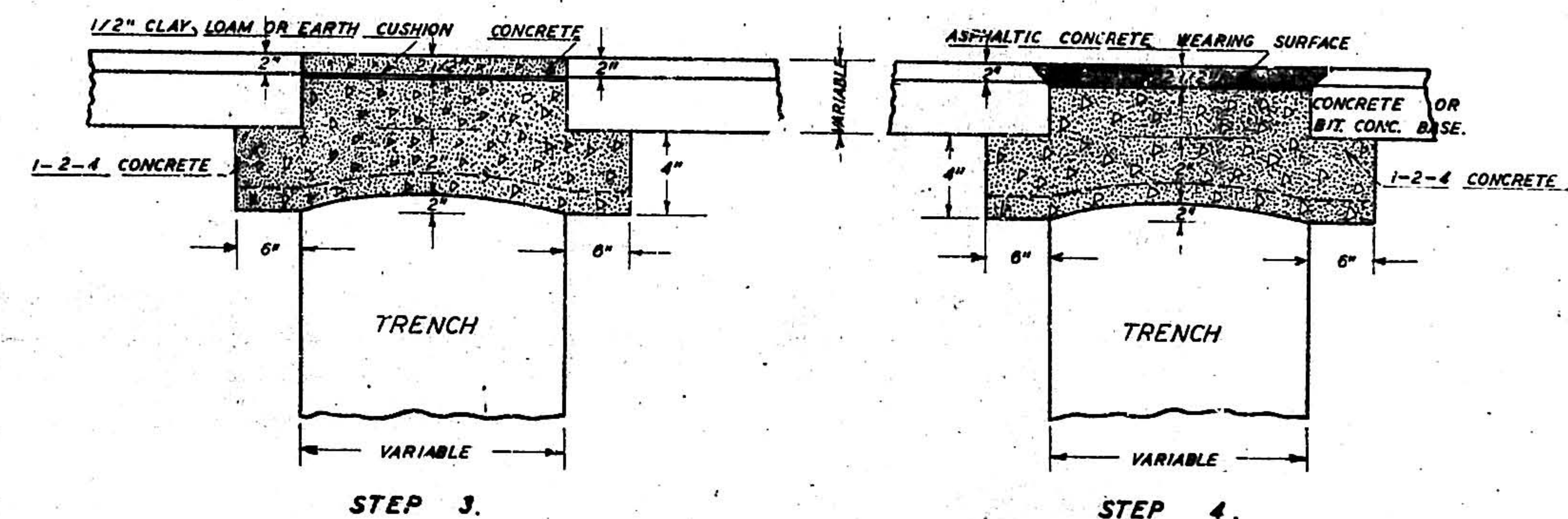


SECTION F-F



- (A). BACKFILL AND HAND-TAMP THE OPEN TRENCH IN SUCCESSIVE LAYERS OF NOT MORE THAN SIX INCHES IN THICKNESS.
(B). SQUARE UP EXPOSED EDGES OF PAVING IN A NEAT MANNER.
(C). EXCAVATE DIRECTLY UNDER EDGE OF PAVING A TRENCH 6' WIDE AND 4' DEEP AS SHOWN ABOVE.
(D). ARCH BACKFILL IN CENTER OF TRENCH MAKING THE CROWN AT CENTER 2" BELOW BOTTOM EDGE OF PAVING.
(E). DEPTH OF PATCH WILL VARY ACCORDING TO TYPE OF PAVING TO BE REPAIRED.

- (A). WASH OFF THE EXPOSED PAVING EDGES AND WET THE SUBGRADE LIGHTLY.
(B). FILL WITH A 1-2-4 MIX CONCRETE TO WITHIN 2" OF GRADE OR TOP OF PAVING TAMP THE CONCRETE THOROUGHLY ESPECIALLY CARE BEING TAKEN TO COMPLETELY FILL AND TAMP THE CONCRETE INTO THE TRENCH UNDER EDGE OF PAVING.
(C). WHERE THE WIDTH OF TRENCH EXCEEDS 30 INCHES PLACE ONE LAYER OF STEEL FABRIC REINFORCEMENT WEIGHING NOT LESS THAN 35 POUNDS PER 100 SQ. FT., 2" ABOVE THE BOTTOM OF THE CONCRETE.
(D). STRIKE THE SURFACE OF THE CONCRETE OFF ROUGHLY WITH A SHOVEL BUT DO NOT FINISH SMOOTH.



- (A). AFTER THE CONCRETE PLACED IN STEP 2 HAS TAKEN ITS INITIAL SET PLACE A 1/2" LAYER OF CLAY, LOAM OR ORDINARY EARTH (NOT SAND) OVER THE SURFACE OF THE CONCRETE.
(B). FILL REMAINDER OF CUT WITH 1-2-4 MIX CONCRETE TO TOP OF PAVING AND FINISH WITH WOODEN FLOAT.
(C). BARRICADE AGAINST TRAFFIC FOR AT LEAST 24 HOURS AFTER PLACING TOP COURSE. AT NIGHT PLACE LANTERNS OR TORCHES BY THE BARRICADES.

- (A). BREAK AND CHIP OUT THE 2" TOP COURSE OF CONCRETE AND 1/2" LAYER OF DIRT.
(B). CUT BACK THE EDGE OF PRESENT ASPHALTIC CONCRETE SURFACE ON AN ANGLE OF 45° WITH VERTICAL OR 1 TO 1 SLOPE.
(C). CLEAN OUT, CUT AND SWEEP CLEAN WITH HEAVY BROOM.
(D). HAUL AWAY AND DISPOSE OF ALL WASTE MATERIALS.
(E). REPAIR CUT WITH ASPHALTIC CONCRETE WEARING SURFACE IN ACCORDANCE WITH CITY PAVING SPECIFICATIONS. THE SURFACE FINISH TO BE THE SAME TYPE AS THAT OF PAVING SURROUNDING THE PATCH.
(F). THE STREET IN VICINITY OF PATCH SHALL BE THOROUGHLY CLEANED UP BEFORE BEING OPENED TO TRAFFIC.

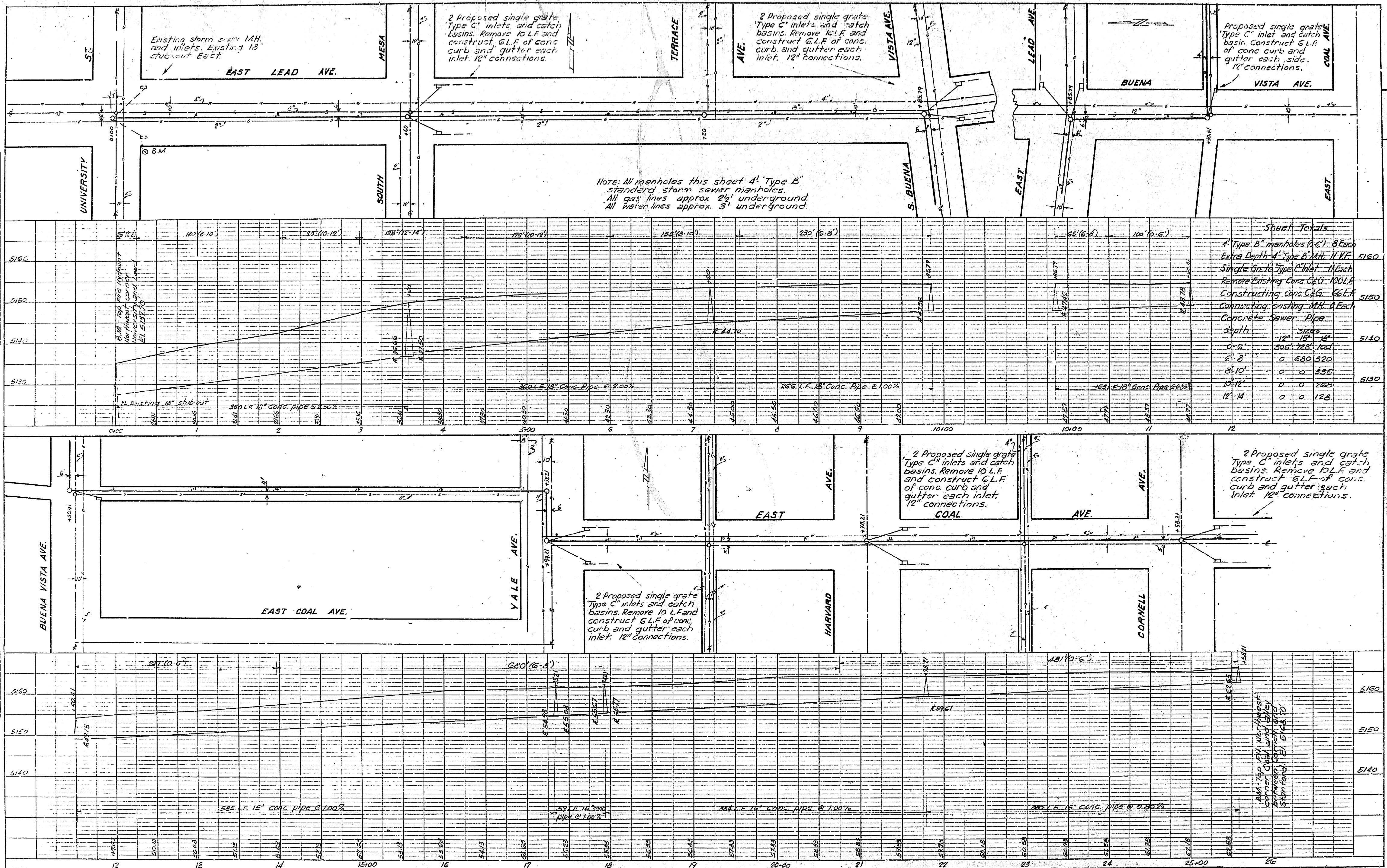
NOTE: TO REPAIR CUTS IN PLAIN CONCRETE, ALLEY PAVING, PREPARE THE OPENING AS IN STEP 1. FILL WITH 1-2-4 MIX CONCRETE AND FINISH FLUSH WITH TOP OF PAVING.

08 517 06 51 10 10

CITY OF ALBUQUERQUE

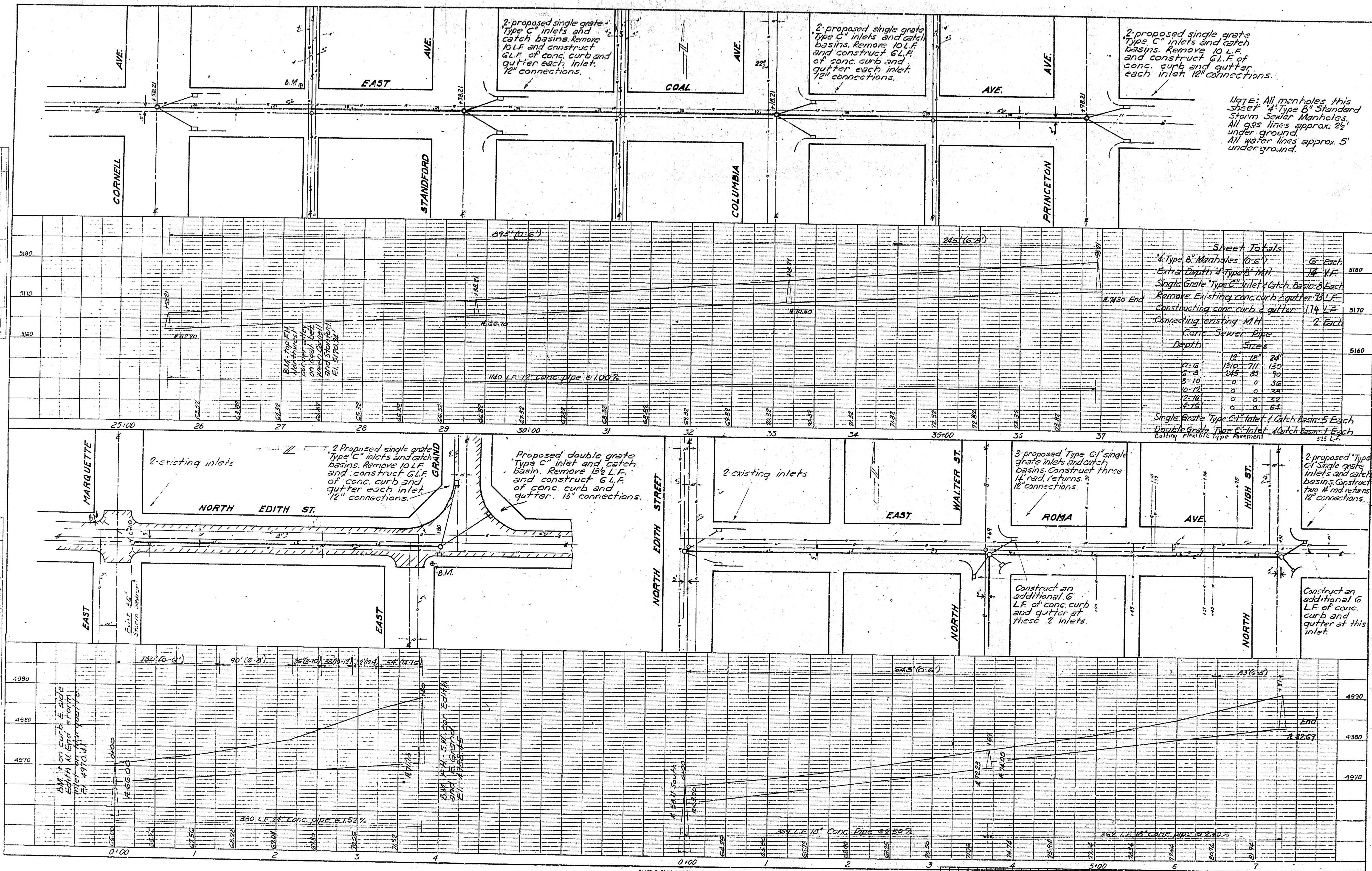
STANDARD METHOD OF REPAIRING CUTS IN PAVEMENTS - ALSO - STANDARD LOCAL DEPRESSIONS FOR CATCH BASINS

DESIGNED	CONSULTING ENGINEERS	DATE DESIGNED
TRACED	HASIE AND GREEN	DATE REVISED
CHECKED	HERKENHOFF AND TURNER	6 SHEET OF 12
SCALE	EDMUND ROSS	



PLAN
 NORTH
 1" = 40'
 1" = 10'

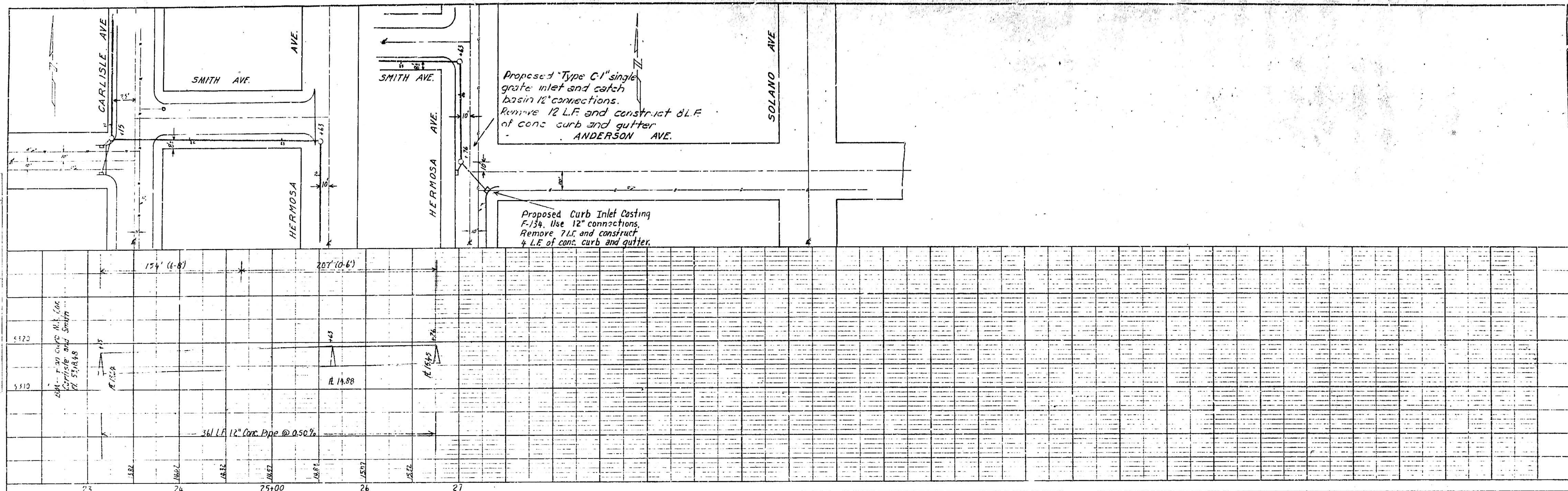
PROFILE
 NORTH
 1" = 10'
 1" = 10'



NOTE: All manholes this sheet are Type B Standard Storm Sewer Manholes. All gas lines approx. 2' under ground. All water lines approx. 3' under ground.

Sheet Totals

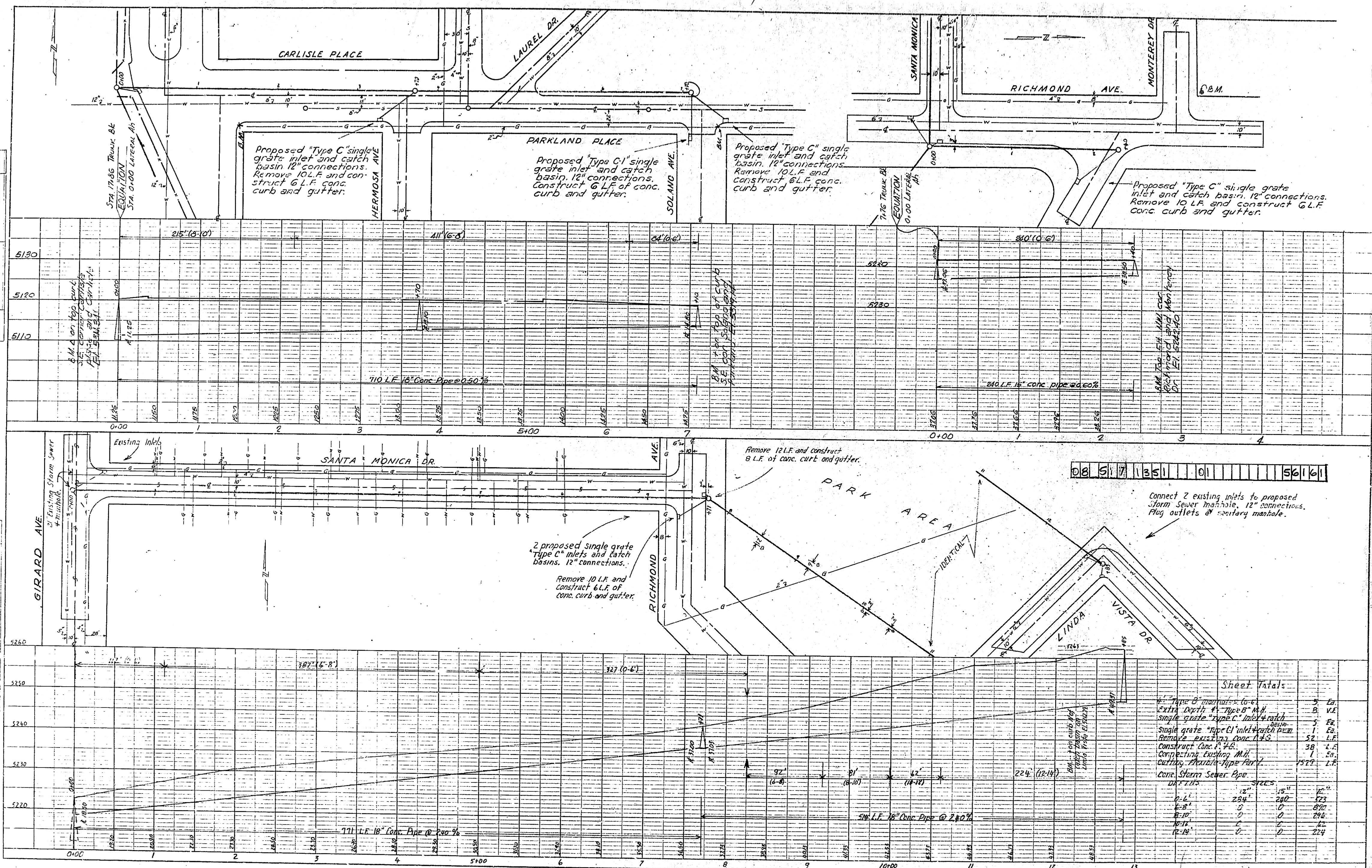
4 Type B Manholes (0-6')	6 Each	5180
Extra Depth 4 Type B MH	14 LF	
Single Grate Type C Inlet & Catch Basin	8 Each	
Remove Existing conc curb & gutter 33' LF		5170
Constructing conc curb & gutter	174 LF	
Connecting existing MH	2 Each	
Cont. Sewer Pipe		5160
Depth	Sizes	
0-6	12 18 24	
6-8	18 24 30	
8-10	24 30 36	
10-12	30 36 42	
12-14	36 42 48	
14-16	42 48 54	
Single Grate Type C Inlet & Catch Basin	5 Each	
Double Grate Type C Inlet & Catch Basin	1 Each	
Cutting Flexible Type Pavement	525 LF	



08 515 1251 01 56172

Sheet Totals	
4" Type B manholes (0-6')	2 Each
Extra Depth - 4" Type B man.	0 L.F.
Single Grate - Type C1 Inlet & Catch Basin.	1 Each
Curb Inlet Casting F-134	1 Each
Remove Existing Conc. curb and gutter	19 L.F.
Construct Conc. curb and gutter	12 L.F.
Cutting Existing Pavement	41 L.F.
Conc. Storm Sewer Pipe	12" size
DEPTH	2-6'
2-6'	253'
4-8'	154'

PLAN
NOTES:
1. ALL DIMENSIONS IN FEET AND INCHES.
2. ALL DIMENSIONS TO CENTERLINE UNLESS OTHERWISE NOTED.
3. ALL DIMENSIONS TO FACE UNLESS OTHERWISE NOTED.



08 517 1351 01 56161

Connect 2 existing inlets to proposed storm sewer manhole. 12" connections. Plug outlets of sanitary manhole.

Sheet Totals

4" Type B manholes (6-6)	5	EA
Extra Depth 4" Type B M.H.	8	V.E.
Single grate "Type C" inlet & catch basin	5	EA
Single grate "Type C" inlet & catch basin	1	EA
Remove existing conc. 12" & 6"	52	L.F.
Construct Conc. 12" & 6"	38	L.F.
Constructing Existing M.H.	1	EA
Cutting Flexible-type Pavt.	1519	L.F.

CONC. STORM SEWER PIPE	SIZE	FEET	INCHES
12"	284'	280	4
15"	0	0	0
18"	0	0	0
24"	0	0	0
30"	0	0	0
36"	0	0	0
42"	0	0	0
48"	0	0	0
54"	0	0	0
60"	0	0	0
66"	0	0	0
72"	0	0	0
78"	0	0	0
84"	0	0	0
90"	0	0	0
96"	0	0	0
102"	0	0	0
108"	0	0	0
114"	0	0	0
120"	0	0	0