

PLANS FOR STORM WATER SEWER IMPROVEMENTS

FOR

LOT 1, BLOCK 1
LAKESIDE PARK ADDITION
WICHITA, KANSAS

CITY OF WICHITA PRIVATE PROJECT NO. **451PPS (607861)**

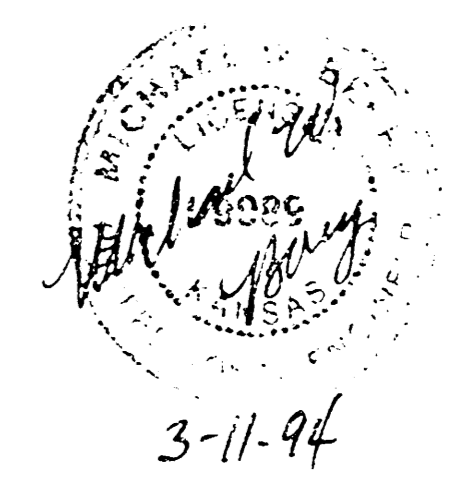
INDEX OF SHEETS

- SG-0 TITLE SHEET
- SG-1 SITE GRADING AND UTILITY PLAN
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- SG-6 MANHOLE FRAME AND COVER
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MARCH, 1994

PLANS PREPARED BY
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

*Booked
E-1
8/14/03
RDL*



APPROVED AS NOTED
BY CITY ENGINEER OF WICHITA

- SANITARY SEWERS _____
- STORM SEWERS VRH 3/15/94
- DRIVEWAY APPROACHES _____
- WATER MAINS _____
- PAVING _____

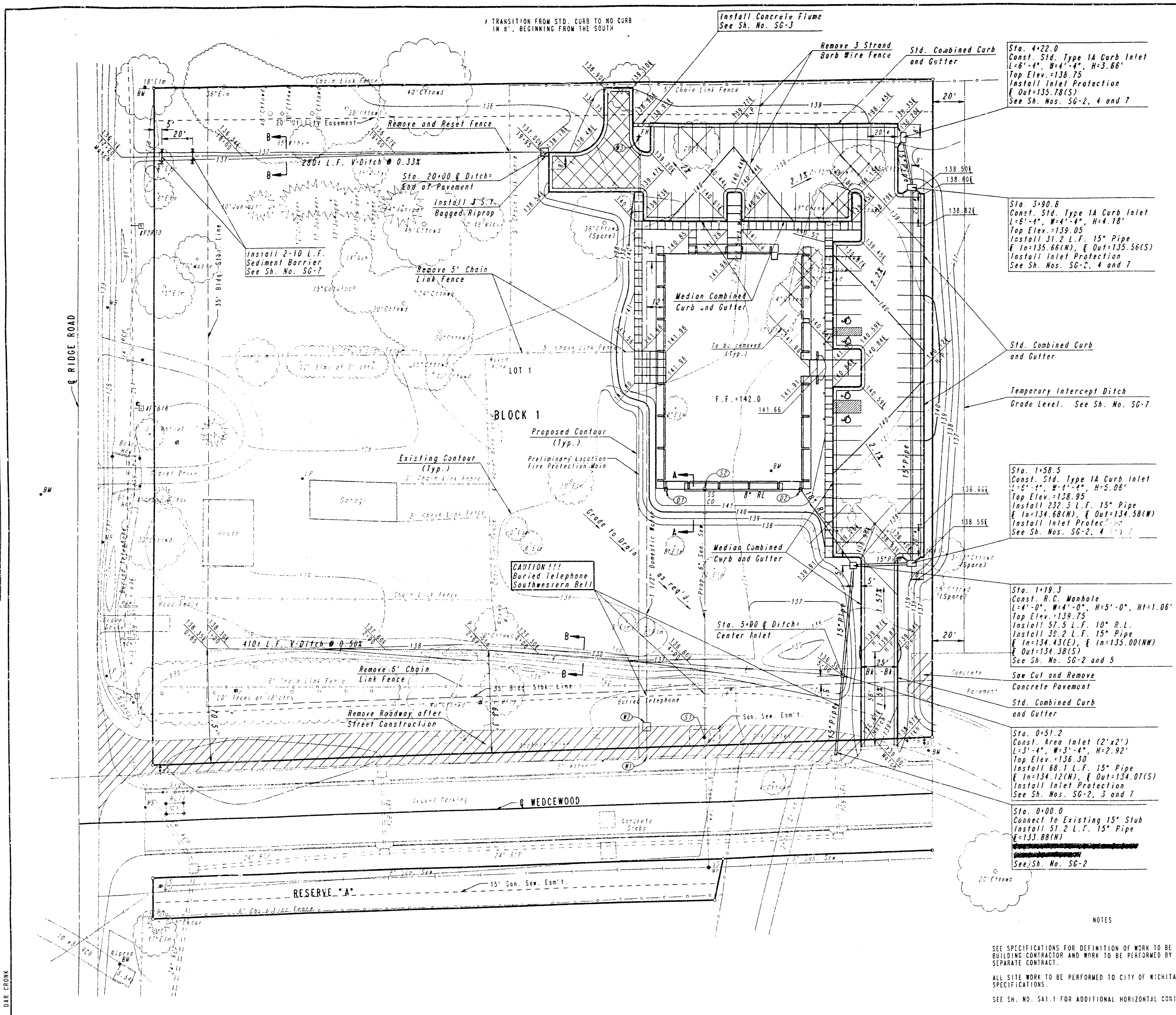
NOTE TO CONTRACTOR

INSPECTION AND TESTING FOR THIS PROJECT IS TO BE PROVIDED BY A LICENSED CONSULTING ENGINEERING FIRM UNDER CONTRACT WITH THE OWNER/DEVELOPER. SAID INSPECTION TO BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD CONSTRUCTION ENGINEERING PRACTICES AND CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER. NO WORK SHALL BE PERFORMED IN DEDICATED EASEMENTS OR PUBLIC RIGHT-OF-WAY BY THE CONTRACTOR WITHOUT SUCH INSPECTION NOR SHALL ANY WORK BE COMMENCED IN DEDICATED EASEMENTS OR PUBLIC RIGHT-OF-WAY WITHOUT WRITTEN AUTHORIZATION BY THE CITY ENGINEER.

7-2 KS TITLE
DATE LAST WORKED ON
DAR CROOK

PLAN SURVEILED	BY	DATE
NOTE BOOK PLOTTED		
NO. OF WAYS CHECKED		
NO. OF WAYS CHECKED		

DRAWING NAME: 36-93489 RITCHE OFF SITE
 LOCATION: 4216
 ROTATION ANGLE:
 DATE LAST WORKED ON:
 DAR CEORR



SCALE: 1"=30'

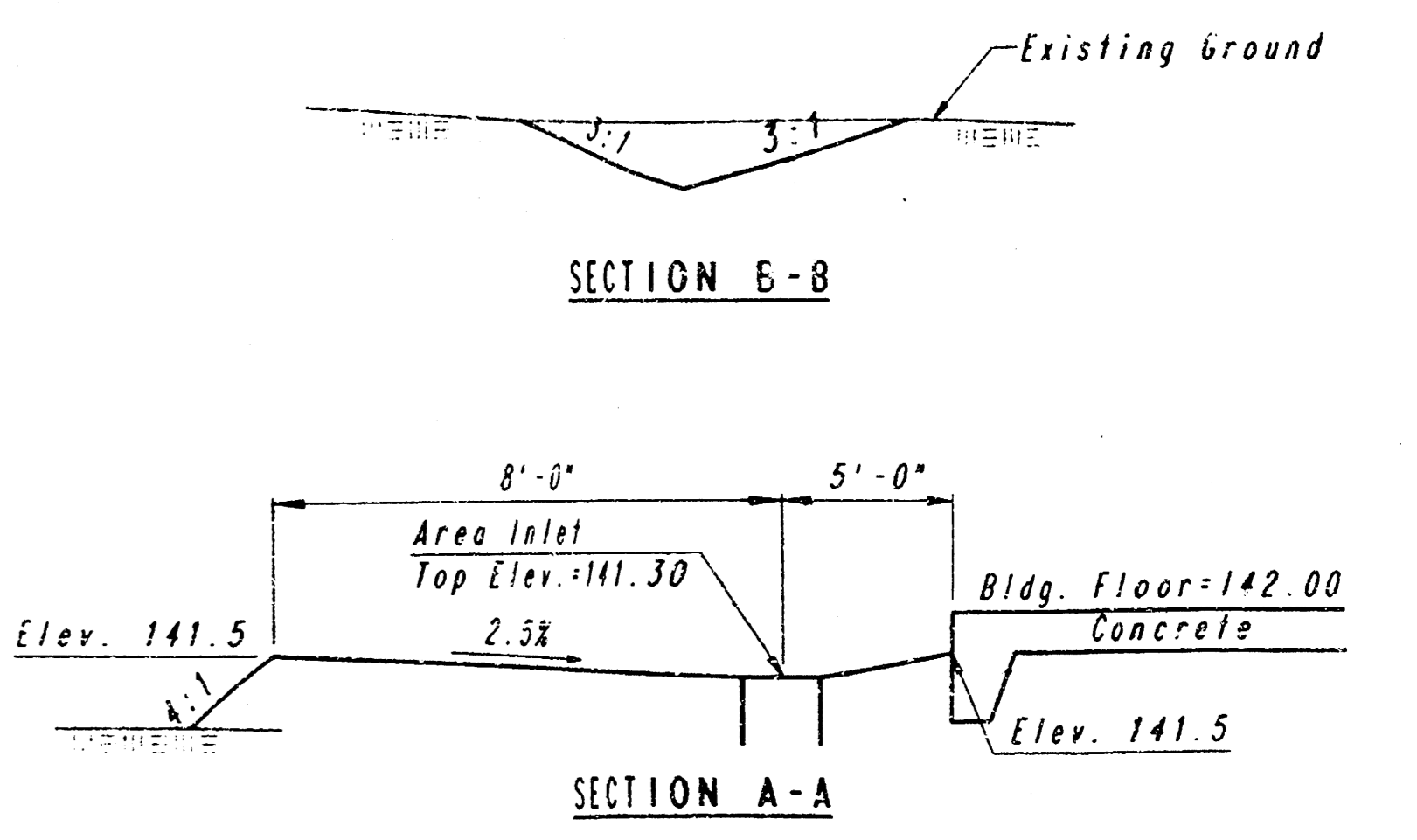
DATUM B.M. - CHISELED 10" ON EAST TOP OF CURB OF WILD ROSE ON SOUTH SIDE OF ENTRANCE TO SEWAGE LIFT STATION OPPOSITE LOT 14, BLOCK 1, REFLECTION RIDGE 6TH ADDITION. ELEV.=139.63

B.M. - CHISELED 10" ON TOP OF HEADWALL EAST SIDE RIDGE ROAD 30' SOUTH OF NW CORNER WERE RIDGE. ELEV.=136.543

B.M. - RR SPIKE N.W. FACE POWER POLE AT NW CORNER LOT 1, BLOCK 1, LAKESIDE PARK ADDITION. ELEV.=139.693

B.M. - RR SPIKE IN SW FACE LIGHT POLE AT NE END WEDGEWOOD. ELEV.=139.053

- LEGEND**
- IRON SET
 - WARP GUTTER PAN TO DRAIN TO INLET
 - H.P. HIGH POINT
 - ▨ PAVEMENT REMOVAL
 - ▧ HEAVY DUTY PAVEMENT
 - ① 2'x2' AREA INLET TOP ELEV.=141.3, E ELEV.=136.5 CONNECT 4" R.L. AND 0" R.L. BY PLUMBING CONTRACTOR INSTALL INLET PROTECTION. SEE SH. NO. 5G-6 AND 8
 - ② 2'x2' AREA INLET TOP ELEV.=141.3, E ELEV.=135.5 INSTALL 66 L.F. 8" R.L. (W) CONNECT 4" R.L. AND 0" R.L. BY PLUMBING CONTRACTOR INSTALL INLET PROTECTION. SEE SH. NO. 5G-6 AND 8
 - ③ CONNECT TO 15" STUB IN MANHOLE
 - ④ CONNECT TO 2" WAT CLEANOUT BY PLUMBING CONTRACTOR
 - ⑤ TAP 6" MAIN BY WATER DEPARTMENT
 - ⑥ METER IN VAULT; METER PROVIDED BY THE CITY SEE SH. NO. 5G-3
 - ⑦ FIRE HYDRANT AND FIRE PROTECTION MAIN AND APPURTENANCES BY FIRE PROTECTION CONTRACTOR



NOTES

SEE SPECIFICATIONS FOR DEFINITION OF WORK TO BE PERFORMED BY BUILDING CONTRACTOR AND WORK TO BE PERFORMED BY OWNER UNDER SEPARATE CONTRACT.

ALL SITE WORK TO BE PERFORMED TO CITY OF WICHITA STANDARD SPECIFICATIONS.

SEE SH. NO. 5A1.1 FOR ADDITIONAL HORIZONTAL CONTROL.

SITE GRADING AND UTILITY PLAN

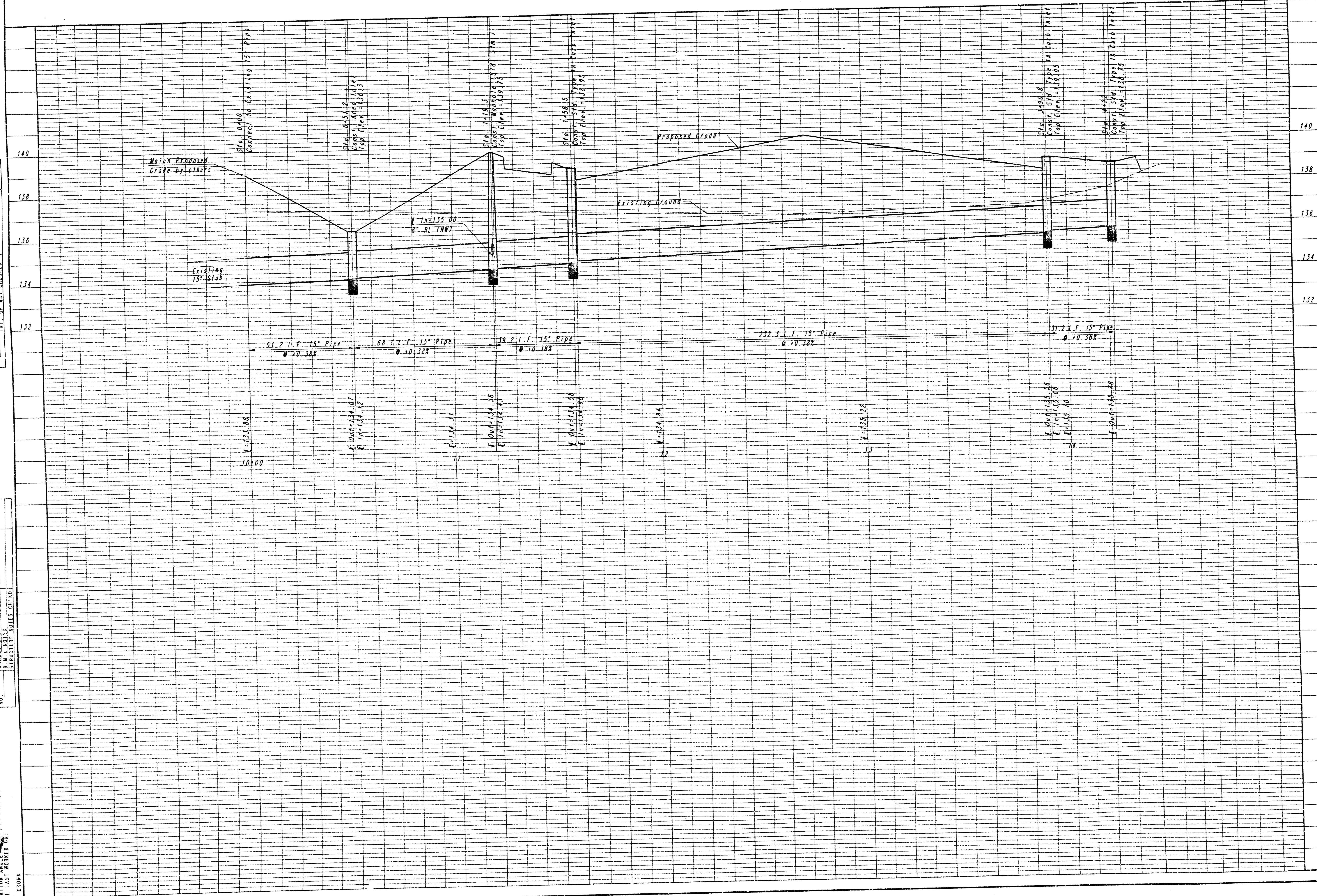
RITCHE CORPORATE OFFICE
 PROFESSIONAL ENGINEERING CONSULTANTS, P.C.
 ENGINEERS
 WICHITA, KANSAS

Designed by	DRC	Checked by	MWB
Drawn by	DEP	Date	MAY, 1994
		Job No.	93

DRAWING NAME:
 LOCATION:
 REVISION ANGLE:
 DATE LAST WORKED ON:
 DAR CROWK

PROFILE SURVEYED
 NOTE BOOK NO. 1001
 GRADES CHECKED
 DATE 10/15/83
 BY: [Signature]
 SURVEYING NOTES CR 10

PLAN SURVEYED
 NOTE BOOK NO. 1001
 ALIGNMENT CHECKED
 DATE 10/15/83
 BY: [Signature]
 SURVEYING NOTES CR 10



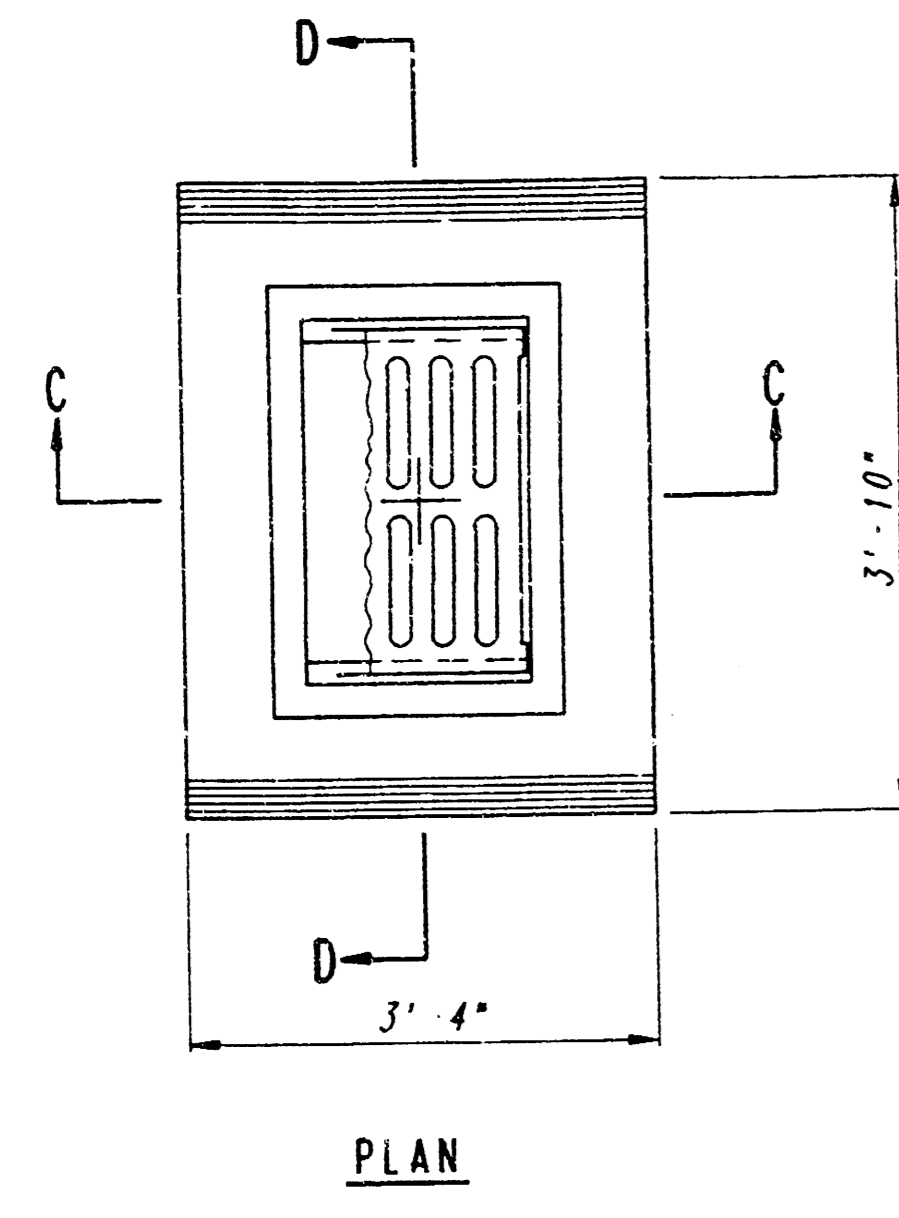
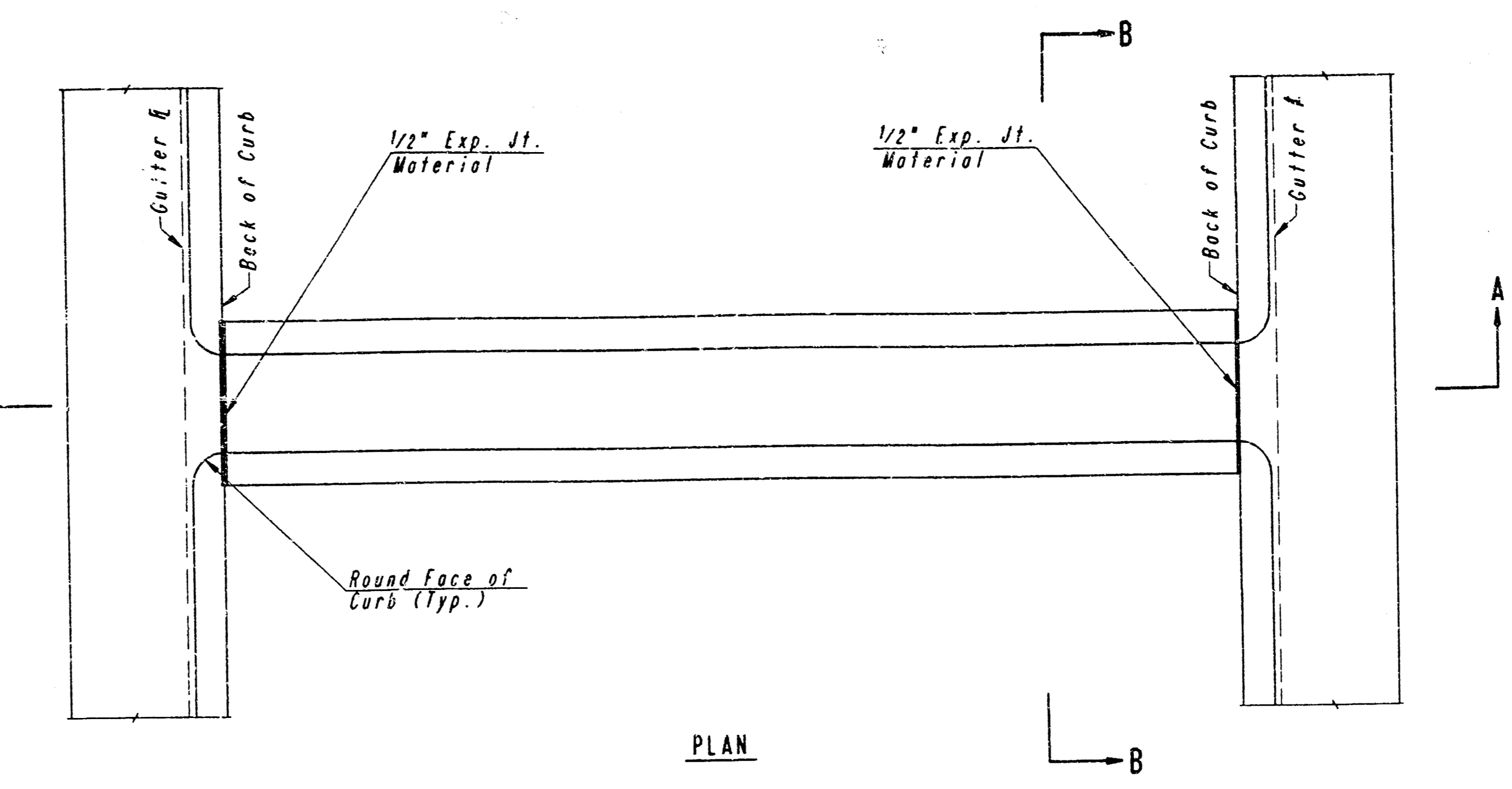
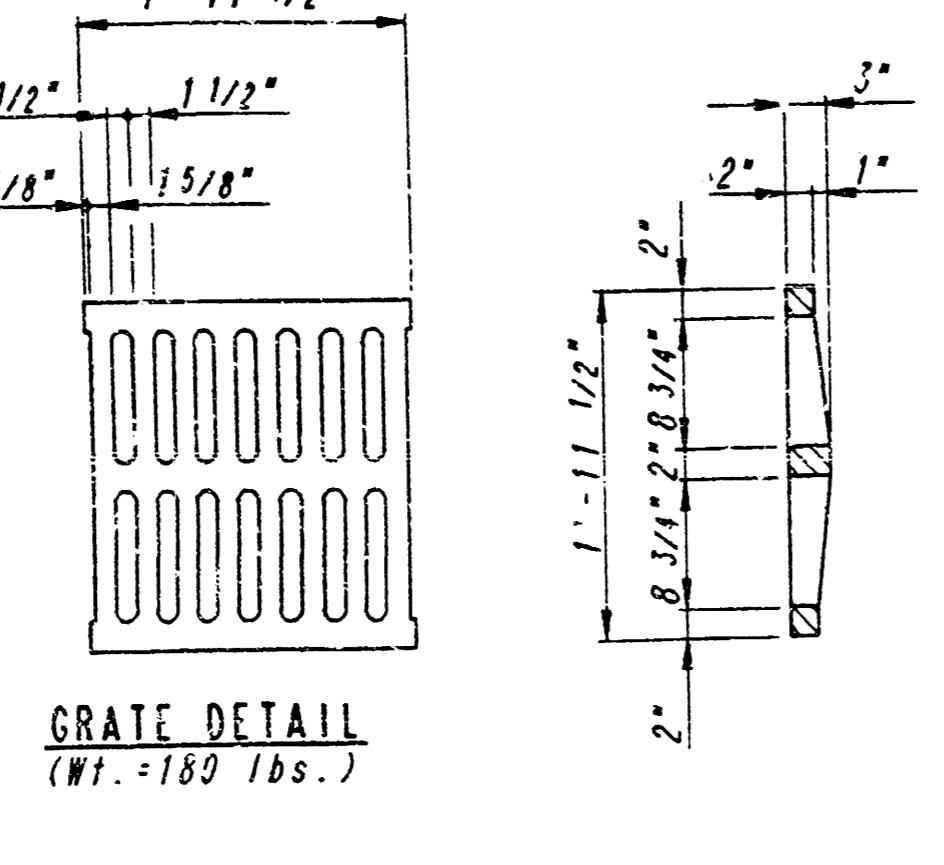
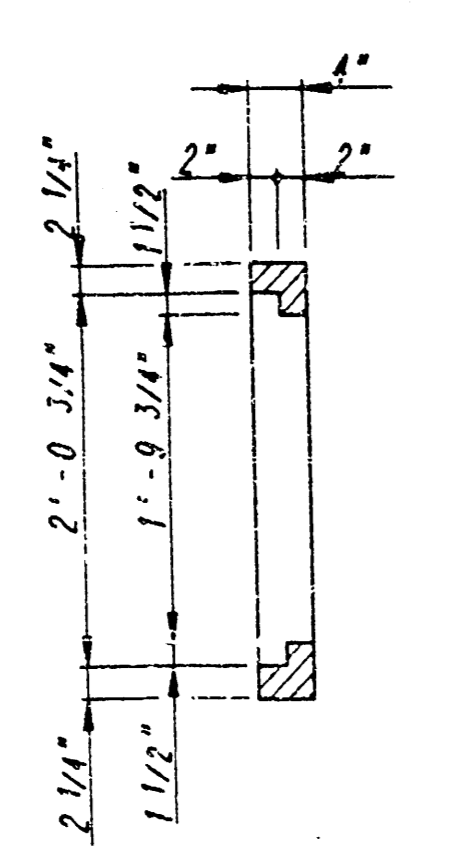
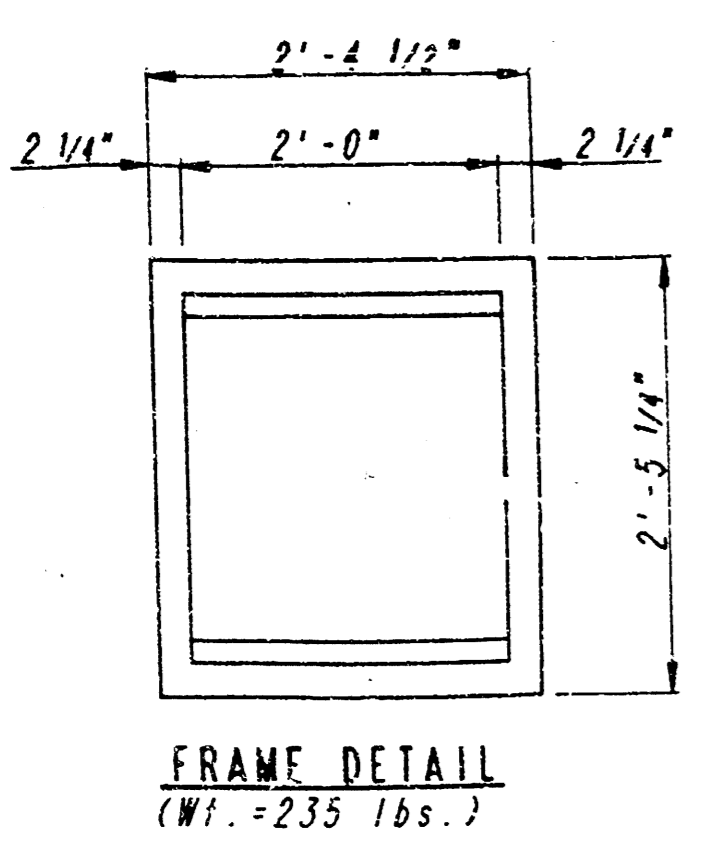
SWS LINE NO. 1
 PROFILE

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

ENGINEERS
 WICHITA, KANSAS

Job No. 36-93489
 Date MAR. 1984

RICHIE CORPORATE OFFICE



GENERAL NOTES

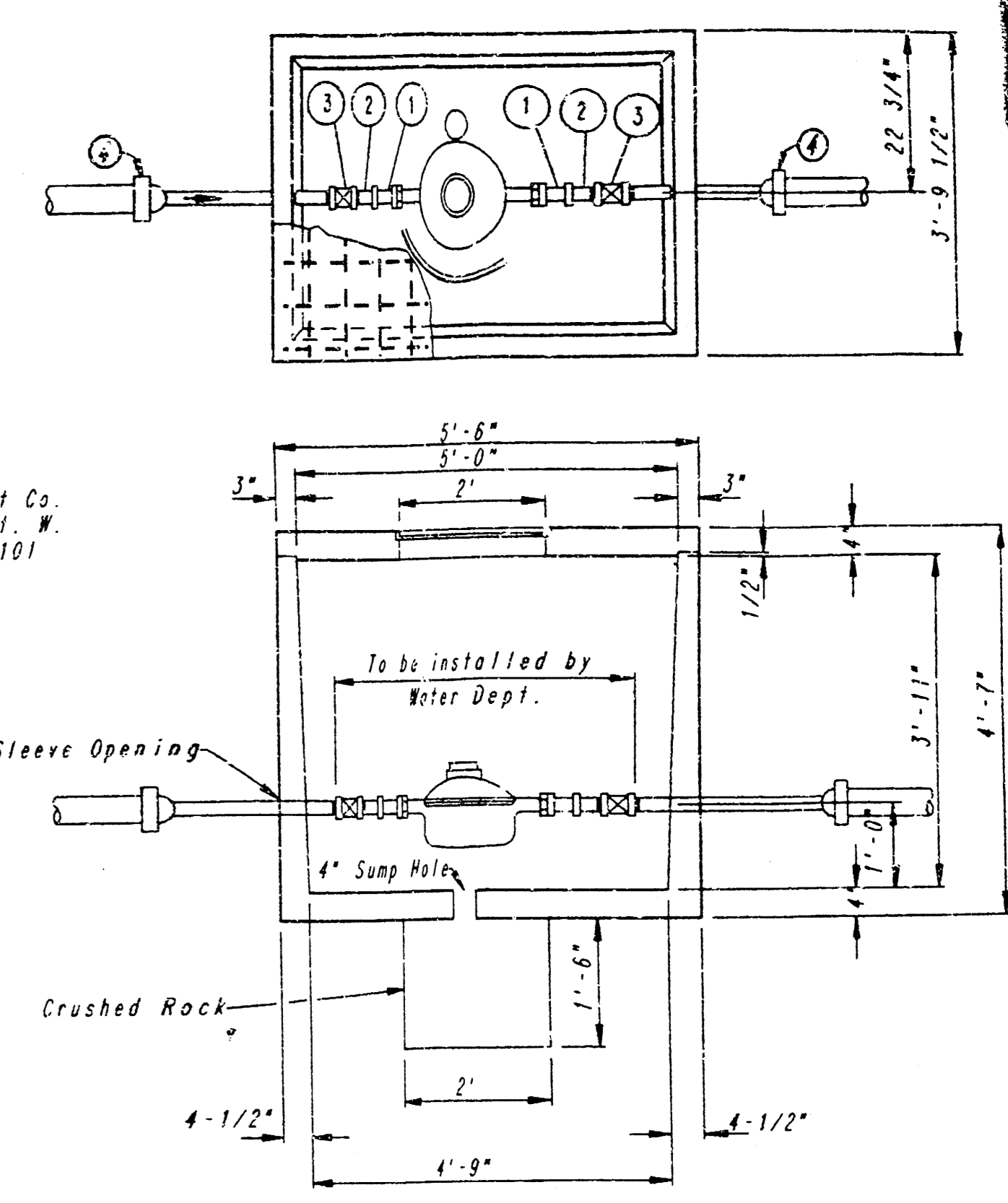
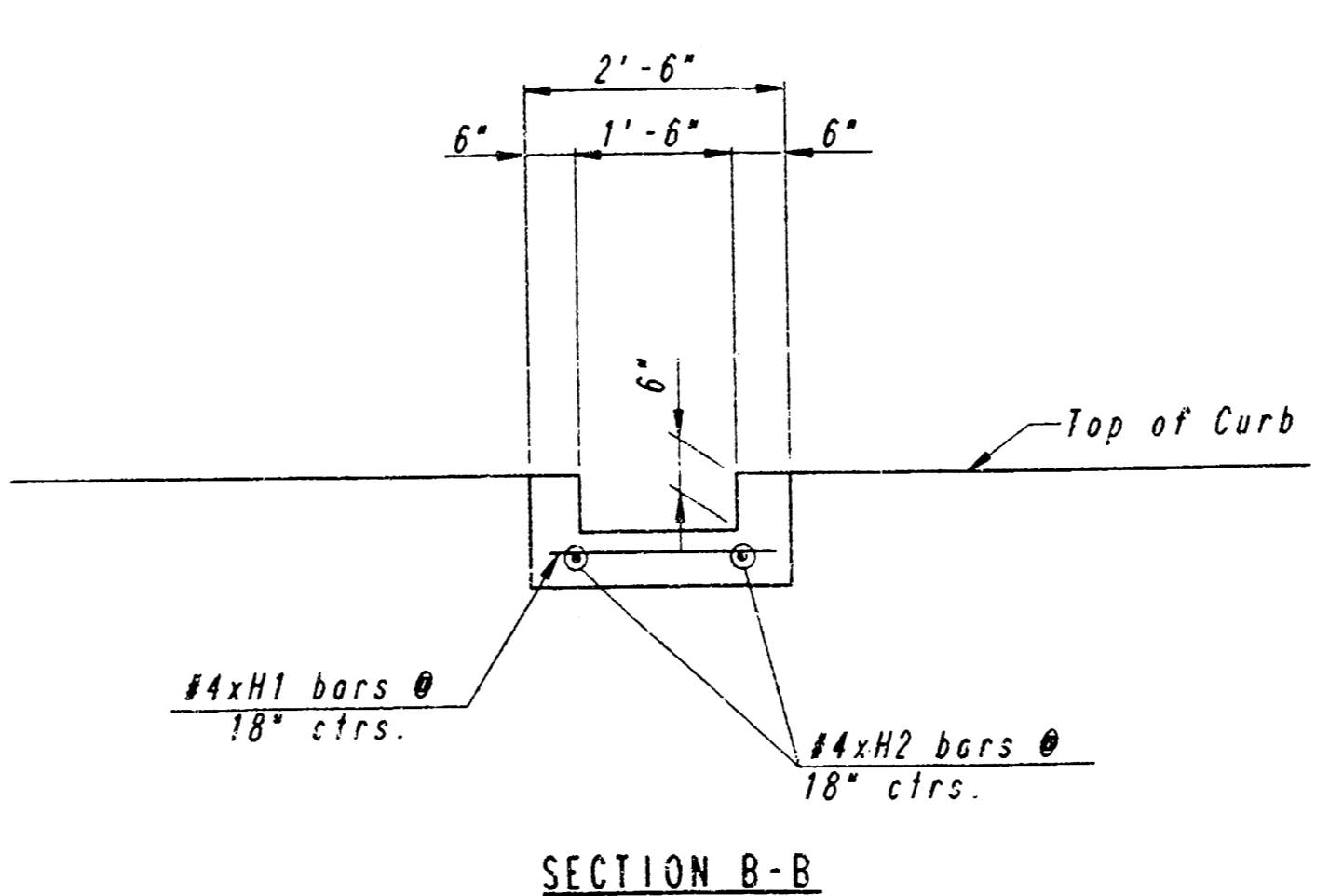
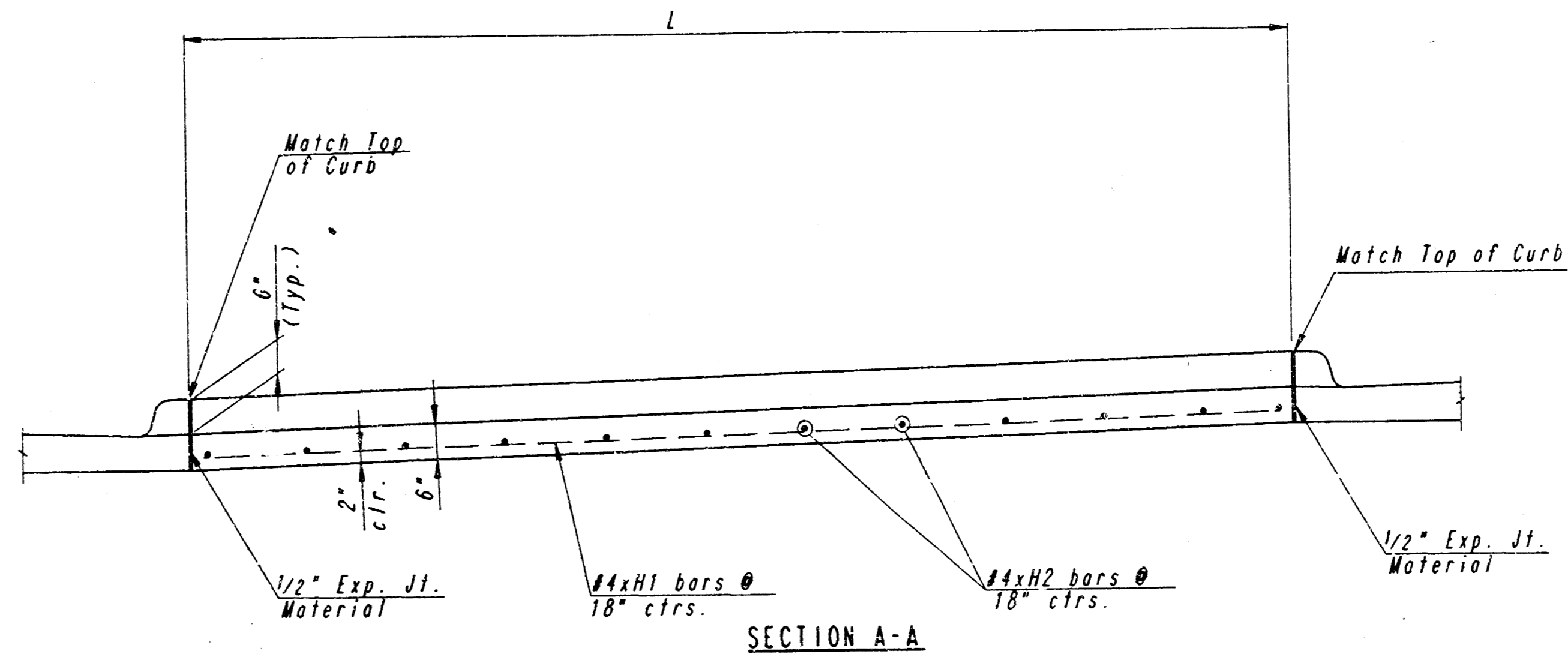
CONCRETE SHALL BE C. O. M. STANDARD PAVING MIX. ALL EXPOSED EDGES SHALL BE FINISHED WITH AN APPROVED EDGING TOOL.

REINFORCING STEEL SHALL BE A MINIMUM GRADE 40, A. S. T. M. A615. ALL DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO THE CENTERLINE OF BARS UNLESS OTHERWISE NOTED.

INLET CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A. S. T. M. DESIGNATION A-48. DIMENSIONS AND WEIGHTS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER EFFECTS.

CONSTRUCTION REQUIREMENTS AND MATERIALS FOR MASONRY WALLS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

INLET FLOOR SHALL BE SHAPED WITH UNREINFORCED CONCRETE (8 SACK SAND MIX) TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF-CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.

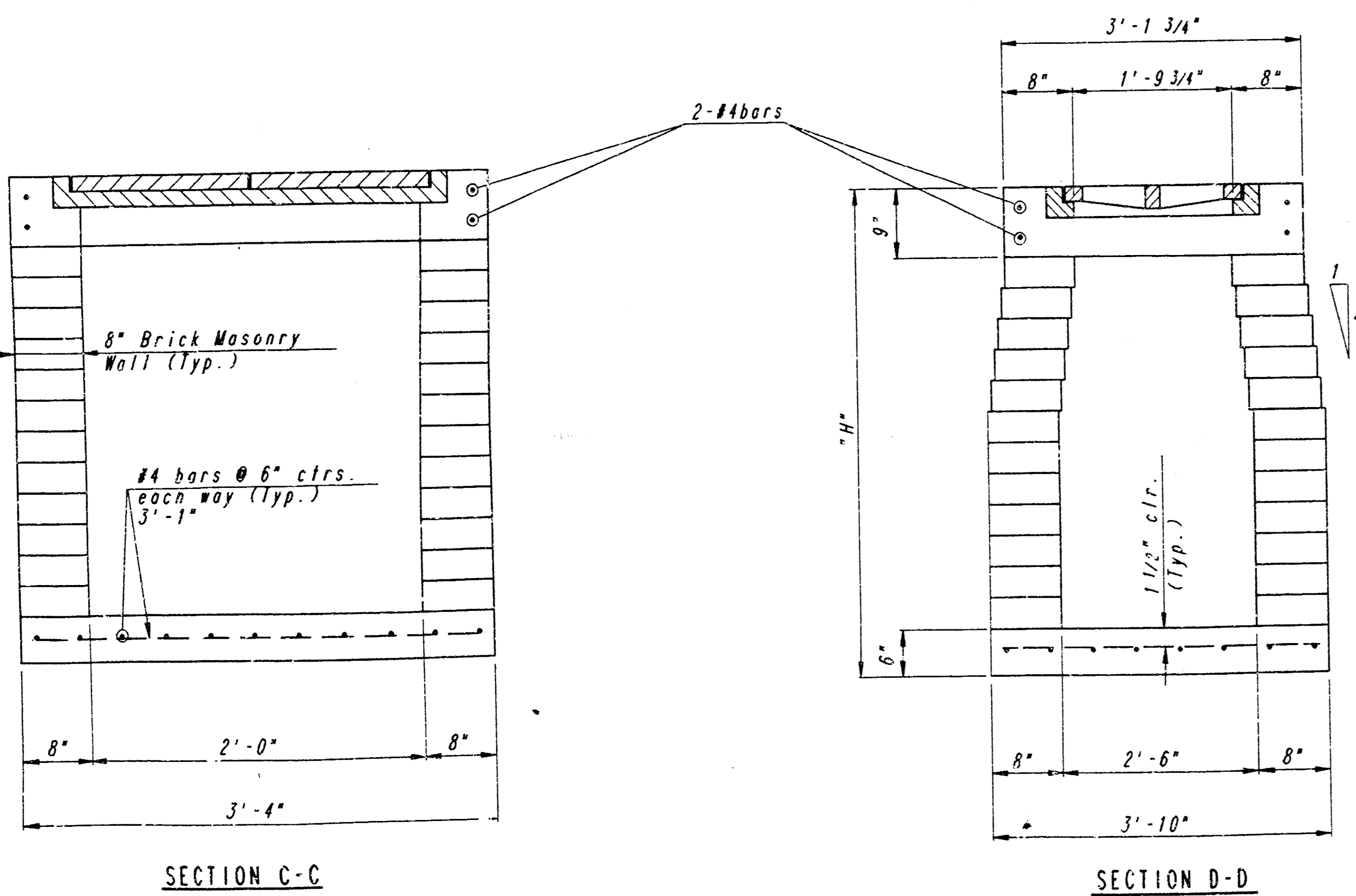


Manufacturer:
 Clutter Equipment Co.
 5411 N. 119th St., W.
 Wichita, Kansas 67101

STANDARD VAULT FOR SINGLE 2" METERS

1	Ford Lok - Pol Meter Couplings
2	2" x 4" or 2" x 8" Nipple
3	2" Bronze Gate Valve, Wheel Operated
4	4" CIW Cap - Topped 2"

- NOTES:
- When the standard vault dimensions are not applicable, such as when additional space is required for special pipe fittings, additional meters, etc., the department shall design a vault with the required dimensions.
 - When it becomes necessary to locate a vault in an area where it will be subjected to vehicular loads, the top will be designed to satisfy the conditions as set forth in Ordinance No. 12-586, Paragraph 2804, of the City of Wichita, Kansas.
 - Vault location to be determined by Water Dept. prior to construction.
 - Manhole Ring and Lid to be Clay & Bailey, K.C. No. 1 Type "B"; Deter Family, INC. #2000 with 1" pipe holes; or Neenah P-6634 front with Type "C" Solid lid and drop handle.
 - The Mechanical Contractor shall provide a 2" Male iron pipe thread at end of service pipe, meter coupling(s), nipple(s), and valves.
 - Water provided by Water Dept.



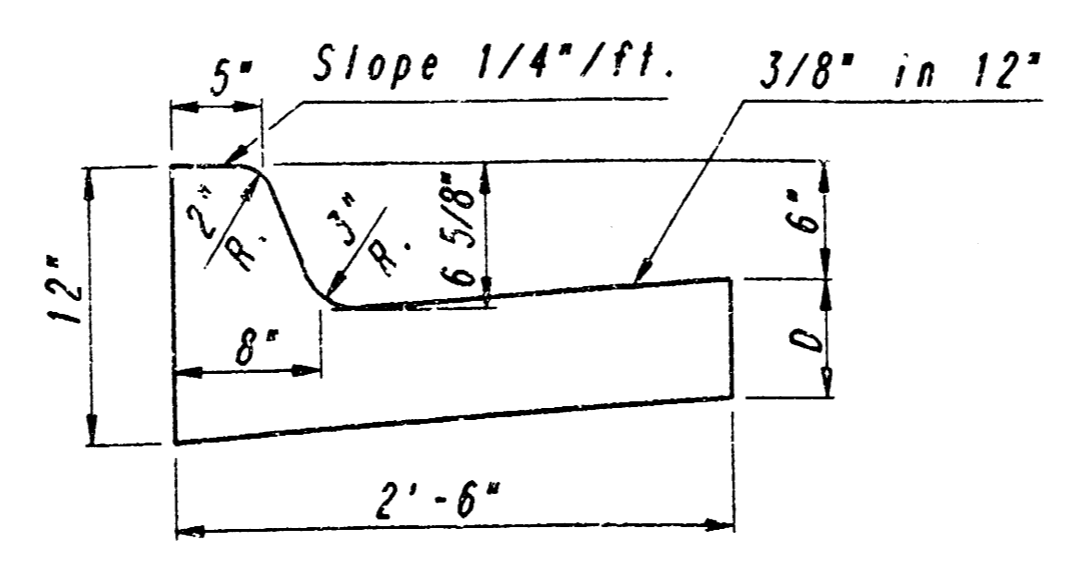
AREA INLET (TYPE I)

SIDWALK FLUME DETAILS

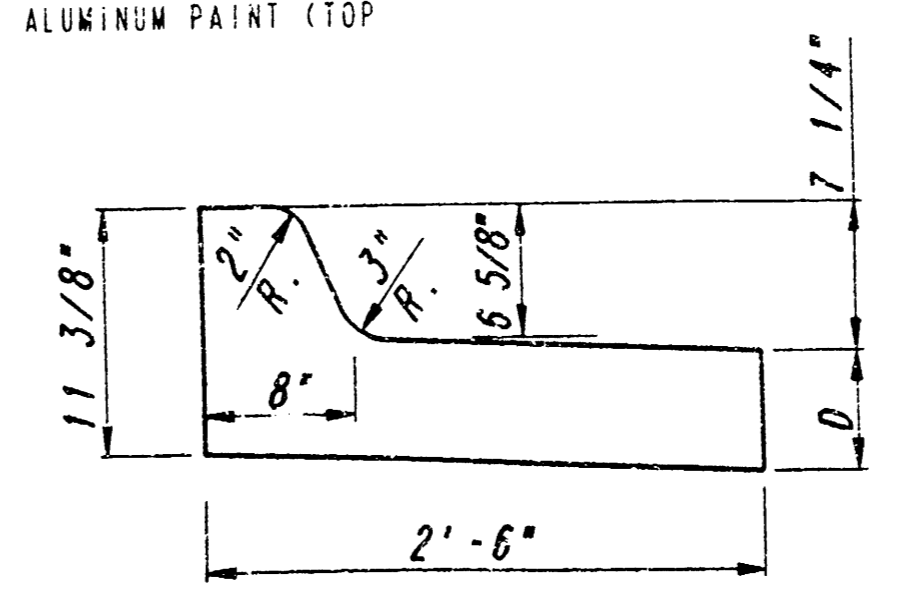
GENERAL NOTES

CLASS A CONCRETE (AC3), OR THE MIX USED FOR CONCRETE PAVEMENT MAY BE USED THROUGHOUT. ALL EXPOSED EDGES SHALL BE FINISHED WITH AN EDGING TOOL.

THE CHECKERED STEEL PLATE SHALL HAVE A RAISED LUG PATTERN AND SHALL BE EITHER SHOP OR FIELD PAINTED WITH ONE COAT OF ZINC DUST PAINT FOLLOWED BY TWO FIELD COATS OF ALUMINUM PAINT (TOP AND BOTTOM).



STANDARD COMBINED CURB & GUTTER
 (6 5/8")



MEDIAN COMBINED CURB & GUTTER
 (6 5/8")

MISCELLANEOUS DETAILS

RITCHIE CORPORATE OFFICE
 PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
 ENGINEERS
 WICHITA, KANSAS

Designed by: DRC
 Checked by: []
 Drawn by: DEP
 Date: MAR., 1994 Job No. 94

PLAN SHEETED DATE

NOTE BOOK PLOTTED

ALIGNMENT CHECKED

BY: [] WAY CHECKED

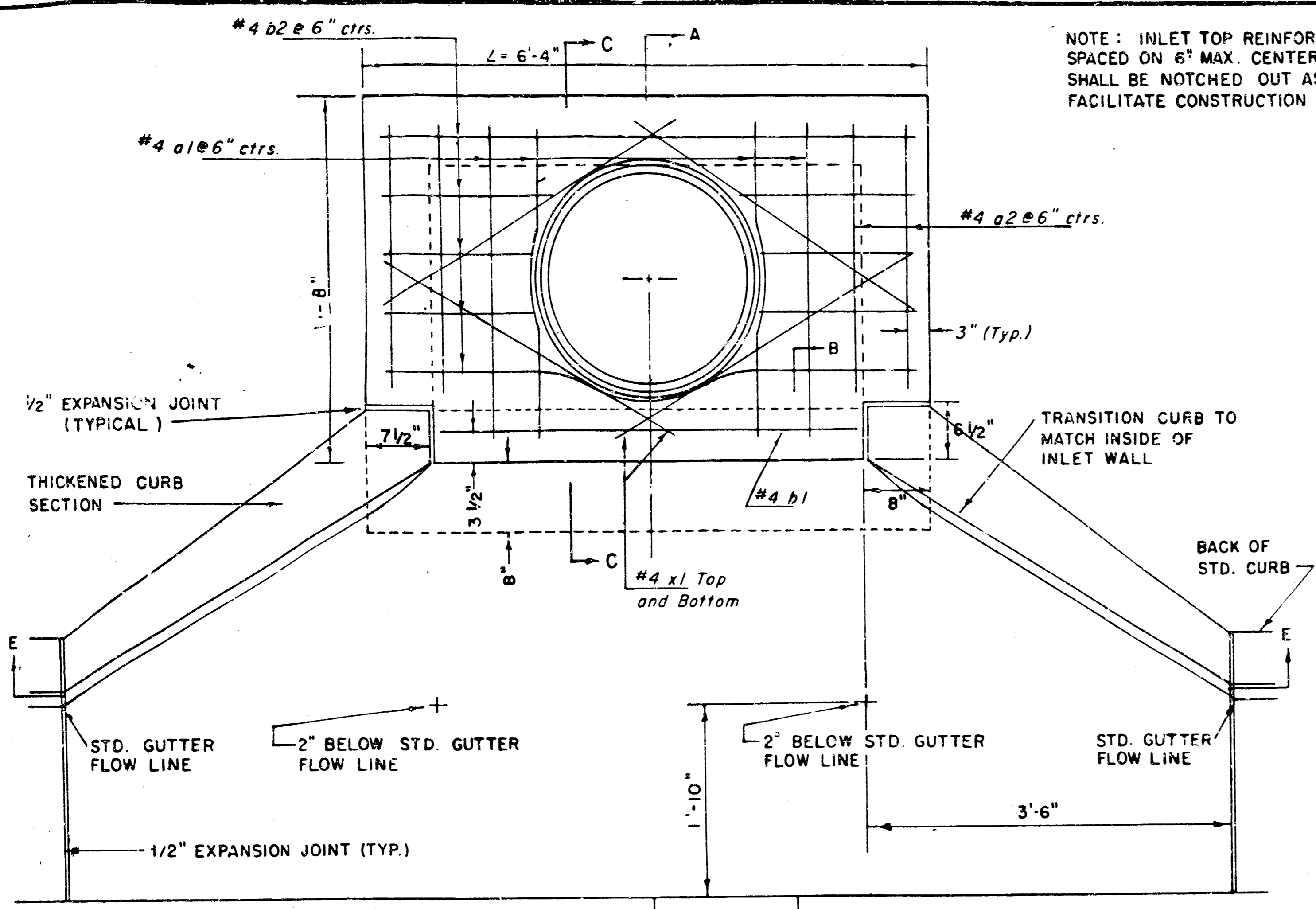
89 MISC DILLS

CENTER COORDINATES:

ROTATION ANGLE:

DATE LAST WORKED ON:

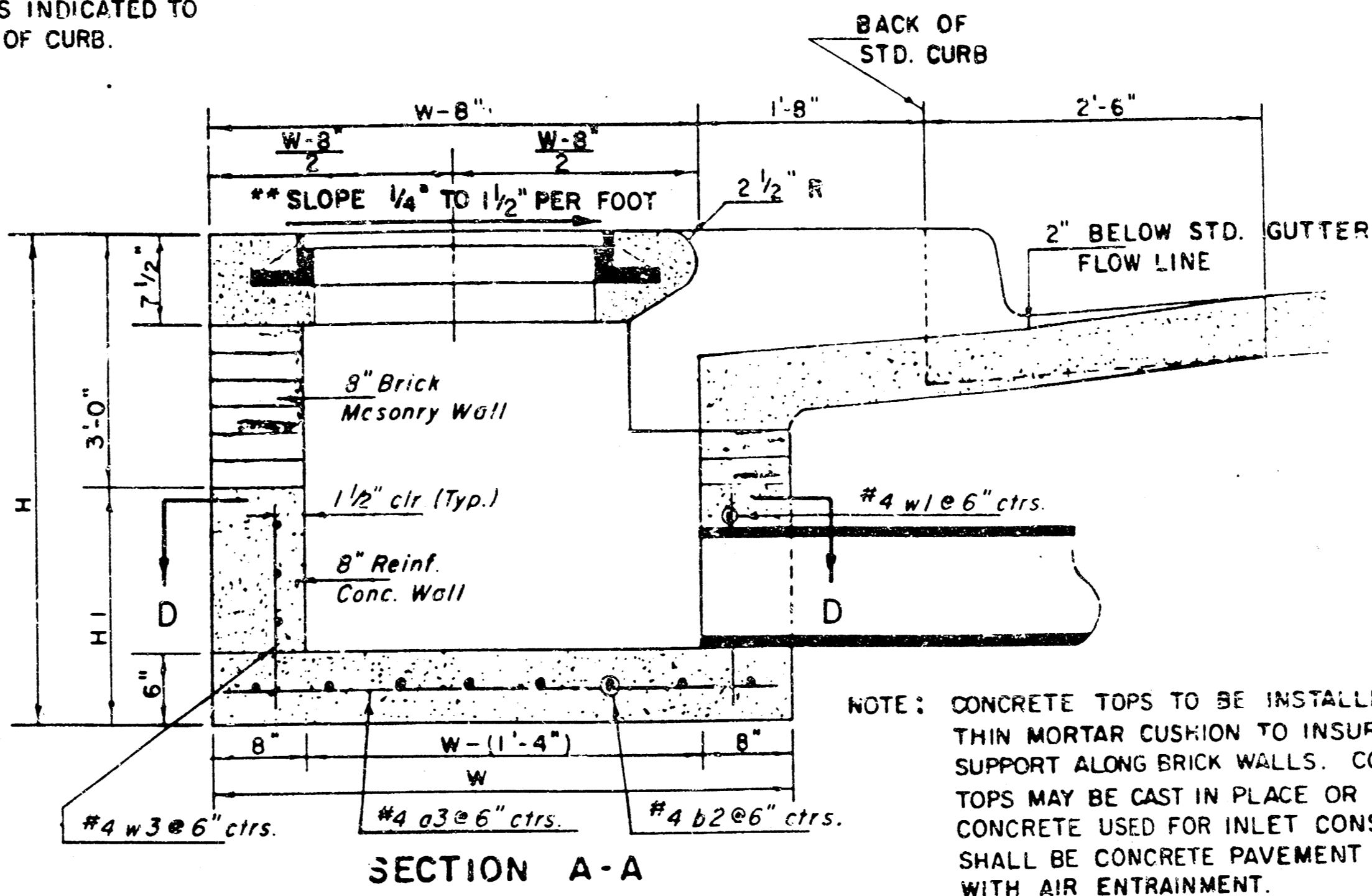
DAR CRONA



NOTE: EXPANSION JOINT ONLY IN CURB AREA WITH CONC. PAVEMENT.

PLAN

NOTE: INLET TOP REINFORCING SHALL BE SPACED ON 6" MAX. CENTERS. INLET LIDS SHALL BE NOTCHED OUT AS INDICATED TO FACILITATE CONSTRUCTION OF CURB.



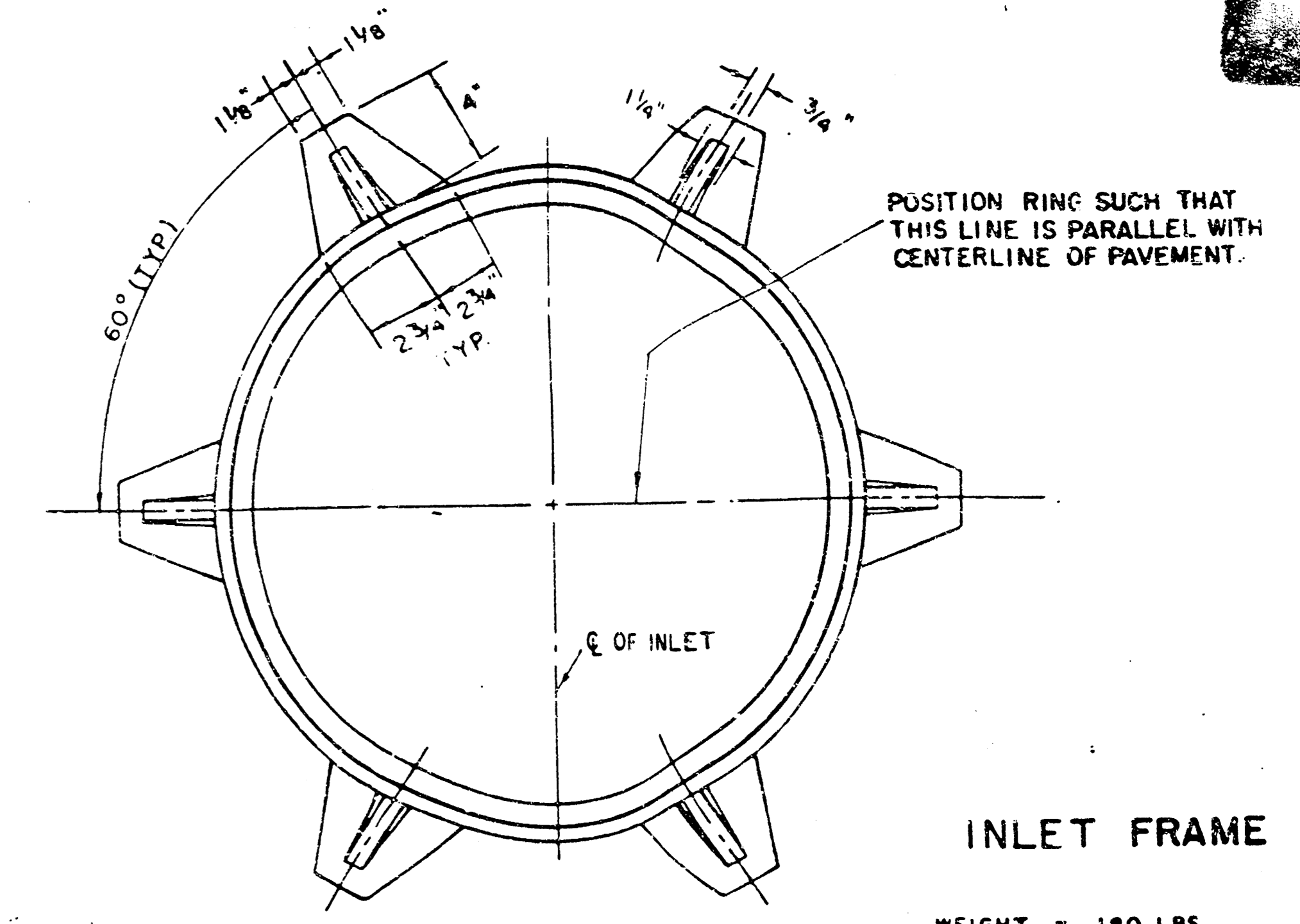
SECTION A-A

NOTE: CONTRACTOR SHALL HAVE THE OPTION OF CONSTRUCTING 8" BRICK MASONRY WALLS BETWEEN THE CONCRETE INLET BASE AND TOP ON THIS INLET WHEN W = 6'-4" AND H = 7'-0" OR LESS.

ADDITIONAL CURB AND GUTTER CONSTRUCTION NECESSARY TO CONNECT SET-BACK INLET TO PAVEMENT WILL BE PAID FOR AT THE UNIT PRICE BID FOR EACH INLET HOOKUP.

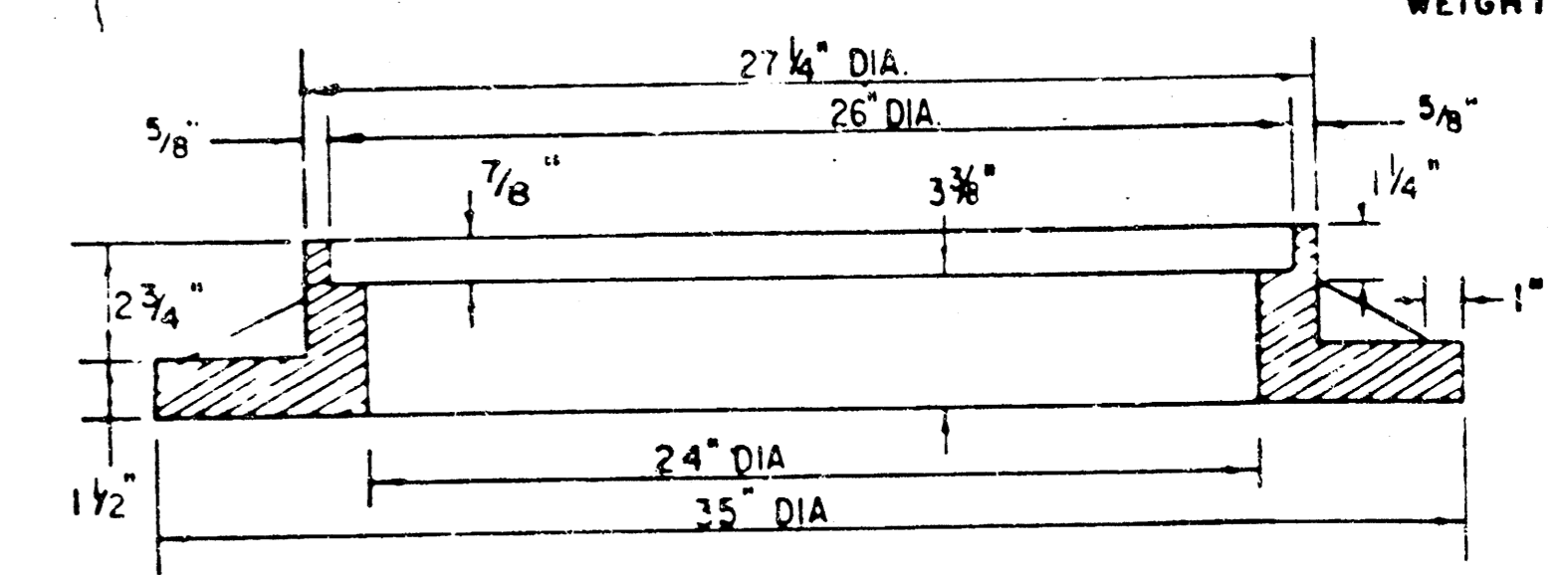
INLET INVERT SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF-CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.

THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.



INLET FRAME

WEIGHT = 180 LBS.



SEE CITY OF WICHITA STANDARD MANHOLE FRAME AND COVER DETAIL SHEET FOR COVER DETAILS TO BE USED WITH INLET FRAME.

PRECAST SLAB AND FLOOR REINFORCING											
Mark	Size	W=4'-4"		W=5'-4"		W=6'-4"		W=7'-4"		W=8'-4"	
		No.	Length	No.	Length	No.	Length	No.	Length	No.	Length
a1	#4	6	6'-7"	6	8'-7"	6	10'-7"	6	12'-7"	6	14'-7"
a2	#4	4	6'-0"	4	8'-0"	4	10'-0"	4	12'-0"	4	14'-0"
a3	#4	13	4'-1"	13	5'-1"	13	6'-1"	13	7'-1"	13	8'-1"
b1	#4	1	4'-9"	1	4'-9"	1	4'-9"	1	4'-9"	1	4'-9"
b2	#4	23	6'-1"	29	6'-1"	35	6'-1"	41	6'-1"	47	6'-1"
x1	#4	8	3'-10"	8	4'-2"	8	4'-6"	8	4'-10"	8	5'-2"

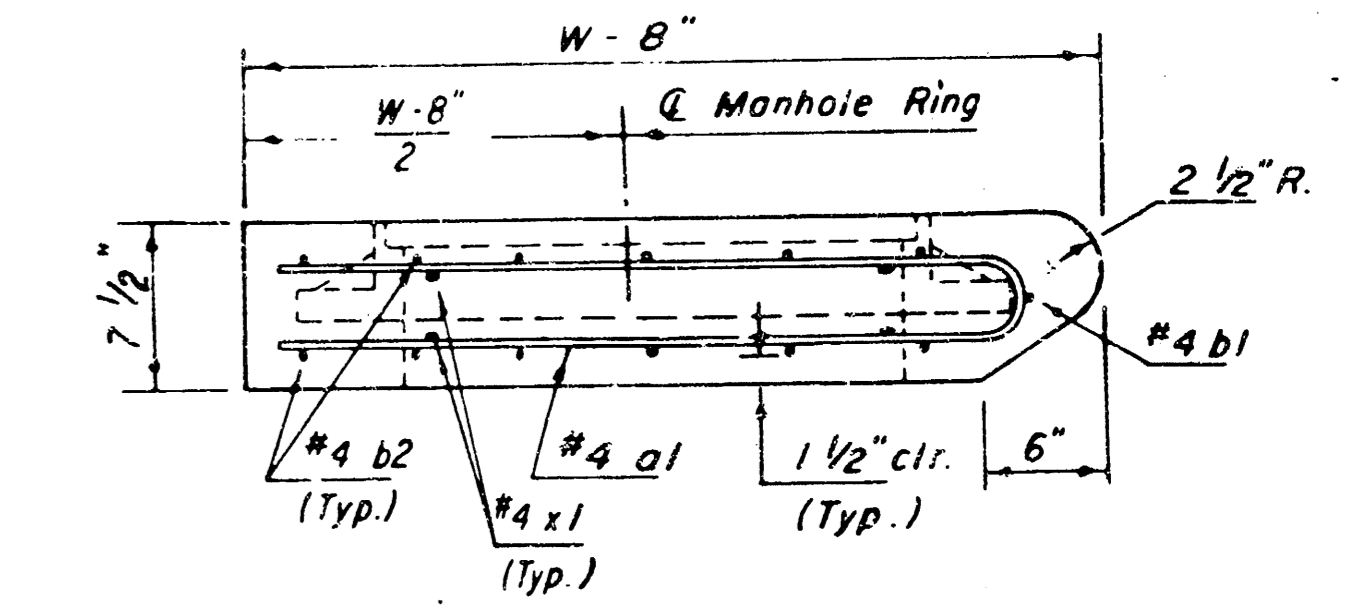
WALL REINFORCING											
Mark	Size	W=4'-4"		W=5'-4"		W=6'-4"		W=7'-4"		W=8'-4"	
		No.	Length	No.	Length	No.	Length	No.	Length	No.	Length
w1	#4	1	5'-1"	1	6'-1"	1	6'-1"	1	6'-1"	1	6'-1"
w2	#4	1	4'-1"	1	5'-1"	1	6'-1"	1	7'-1"	1	8'-1"
w3	#4	32	2	36	2	40	2	44	2	48	2

* Field bend or cut Reinforcing as required for clearance.
 ① 4(HI-12"); (HI-12") Round down to nearest 0.5"
 ② HI-3"

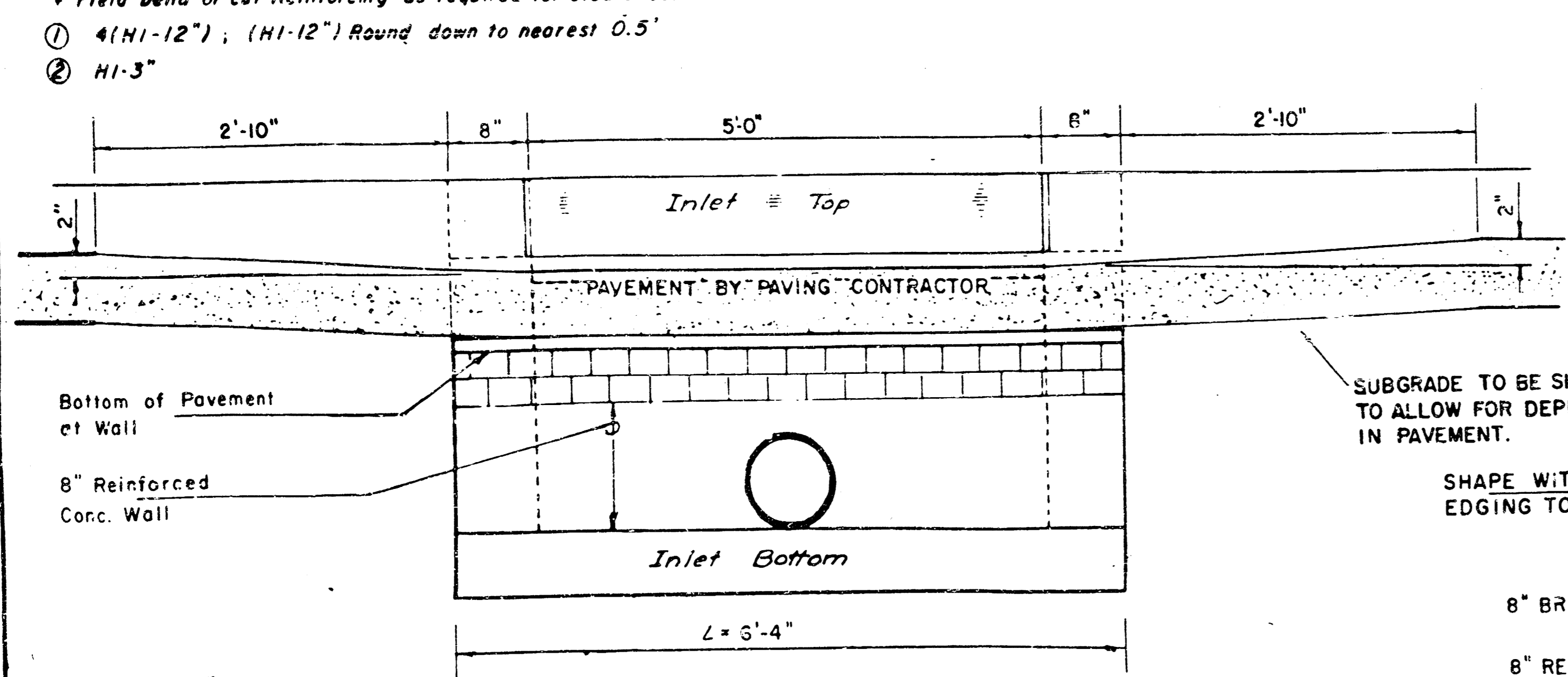
BENDING DIAGRAM

STANDARD CURB INLET PRECAST TOPS				
W	PRE-CAST TOP SIZE	PIPE SIZE	CU YD. CONC.	
4'-4"	3'8" x 6'4" x 7 1/2"	21" & SMALLER	0.38 ±	
5'-4"	4'6" x 6'4" x 7 1/2"	24" & 30"	0.51 ±	
6'-4"	5'6" x 6'4" x 7 1/2"	36" & 42"	0.64 ±	
7'-4"	6'5" x 6'4" x 7 1/2"	48" & 54"	0.77 ±	
8'-4"	7'8" x 6'4" x 7 1/2"	60" & 66"	0.90 ±	

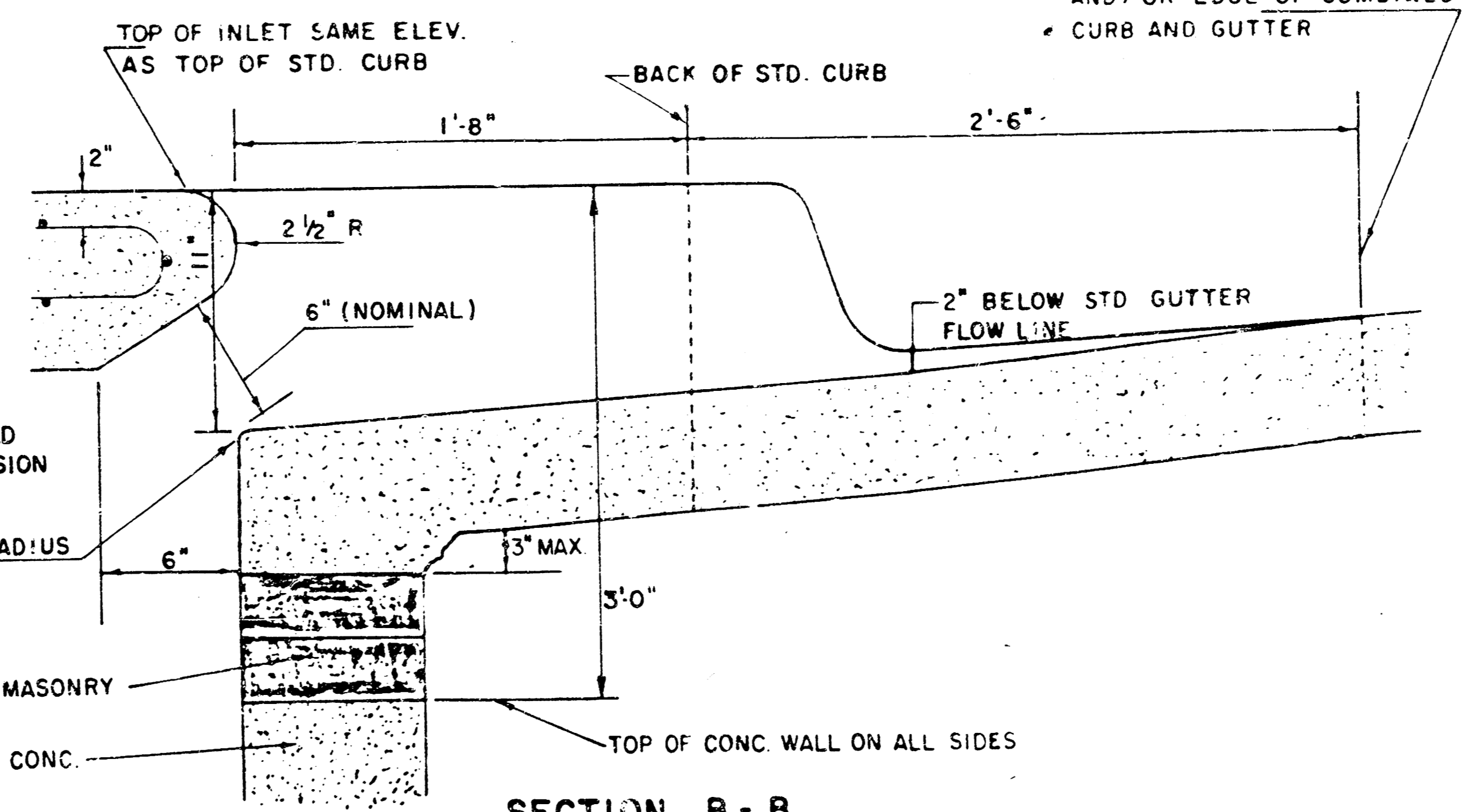
**NOTE: Slope of inlet Tops to match Sidewalk or Parking Slopes within Limits indicated.



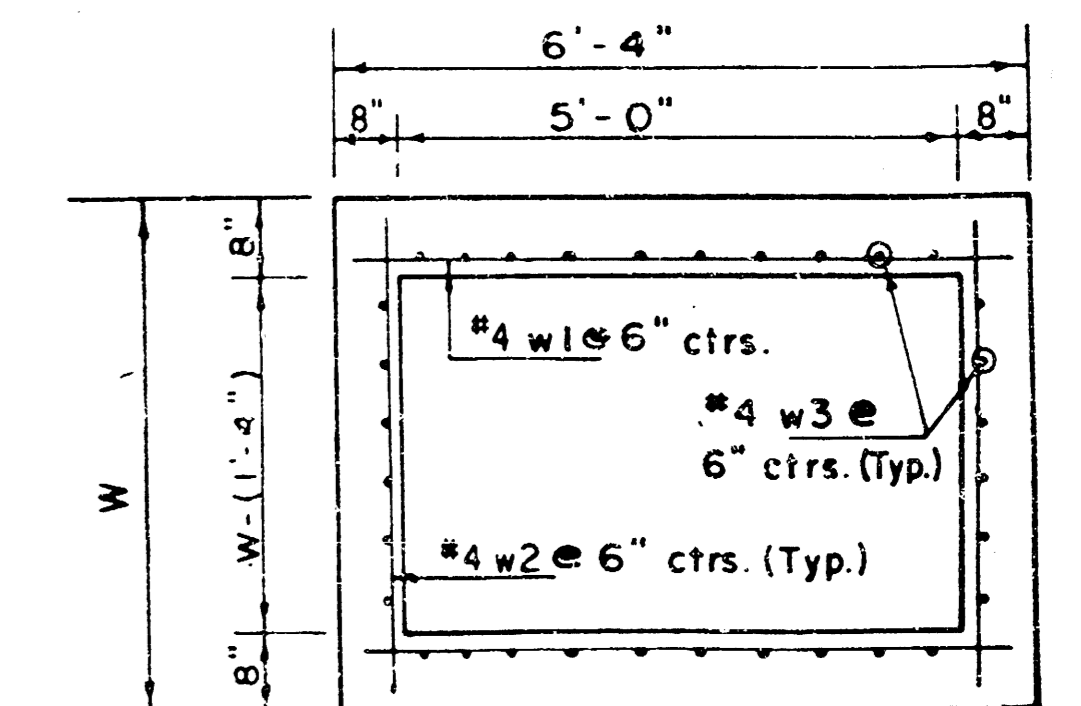
SECTION C-C



SECTION E-E



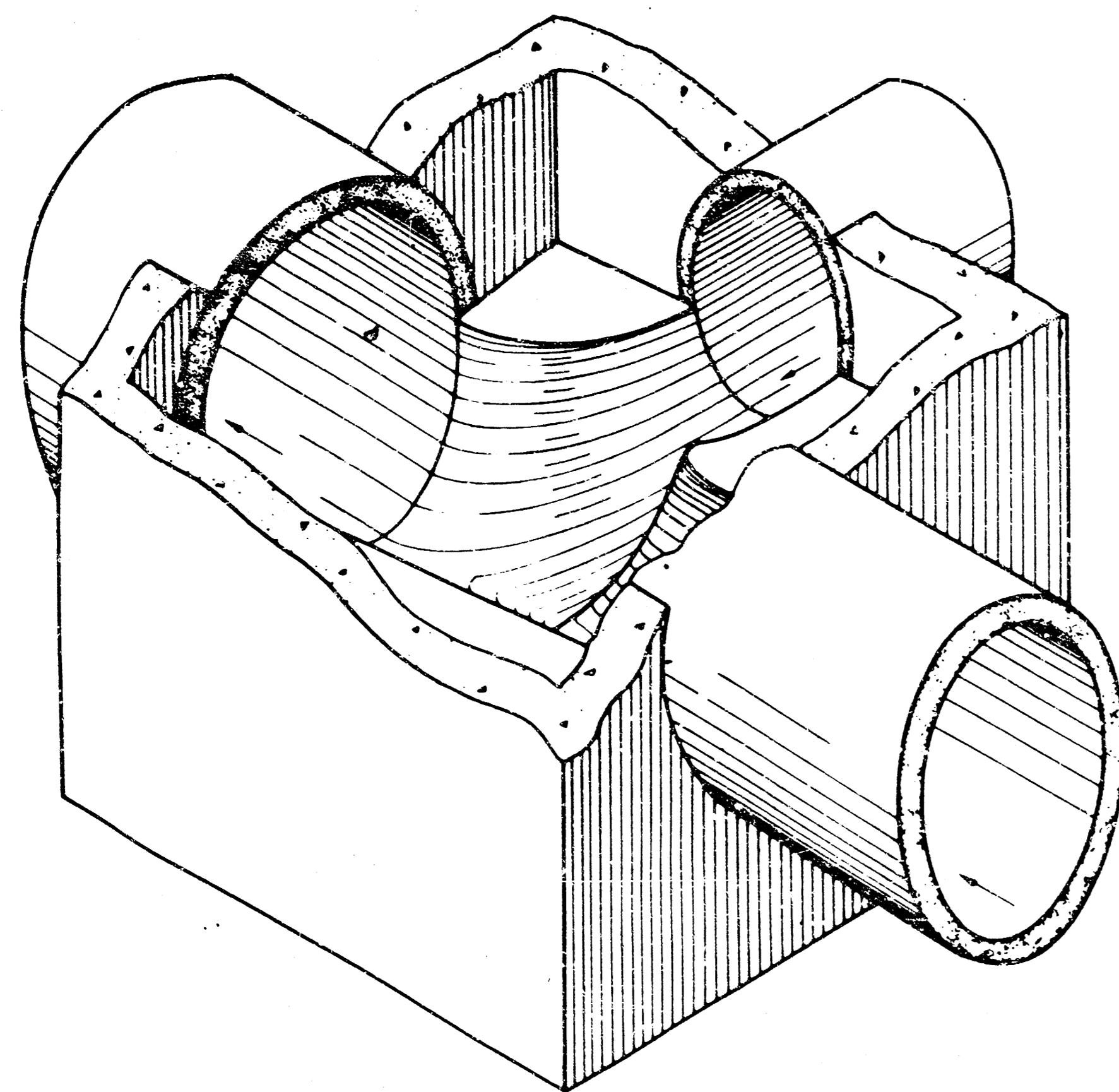
SECTION B-B



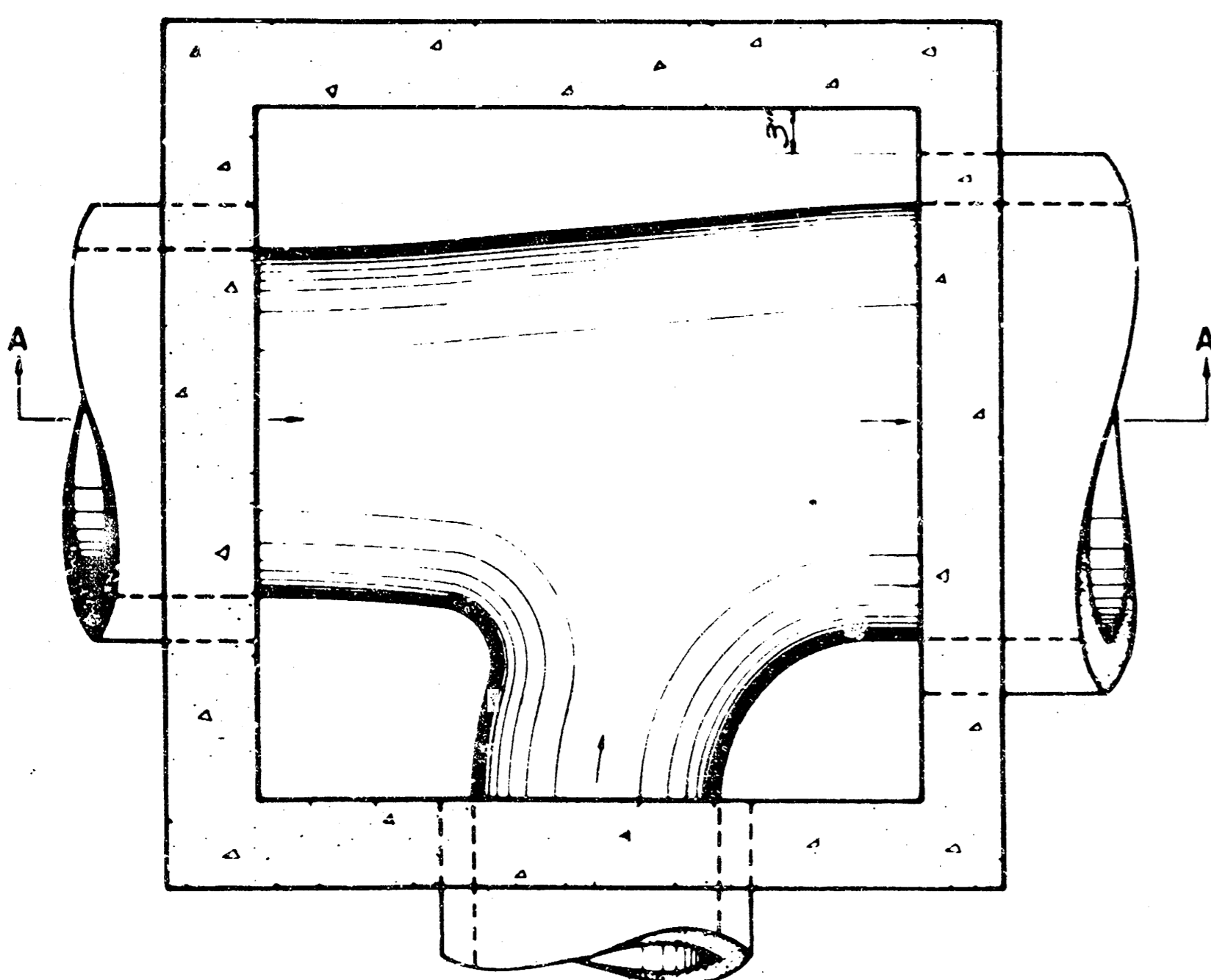
SECTION D-D

REVISED 11-30-1984
 REVISED 12-2-1984

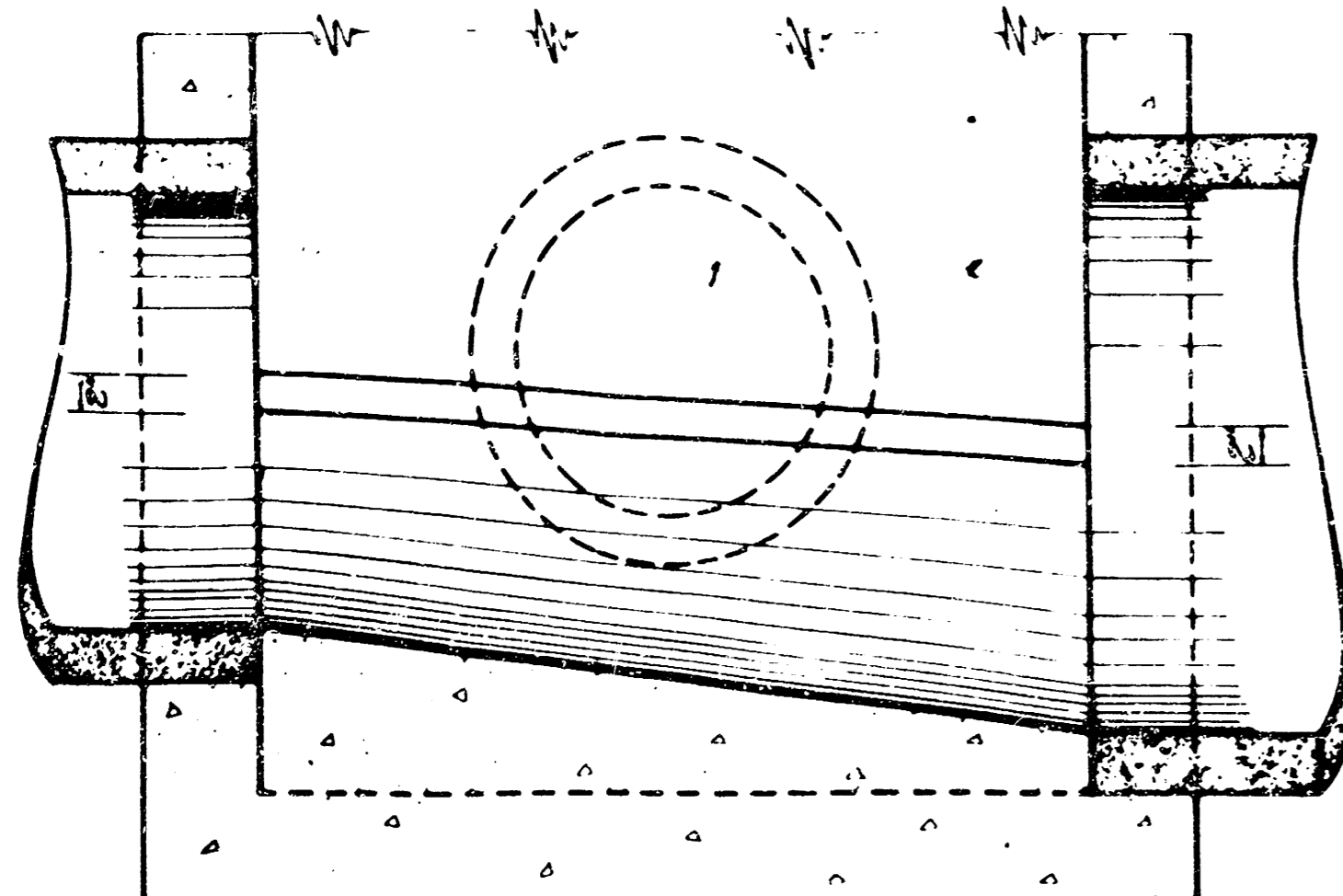
DETAIL STANDARD TYPE IA CURB INLET
 CITY OF WICHITA, KANSAS
 INLET OPENING = 6" x 5' 0"
 L=6'-4"
 JUNE 1984



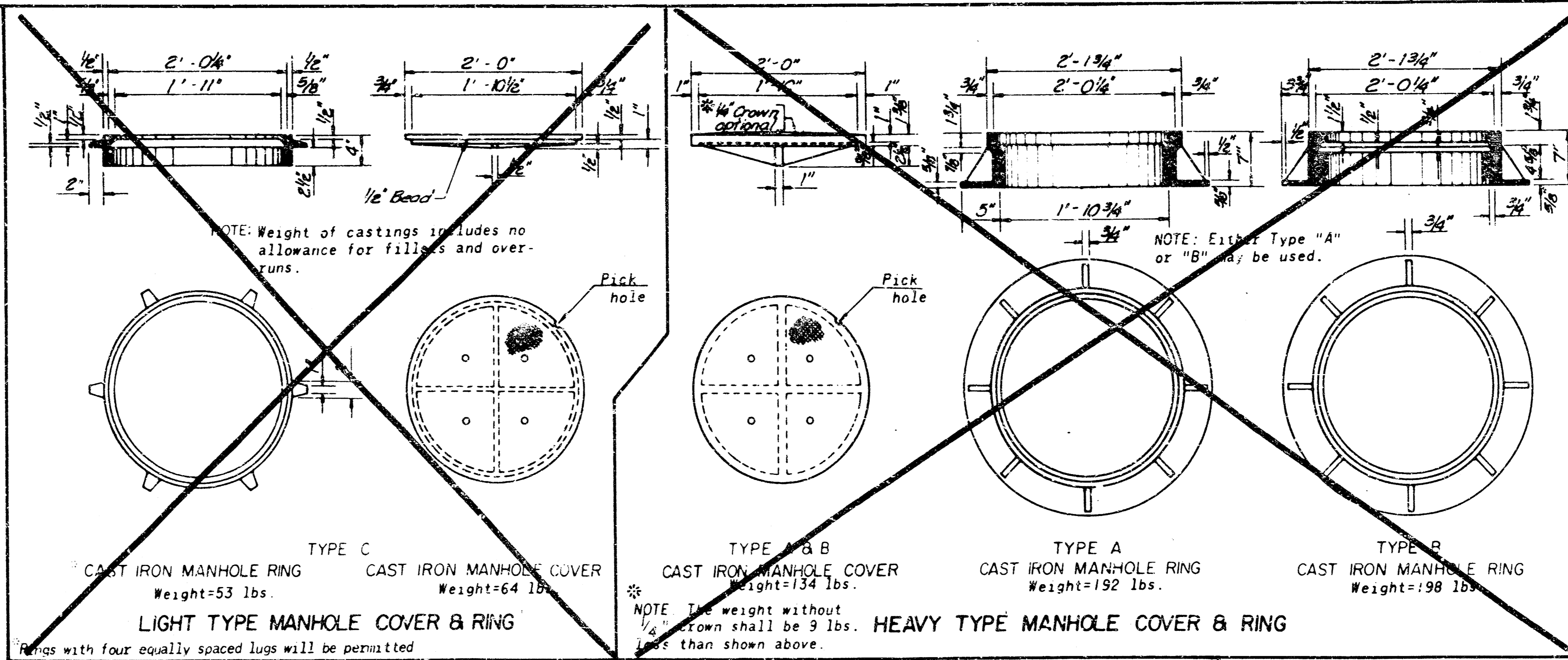
SECTIONAL VIEW (EXAMPLE IV)
Showing Floor Shaping



FLOOR PLAN (EXAMPLE IV)

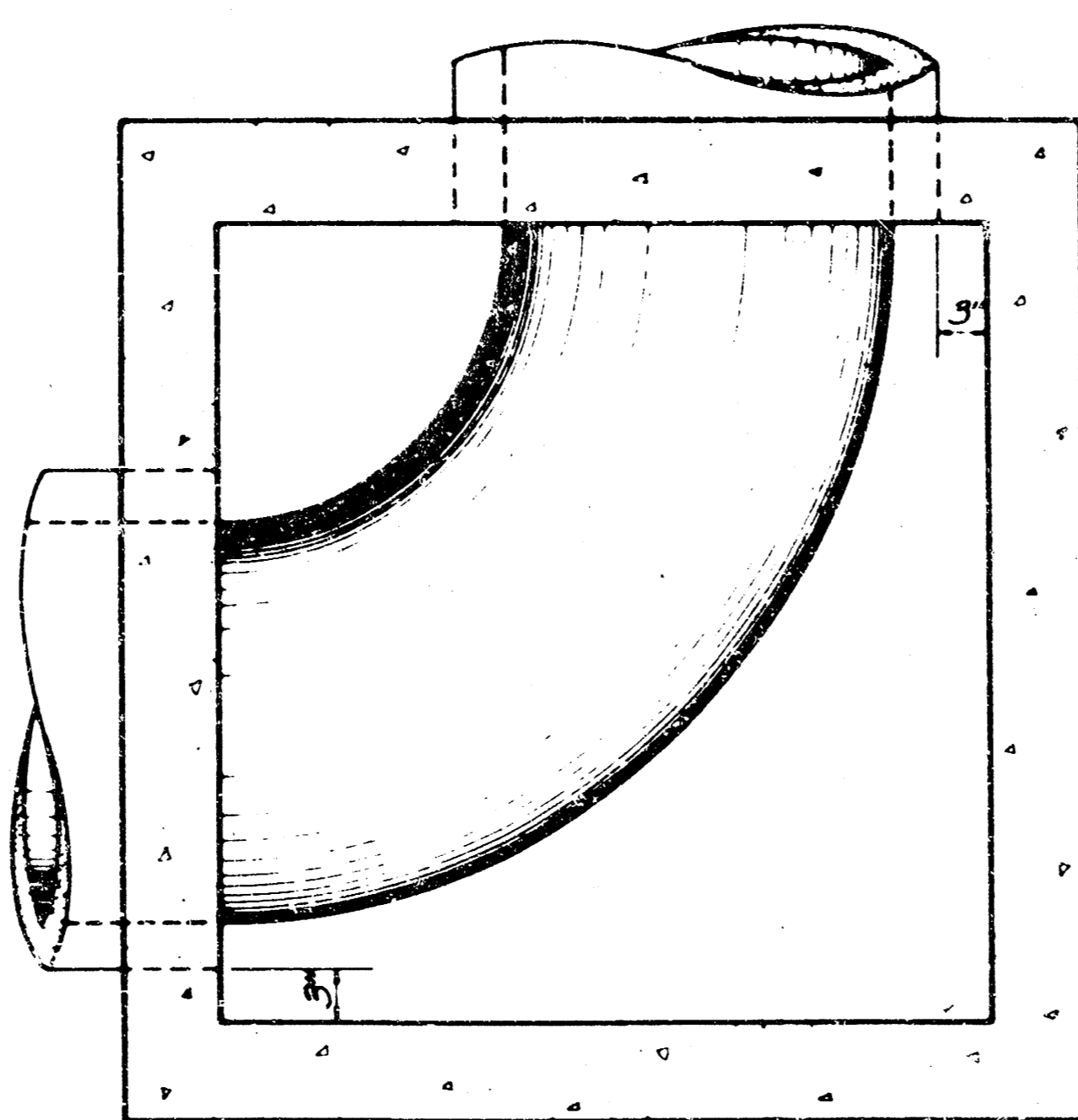


SECTION A-A (EXAMPLE IV)

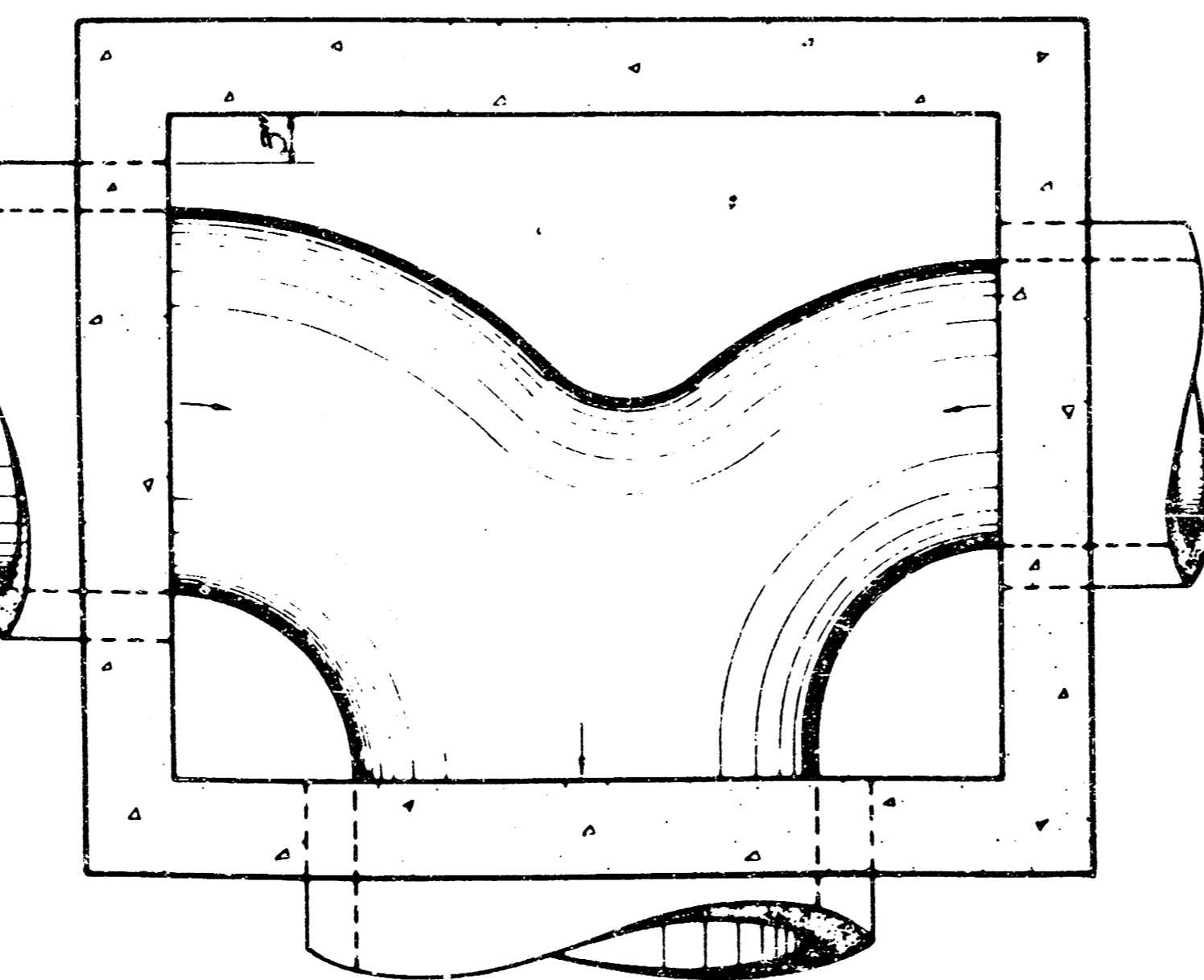


TYPICAL EXAMPLES OF VARIOUS PIPE COMBINATIONS

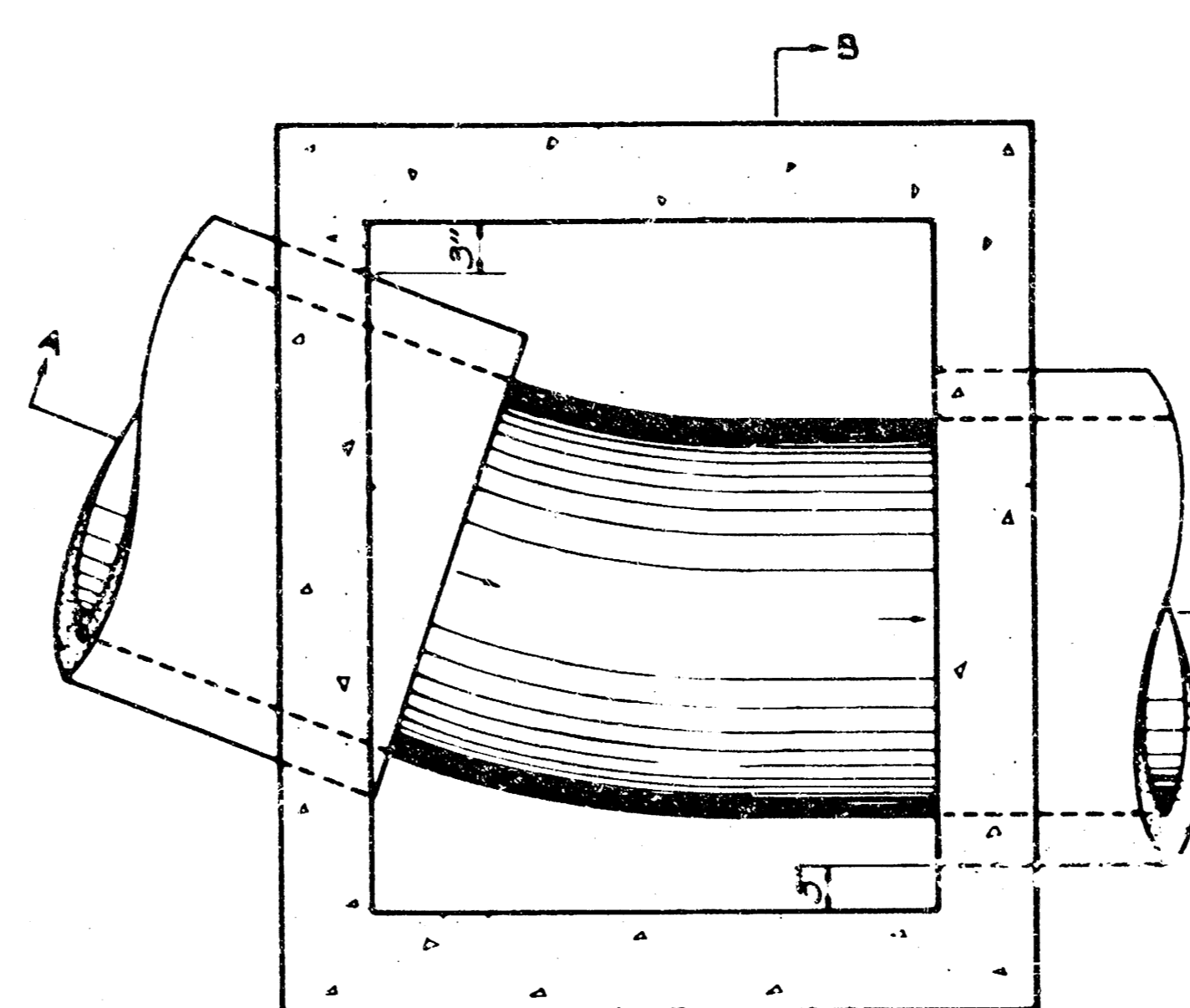
Showing method of shaping floor of manholes to provide increased hydraulic efficiency. For reinforcing & other features see "PLAN" and "SECTION"



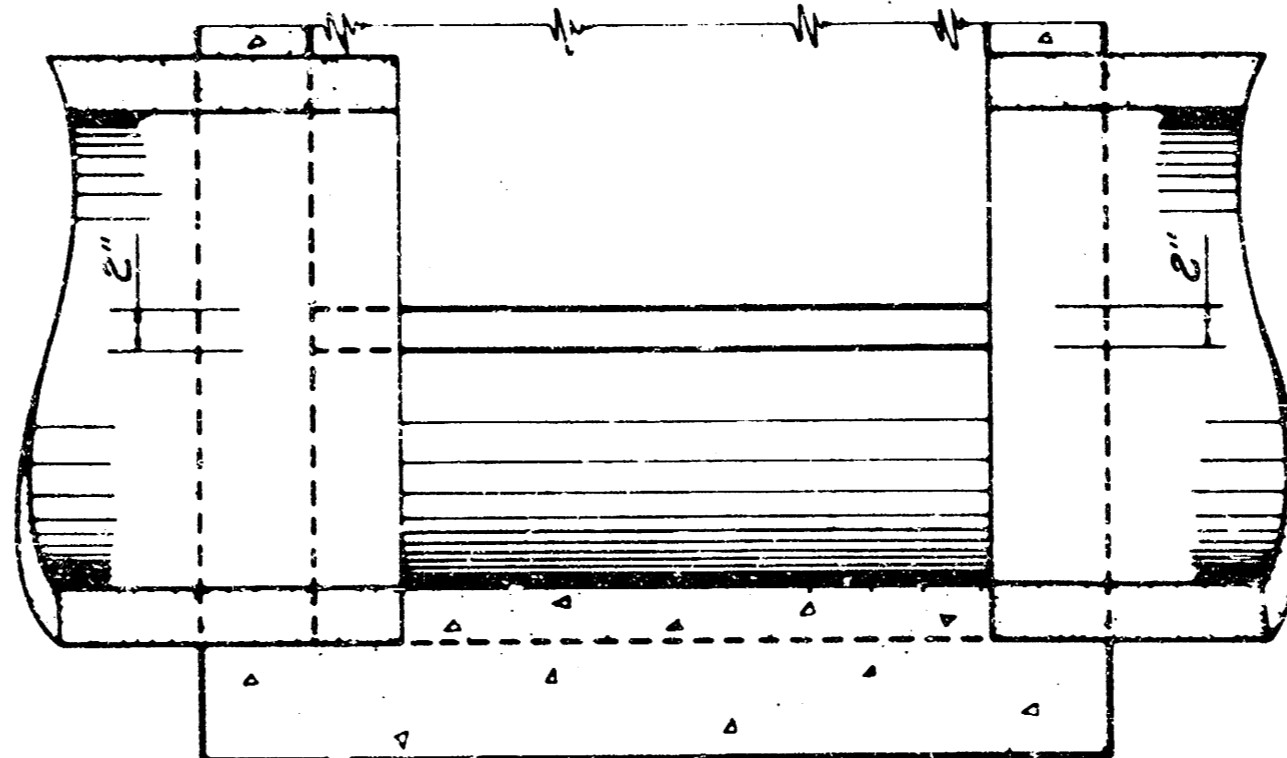
FLOOR PLAN (EXAMPLE II)



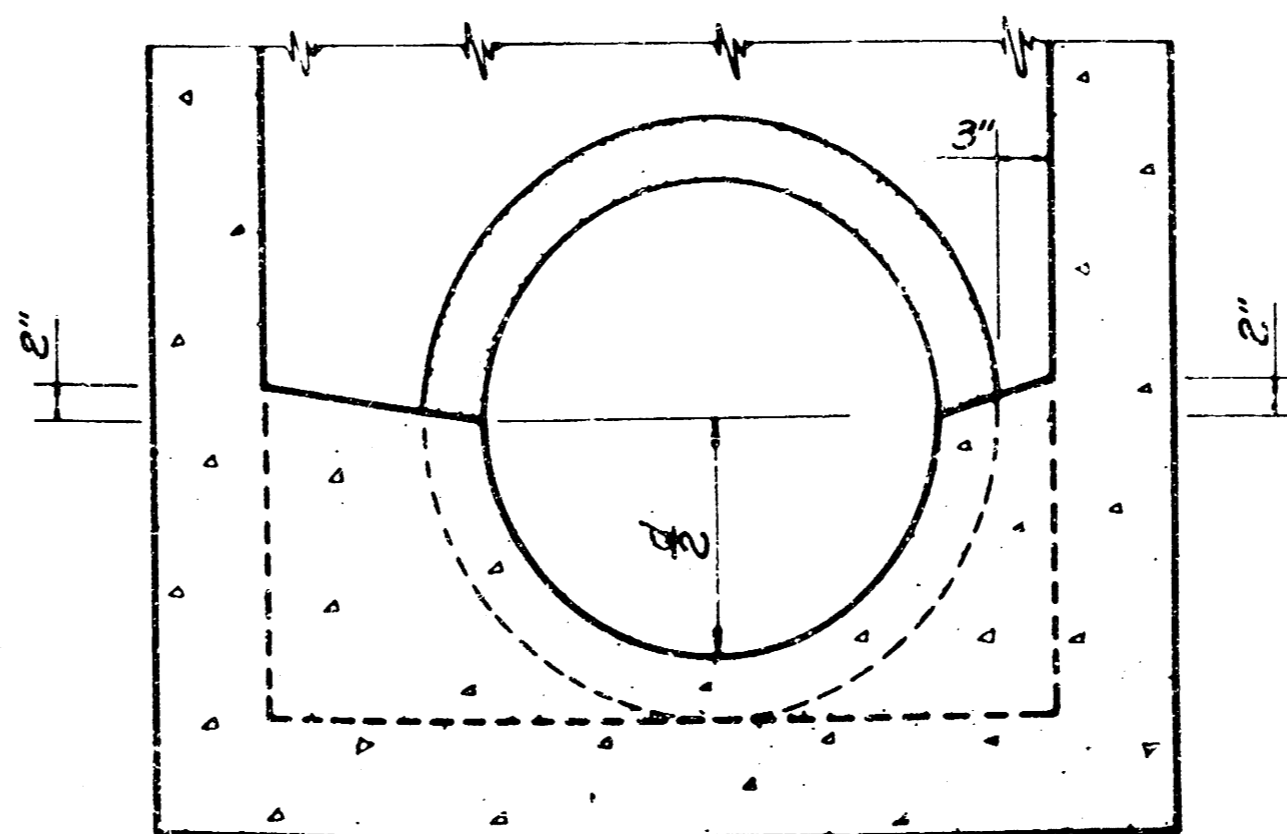
FLOOR PLAN (EXAMPLE III)



FLOOR PLAN (EXAMPLE I)



SECTION A-A (EXAMPLE I)



SECTION B-B (EXAMPLE I)

NOTE: Use Class A Concrete throughout. All exposed edges shall be finished with an edging tool.

At the contractor's option Class A Concrete (A-1) mix used in Conc. Pvt. may be used throughout.

In general, pipes will enter and leave the manhole at various positions. Where possible bend bars around pipes. Floor of manhole to be shaped as shown in various "EXAMPLES" with unreinforced concrete.

Manhole opening and steps, where used, shall be placed to afford easy access to top of shaped invert. Top reinforcing bars to be adjusted accordingly.

All castings shall be gray iron and shall comply with the Standard Specifications.

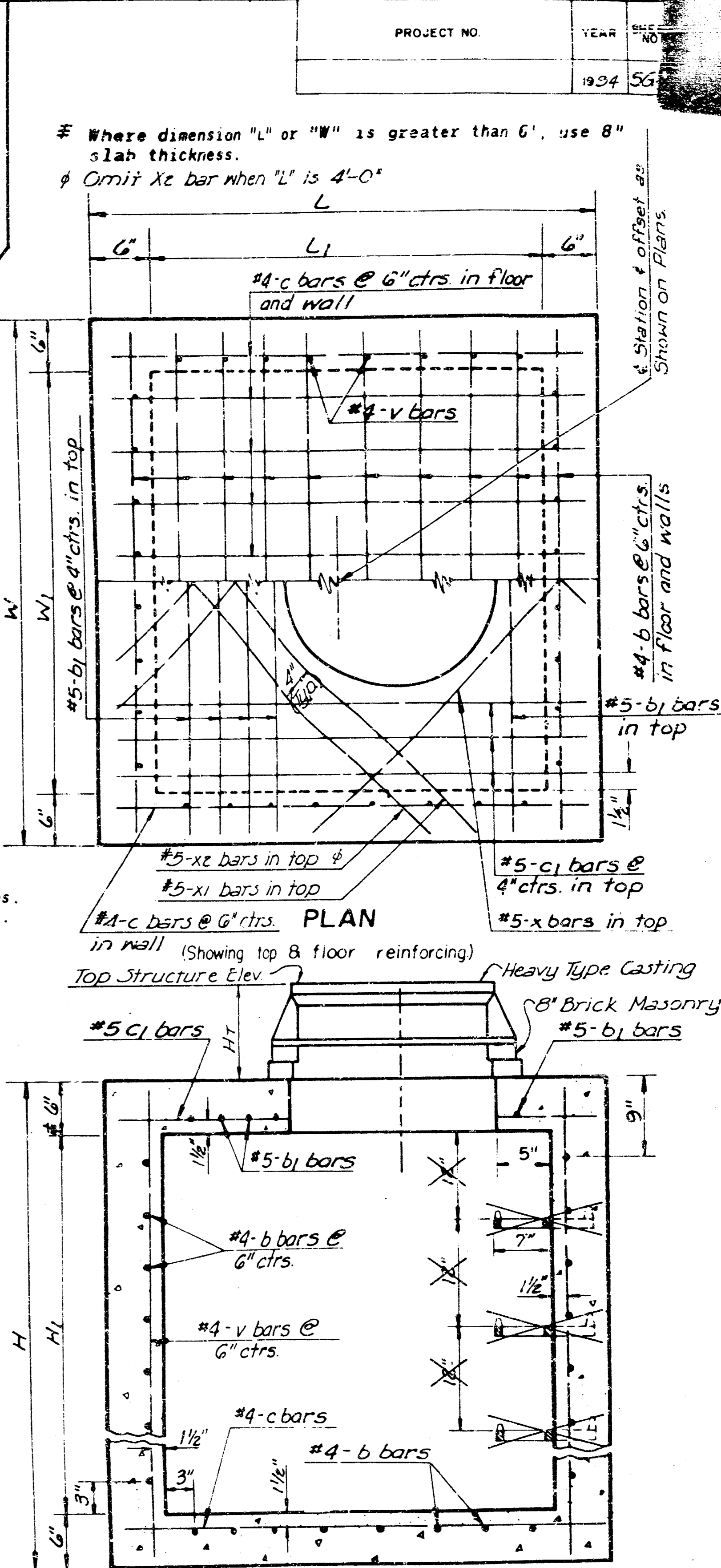
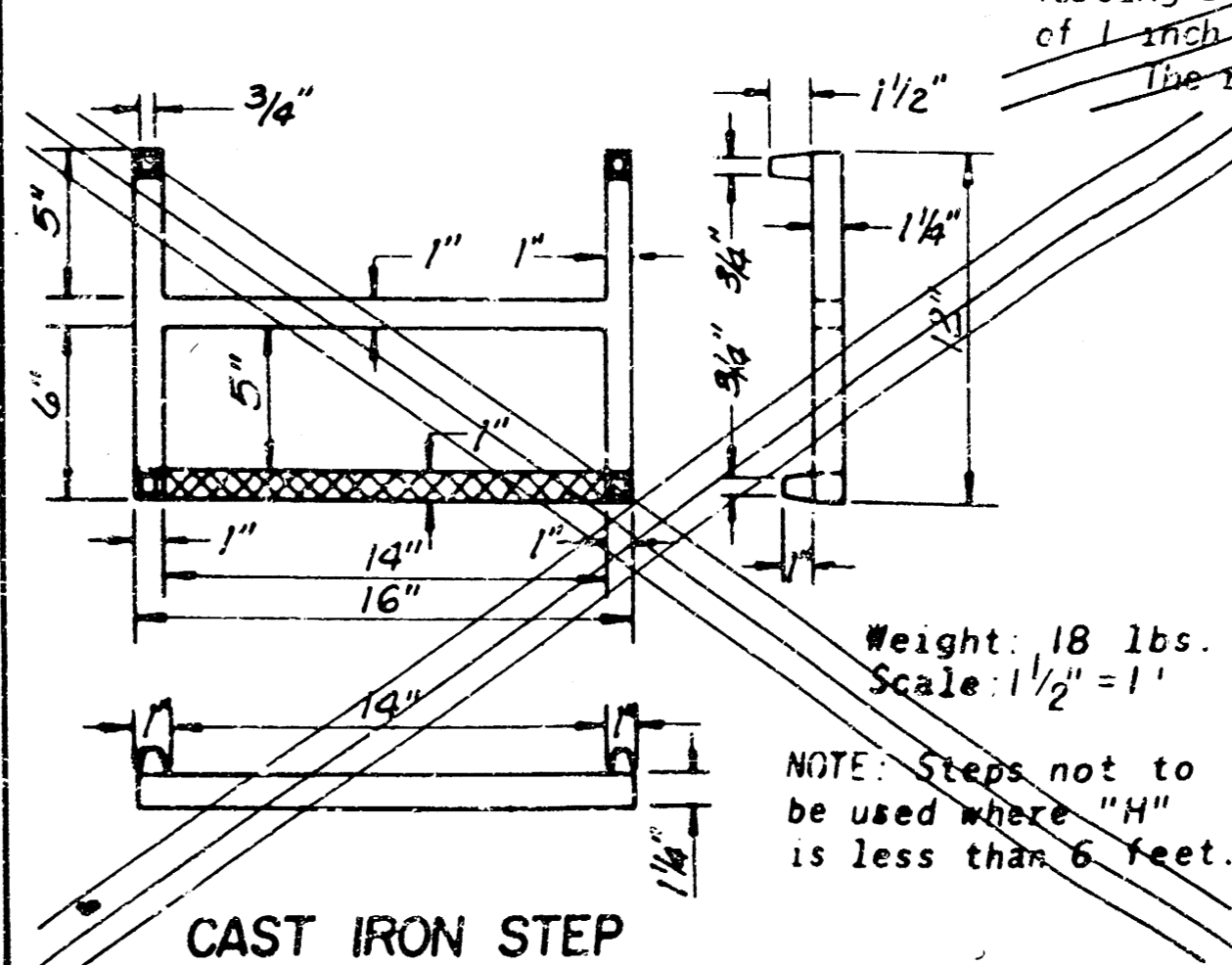
All exposed cast iron surfaces (rings & covers) not subjected to traffic, shall be painted either in the shop or in the field with one coat of a zinc dust paint, followed by two field coats of aluminum paint.

No deductions in concrete quantities shall be made for pipe openings.

No additions in concrete quantities shall be made for shaping floor of Manholes.

When so ordered by the Engineer, the top of the manhole shall be sloped slightly to approximately fit the ground line or other conditions.

Dimensions and weights of cast iron as shown on this sheet are minimum. Larger dimensions and/or heavier weights of cast iron may be used.



26	9-28-82	Rev. Step from 16" to 14" clear opening	W.L.H.	L.R.P.
25	8-19-80	Revised to Standard Specs.	W.L.H.	L.R.P.
24	4-2-80	Labeled bars same as Steel table	W.L.H.	L.R.P.
NO.	DATE	REVISIONS	BY	APP'D

KANSAS DEPARTMENT OF TRANSPORTATION

REINFORCED CONCRETE MANHOLE

STD. NO. 633

SHEET NO. OF SCALE 1" = 1' APP'D: J. J. [Signature] 4-5

DESIGNED BY: [Signature] QUANTITIES: [Signature] TRACKED BY: [Signature]

DRAWN BY: [Signature] CHECKED BY: [Signature] TRADE OR AL:

MANHOLE FRAME AND COVER DETAIL

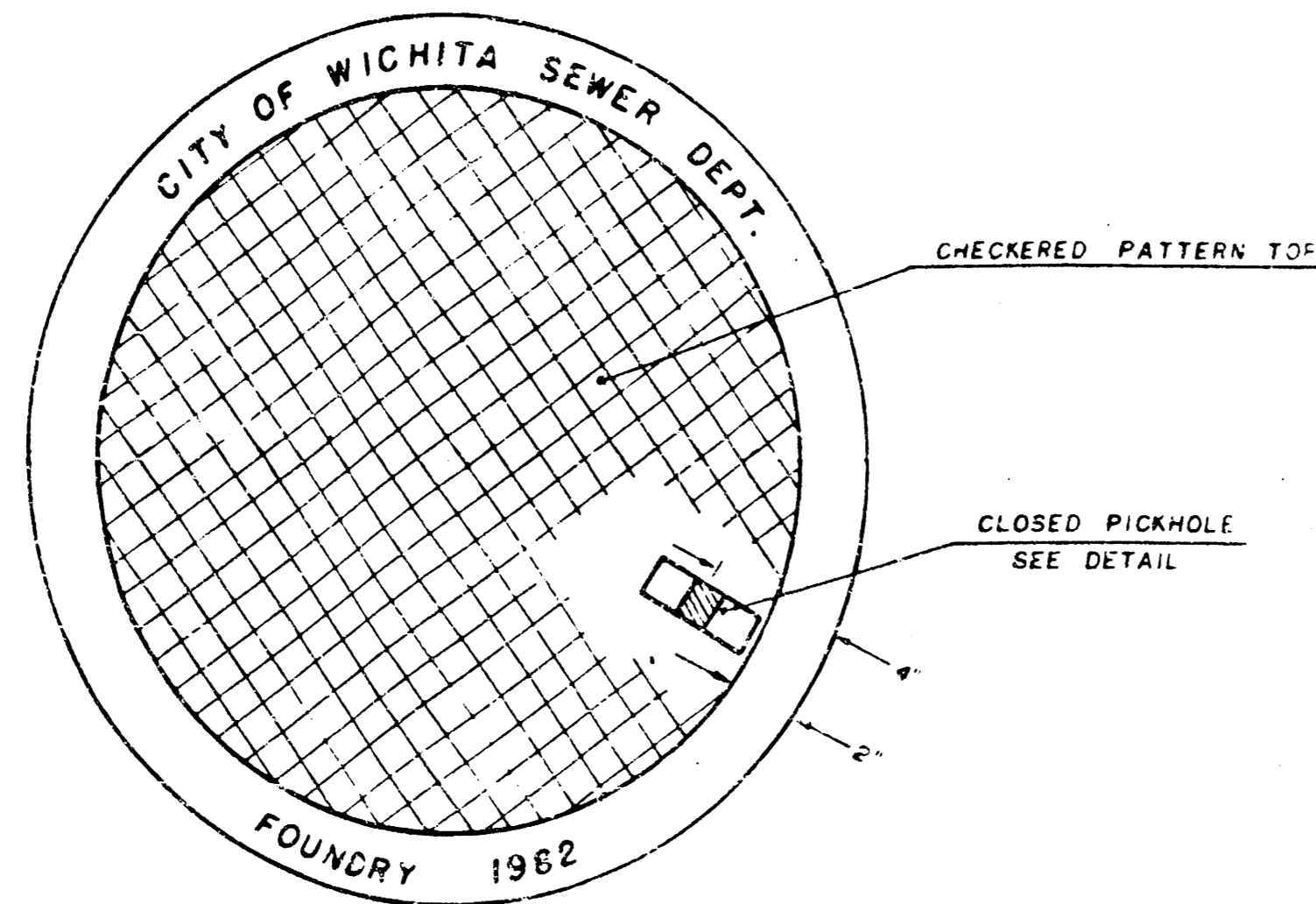
ADOPTED AS STANDARD DESIGN

BY

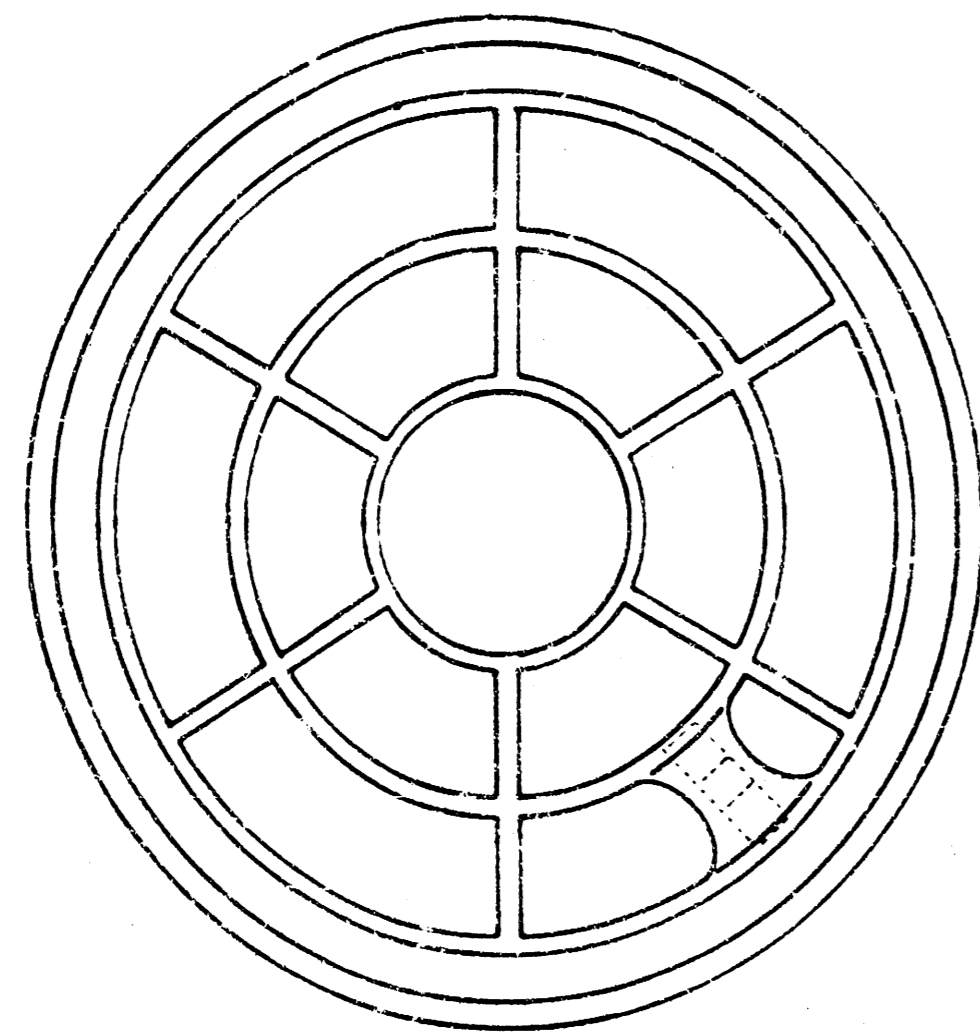
City of Wichita, Kansas

MANHOLE COVER

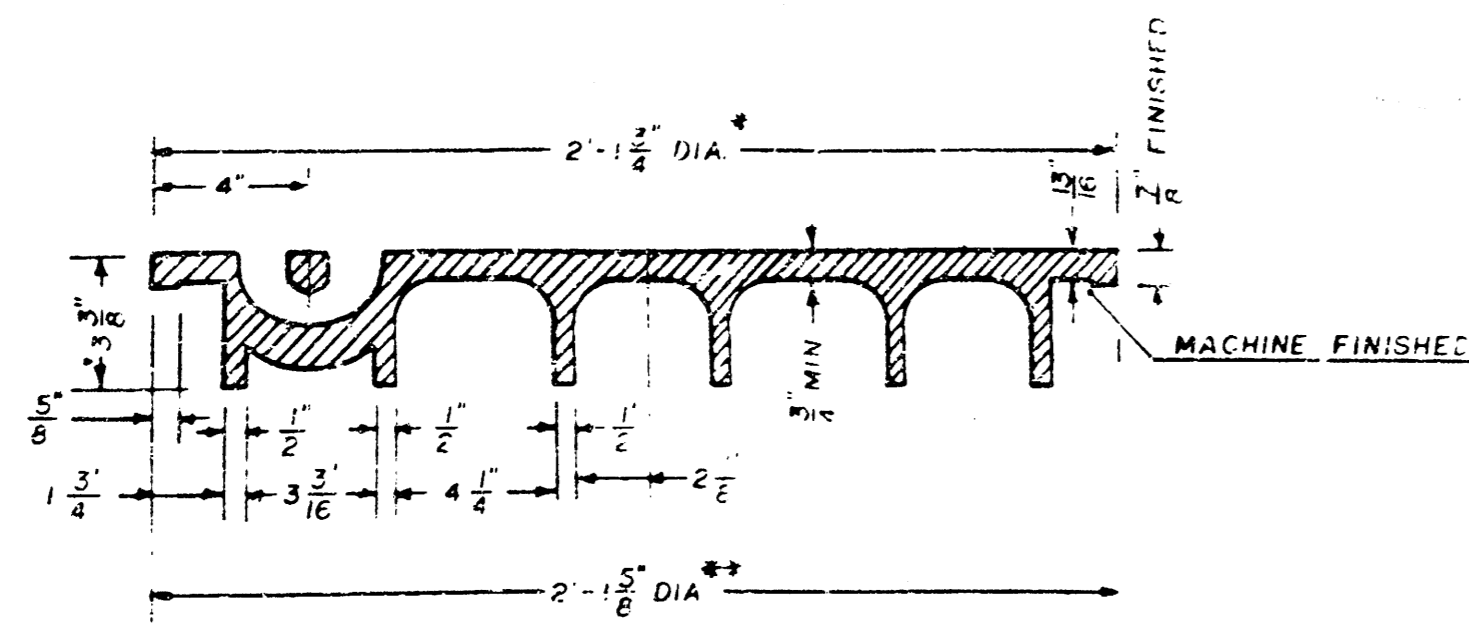
Weight: 180 Lbs.



TOP VIEW



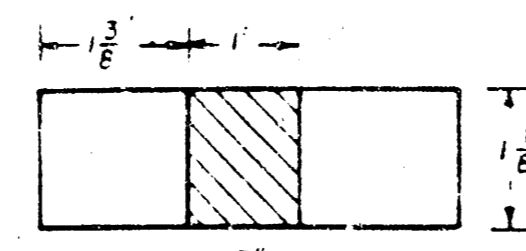
BOTTOM VIEW



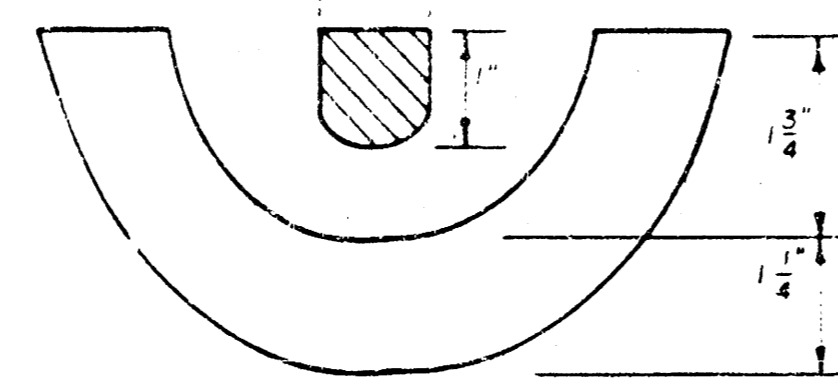
SECTION VIEW

* OUTSIDE DIA. TOP OF COVER
 ** OUTSIDE DIA. BOTTOM OF COVER

PICKHOLE DETAIL



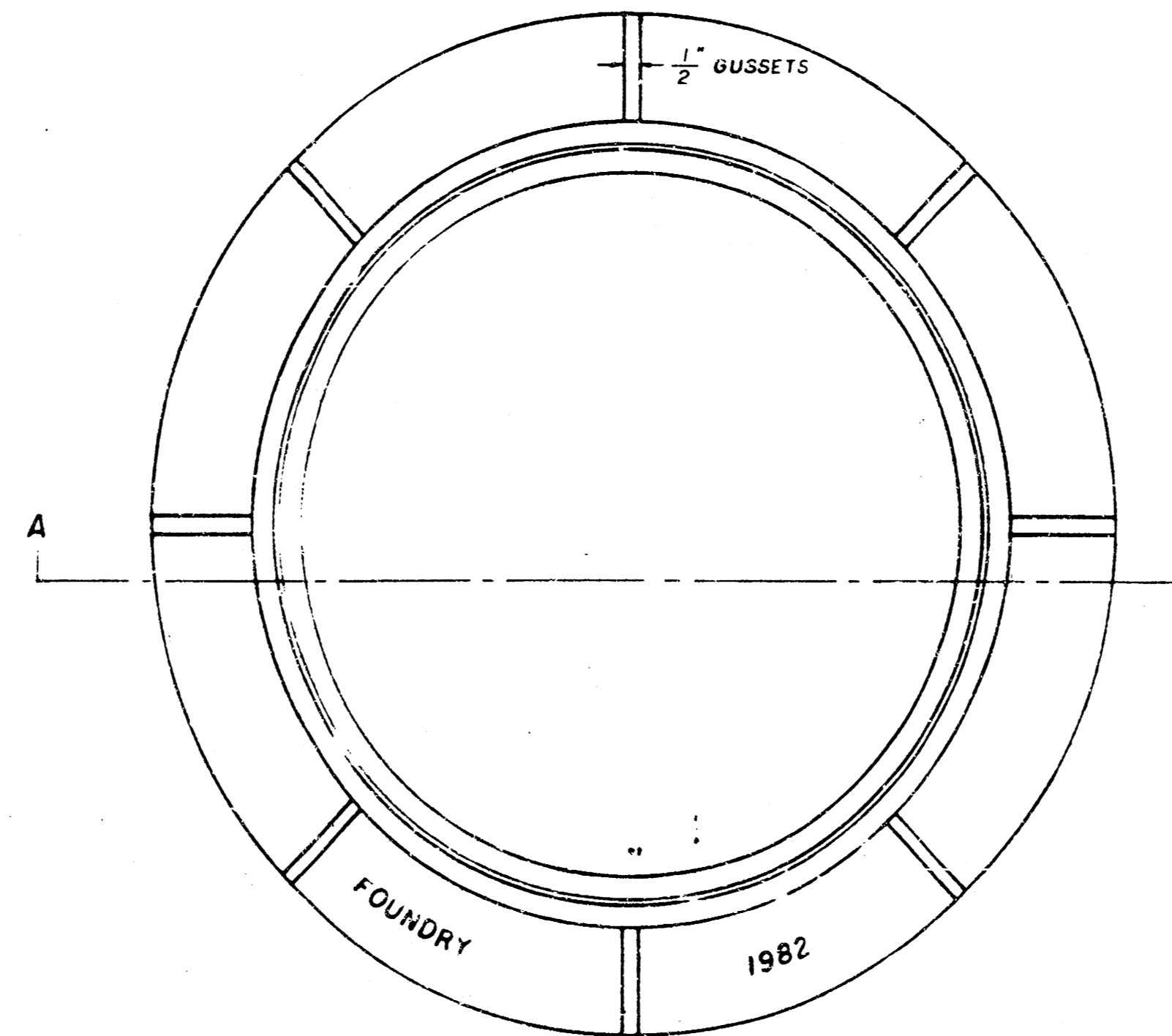
TOP VIEW



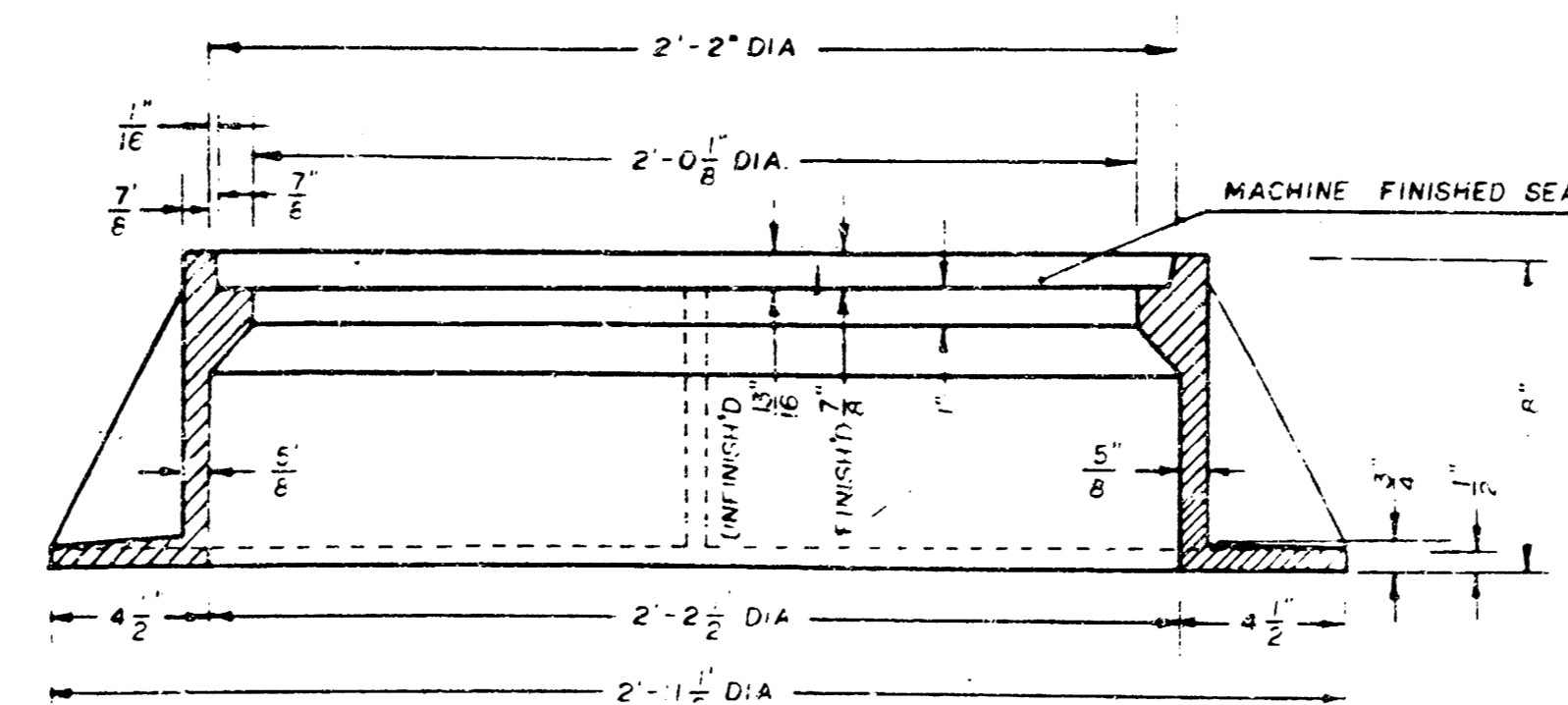
SECTION VIEW

MANHOLE FRAME

Weight: 240 Lbs.



TOP VIEW



SECTION A-A

GENERAL NOTES

1. MANHOLE CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. DESIGNATION A-48. DIMENSIONS AND WEIGHTS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER DEFECTS.
2. MANHOLE CASTINGS SHALL BE MANUFACTURED SUCH THAT A COVER MANUFACTURED BY ANY ONE FOUNDRY WILL FIT INTERCHANGEABLY INTO A FRAME MANUFACTURED BY ANOTHER FOUNDRY AND STILL MEET ALLOWABLE CLEARANCES AND NON-ROCKING REQUIREMENTS. THIS WILL REQUIRE MANUFACTURING OF THE MATCHING FACES ON THE COVER AND THE FRAME TO CLOSE TOLERANCES.
3. THE OUTSIDE CIRCUMFERENCE OF THE VERTICAL FACE OF THE COVER AND THE INSIDE CIRCUMFERENCE OF THE VERTICAL FACE IN THE FRAME RECESS SHALL BE MANUFACTURED TO TOLERANCES SUCH THAT THE CLEARANCE BETWEEN THE COVER AND FRAME WILL NOT EXCEED 1/8" AT ANY POINT AROUND THE CIRCUMFERENCE OF THE COVER. THE SEATING SURFACE BETWEEN THE COVER AND FRAME SHALL BE MACHINED SUCH THAT THESE SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUMFERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.
4. THE MANHOLE FRAME AND COVER SHALL BE MARKED WITH LETTERING INDICATING THE NAME OF THE MANUFACTURER AND THE YEAR WHEN THE COVER OR FRAME WAS CAST. THE COVER SHALL BE FURTHER IDENTIFIED WITH REGARDS TO OWNERSHIP USING LETTERS AT LEAST 1" IN HEIGHT. THIS IDENTIFICATION SHALL BE "CITY OF WICHITA SEWER DEPARTMENT". THE WORD DEPARTMENT MAY BE ABBREVIATED. THE TEXTURE OF THE TOP SURFACE OF THE COVER SHALL BE MANUFACTURED IN A CHECKERED PATTERN DESIGN AS INDICATED ON THE DRAWINGS. SMOOTH BLOCKOUTS SHALL BE UTILIZED TO HIGHLIGHT THE LETTERING ON THE COVER SURFACE. THE TOTAL AREA OF SMOOTH SURFACE BLOCKOUT SHALL NOT EXCEED THE AREA AS INDICATED ON THE DRAWING. POSITIONING OF SMOOTH BLOCKOUTS AND LETTERING MAY VARY FROM THAT SHOWN ON THE DETAILED DRAWING.

