

STORM SEWER PLANS FOR WOODLAND ESTATES S.W.S. NO. 317 PROJECT NO. 468-76-245-81605-000-000-001

CITY OF WICHITA, KANSAS
MICHAEL E. LINDERAK, CITY ENGINEER

GENERAL NOTES

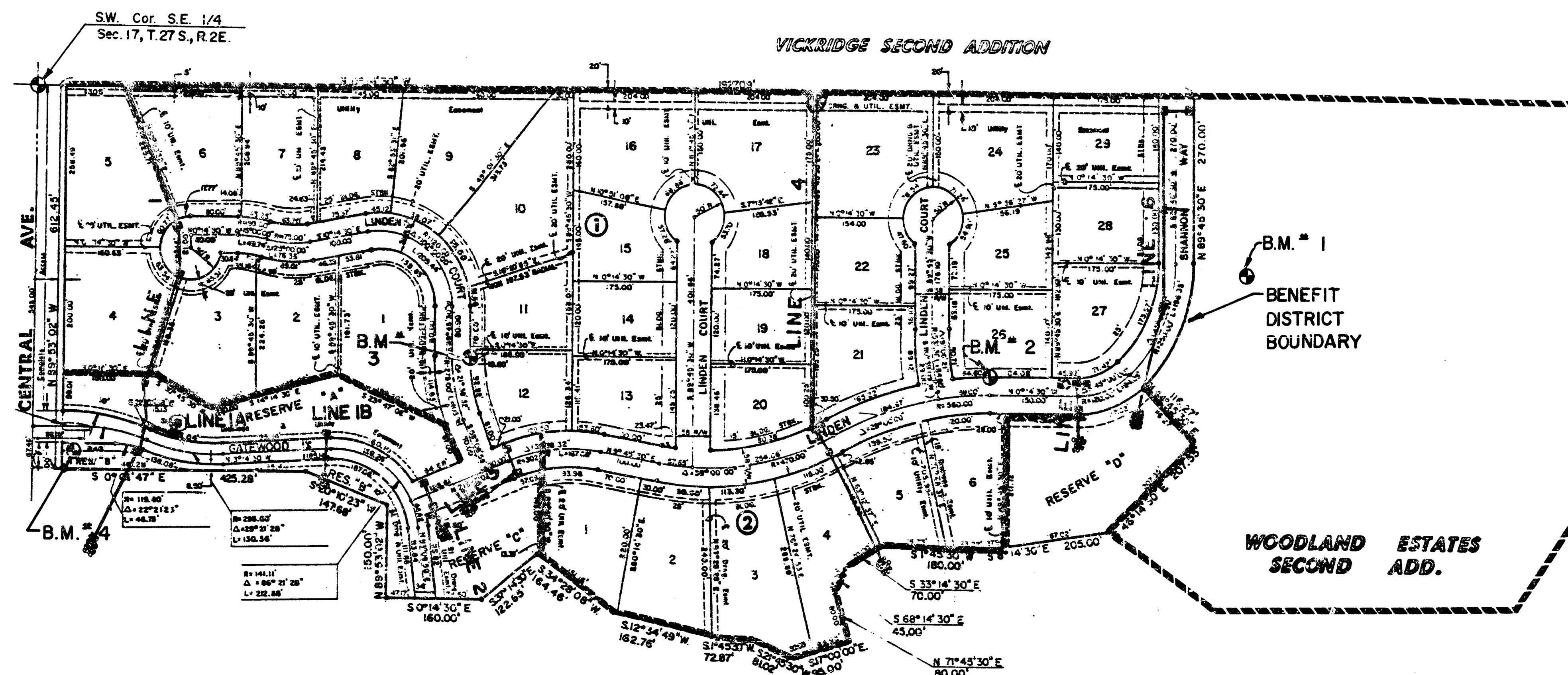
1. THE TOPS OF INLETS AND MANHOLE AS NOTED ON THE PLANS MAY VARY SO AS TO MEET PROPOSED TOP OF CURB ELEVATIONS OR PAVEMENT ELEVATIONS. THE FIELD ENGINEER SHALL LOCATE INLETS AND MANHOLES WITH REFERENCE TO PROPOSED PAVING PLANS OF THE PERTINENT STREETS.
2. ALL CONCRETE SHALL BE STANDARD PAVING MIX UNLESS OTHERWISE NOTED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR SHALL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR OR A LICENSED PROFESSIONAL ENGINEER IN ACCORDANCE WITH STATE LAWS.
4. TREES TO BE REMOVED ARE MARKED WITH AN "X". ALL TREES WHICH IN THE OPINION OF THE FIELD ENGINEER CAN BE SAVED, SHALL BE SAVED.
5. CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF CONSTRUCTION SCHEDULING.
6. EXISTING UTILITIES AND THEIR LOCATIONS, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS UTILITY COMPANIES AND IS EITHER FROM COMPANY RECORD DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE PLAN LOCATIONS SHOWN ARE NOT GUARANTEED. ADDITIONAL EXISTING UTILITIES MAY ALSO BE ENCOUNTERED.

NOTE: NOTIFY THE FOLLOWING COMPANIES PRIOR TO ANY EXCAVATION:

ARKLA GAS COMPANY	942-8350
BELL TELEPHONE	1-316-571-2115
CABLEVISION	262-0661
KPL GAS SERVICE COMPANY	263-7511
KANSAS GAS & ELECTRIC	264-1141
KANSAS ONE-CALL	1-800-344-7233
CITIES SERVICE	524-0491
KANSAS GAS SUPPLY	316-254-7243
CONTINENTAL PIPELINE COMPANY	316-681-2081
GO-OP REFINERY PIPELINE	316-221-2107

BENCH MARKS

- B.M. #1: SPK STEP IN COR. FC POST
660' E. & 40' S. OF CTR.
SEC. 17, T27S, R2E
ELEV. = 176.09'
- B.M. #2: TOP OF 5/8" BAR & CAP AT
P.C. ON E. LINE OF LOT 26,
BLK. 1, WOODLAND ESTATES
ELEV. = 167.32'
- B.M. #3: TOP OF 5/8" BAR & CAP AT
WEST P.C. IRON ON LINDEN
COURT ON LOT 12, BLK. 1,
WOODLAND ESTATES
ELEV. = 162.82'
- B.M. #4: CITY OF WICHITA BENCH MARK
DISC. ON THE N.E. COR. OF
RCB AT CENTRAL & GYPSUM CREEK
ELEV. = 157.24'



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9	LINE 6
10	STD. DROP INLET
11-12	STD. CURB INLETS
13	DITCH INLET
14	STD. SHALLOW MANHOLE
15	FINAL PLAT

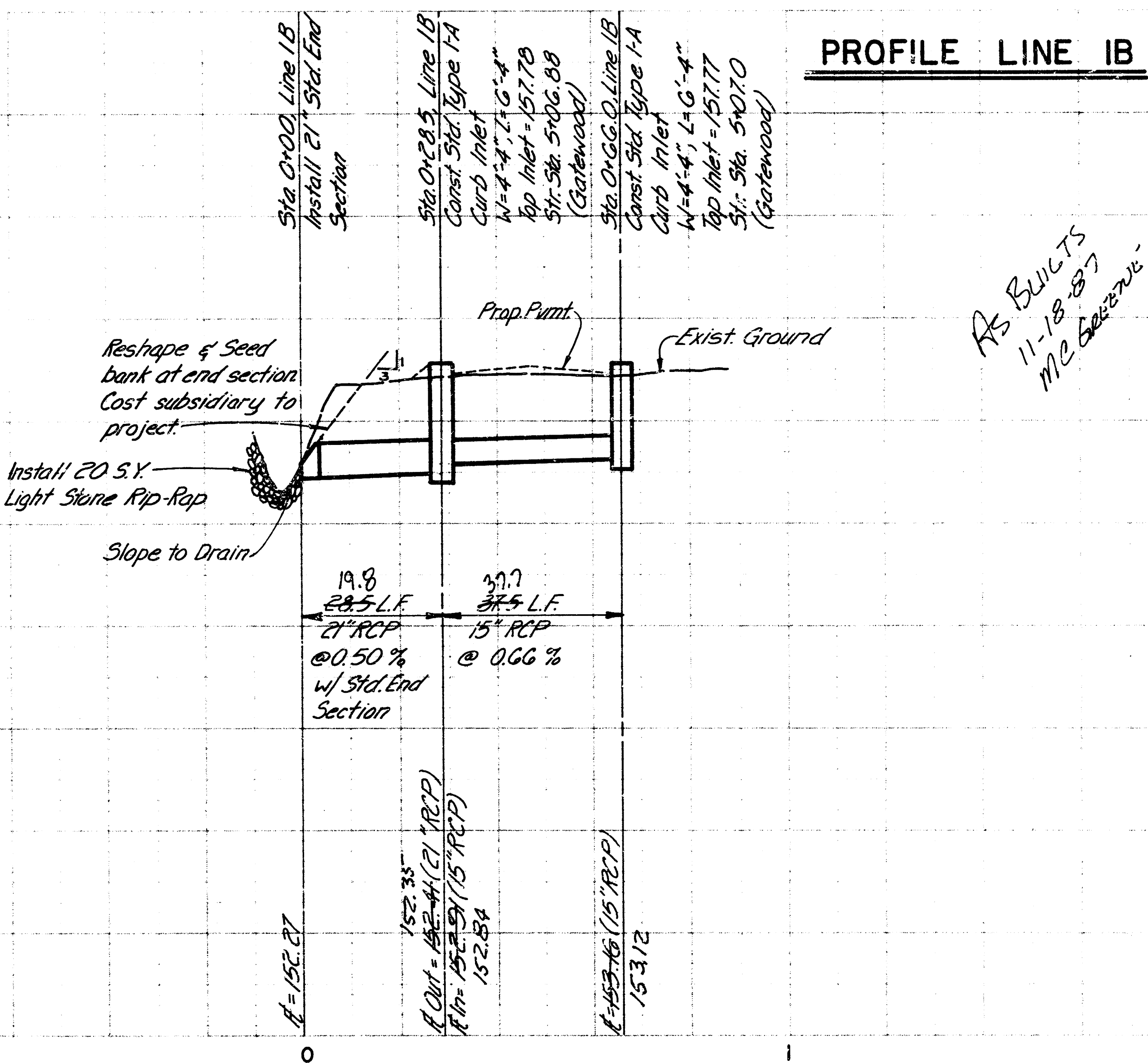
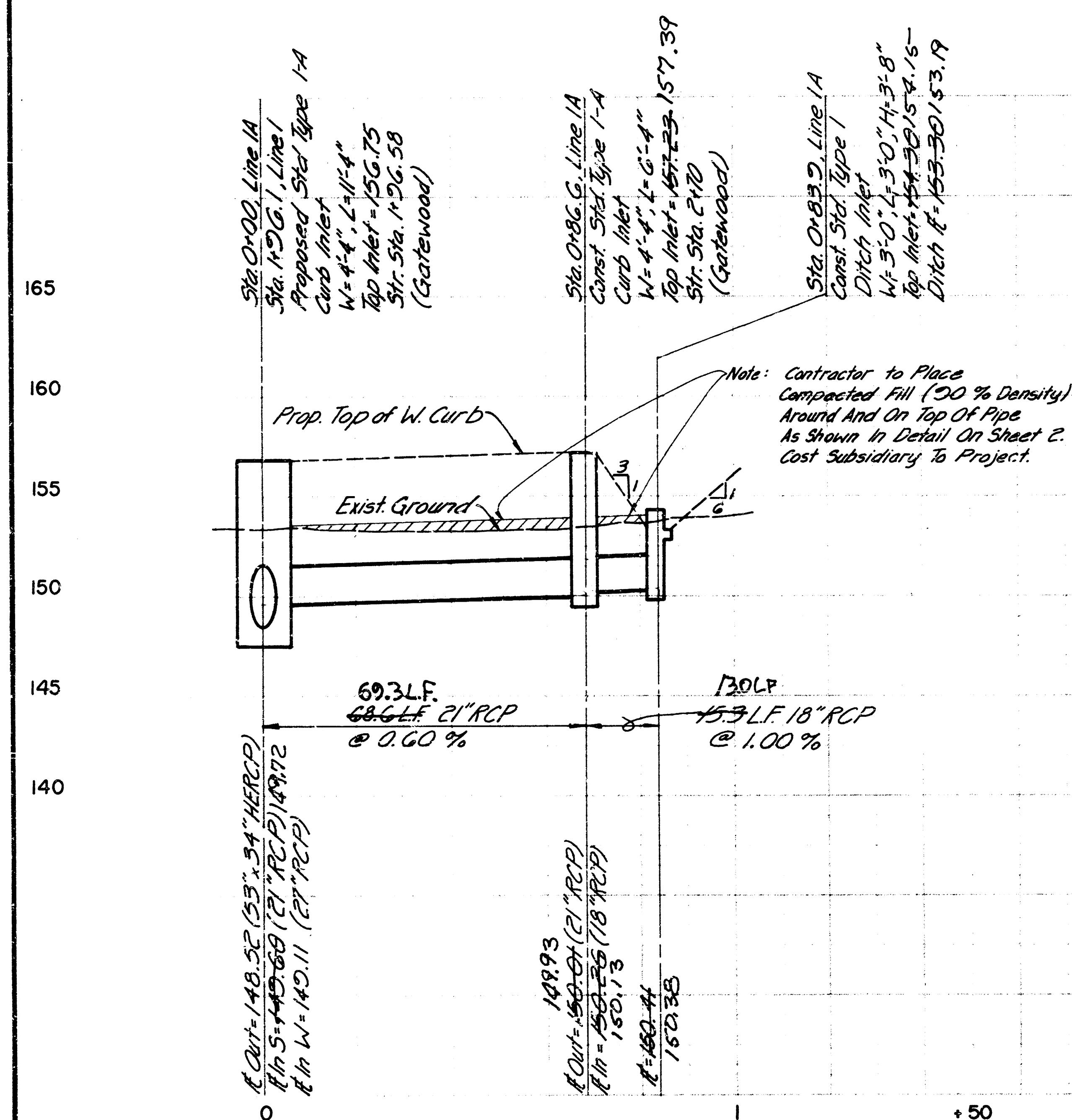
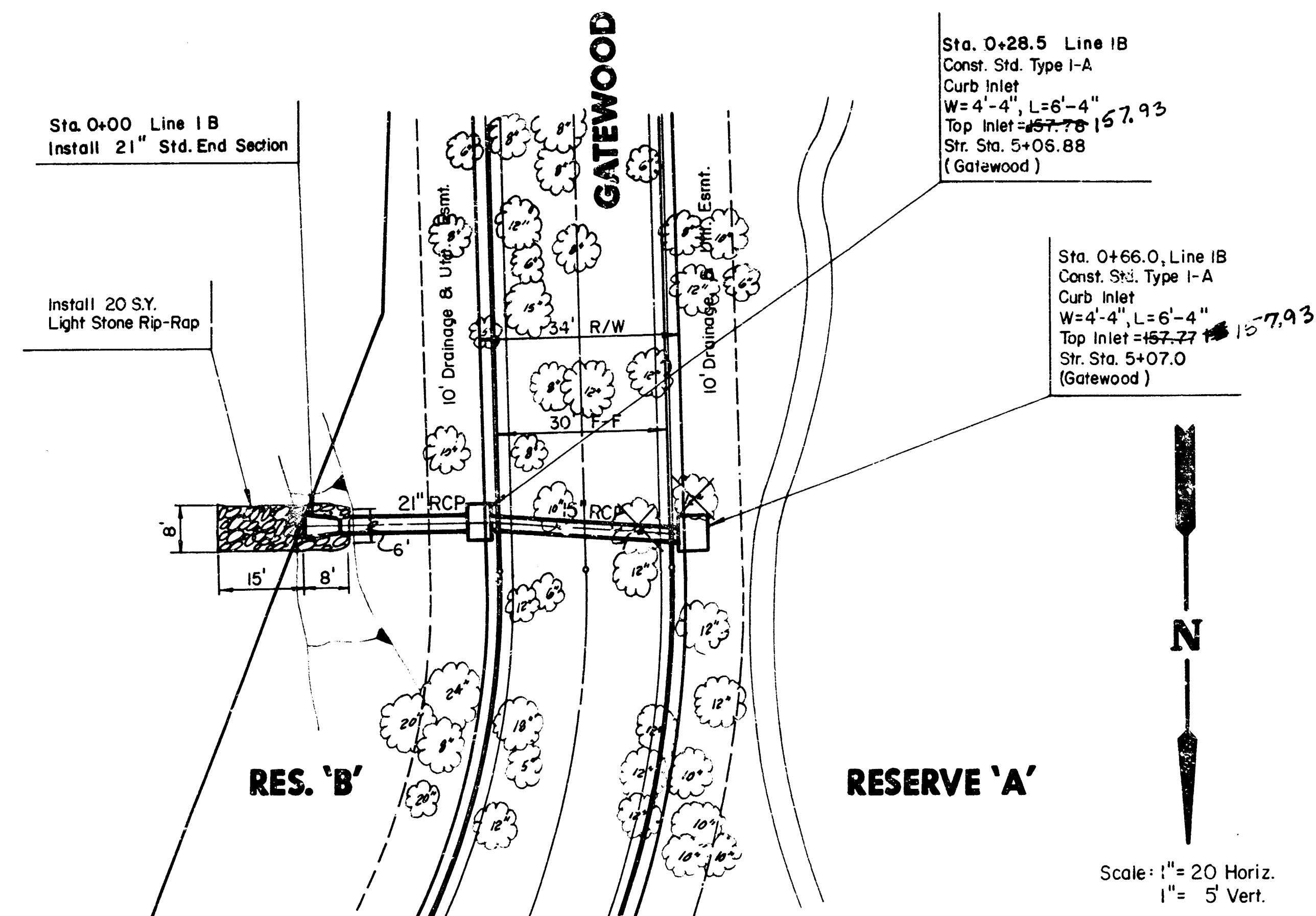
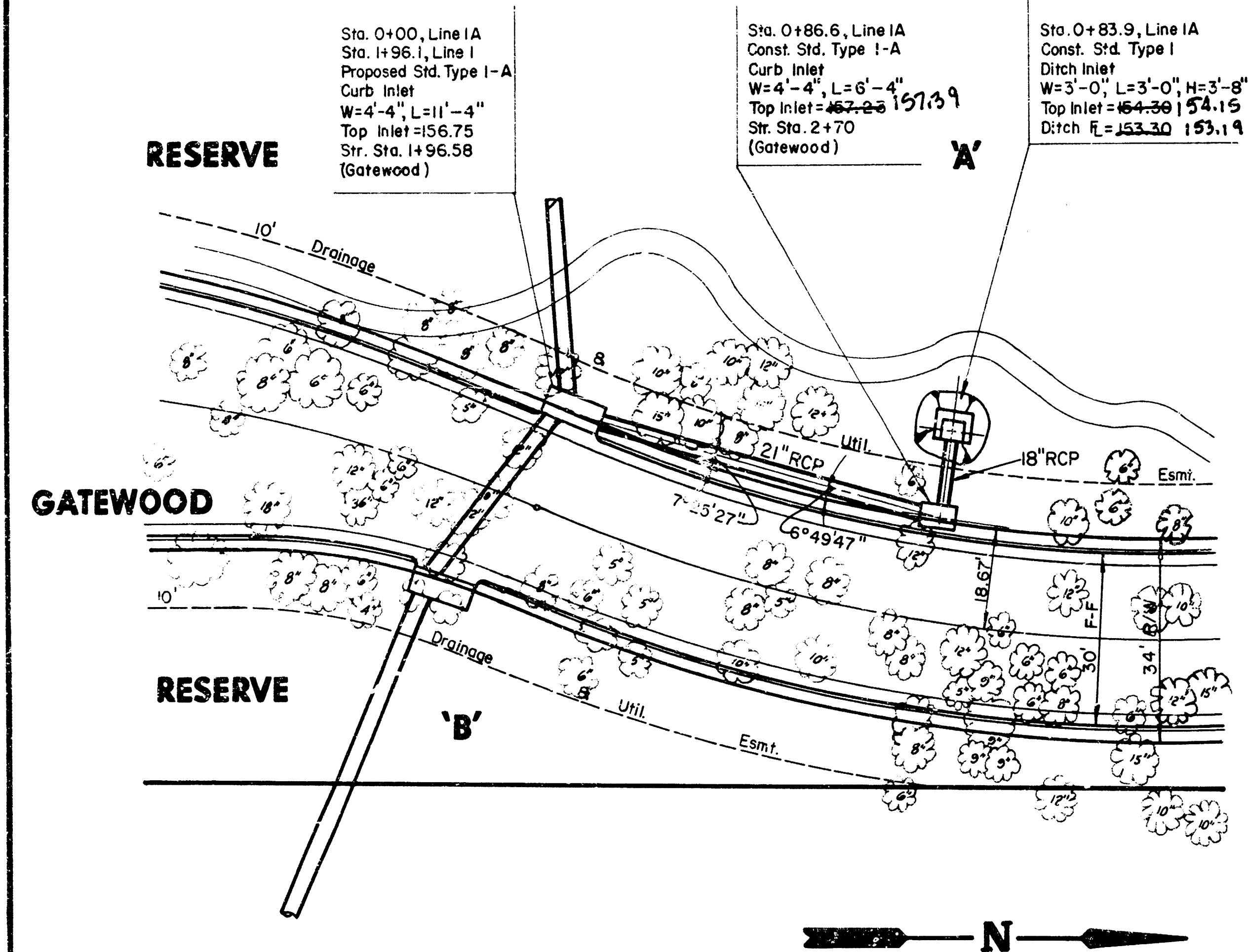
As BUILTS
11-87
MCG



	WOODLAND ESTATES	Design F.B.N.
	STORM WATER SEWER	Drawn by S.J.M., E.C.G.
	PLANS	Checked by K.H.B.
		Date
MID-KANSAS ENGINEERING CONSULTANTS PA 3500 NORTH ROCK ROAD BUILDING #800 WICHITA, KANSAS 67226		Sheet 1 of 15

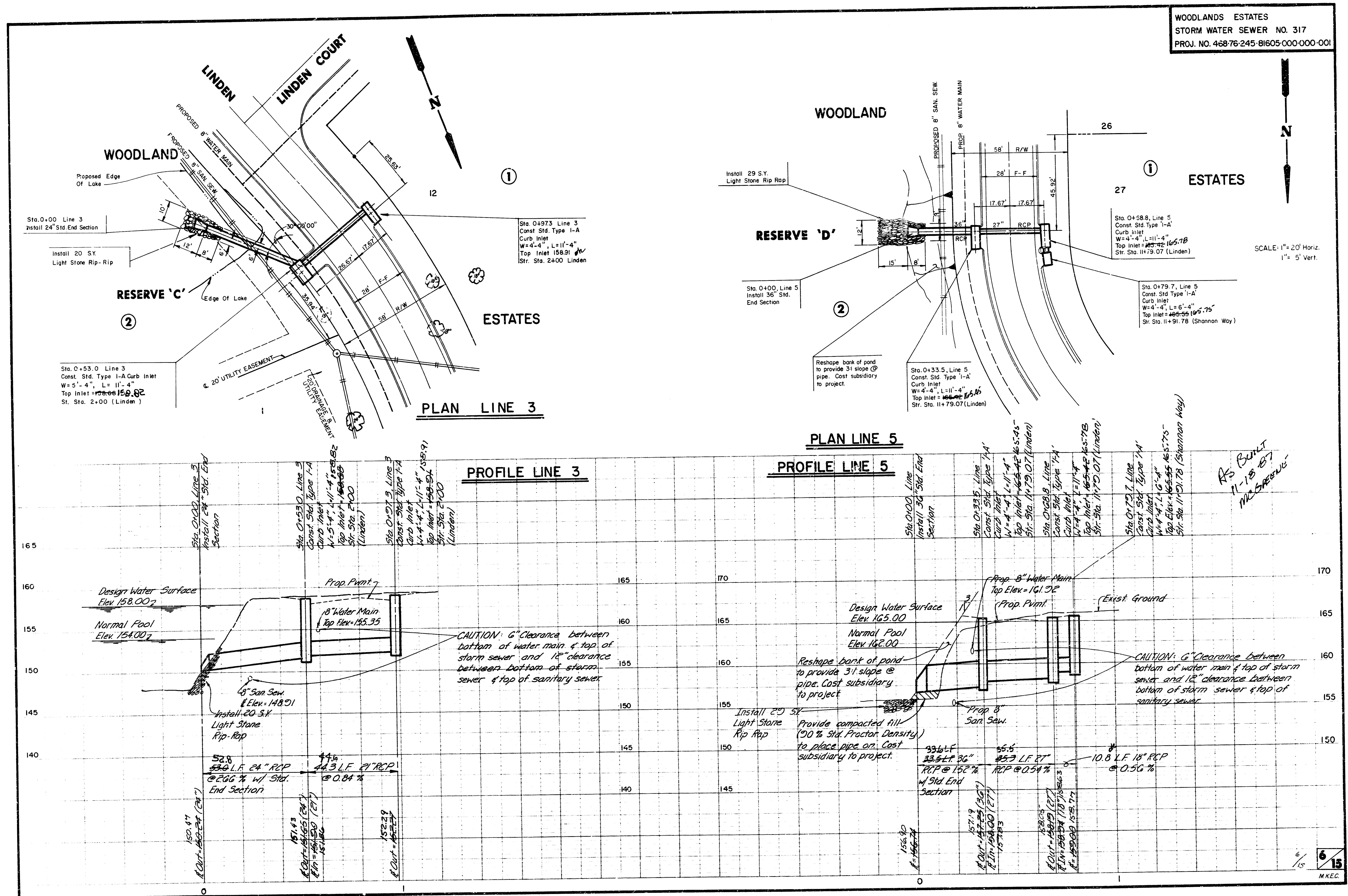


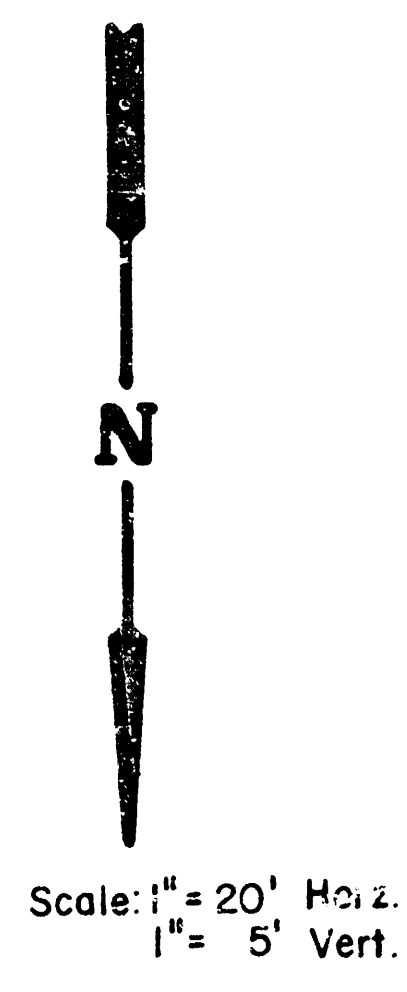




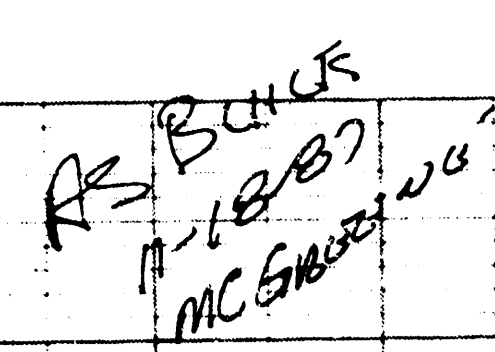
AS BUILT
11-18-87
M.E. GAVIN

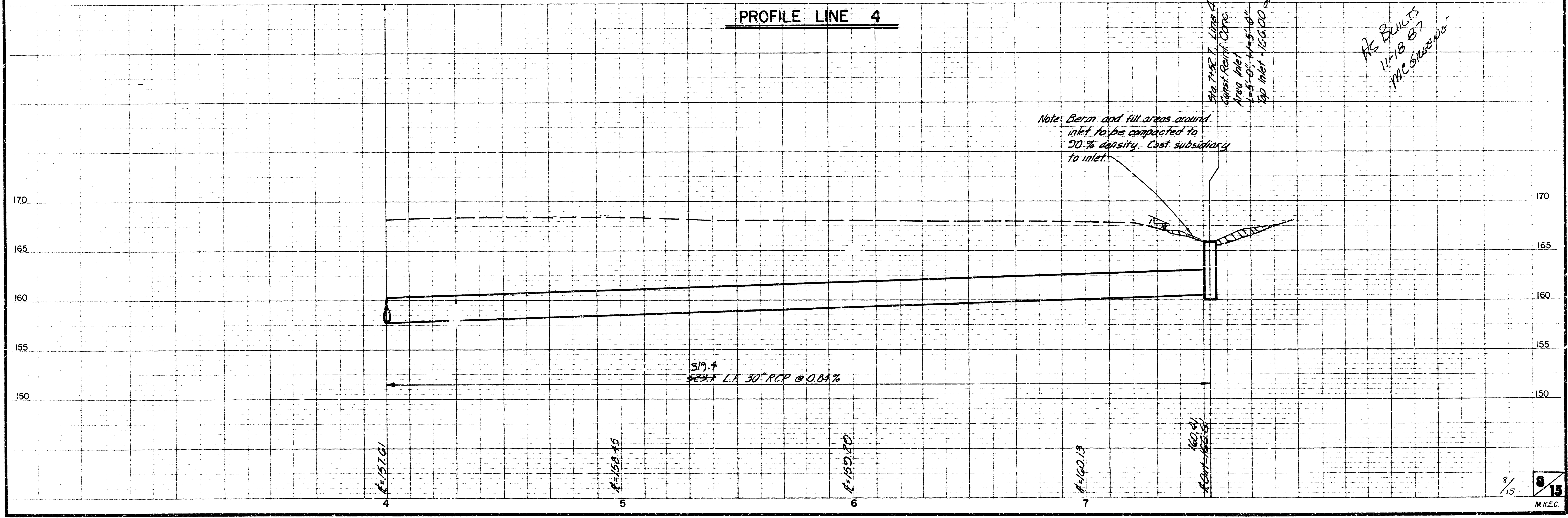
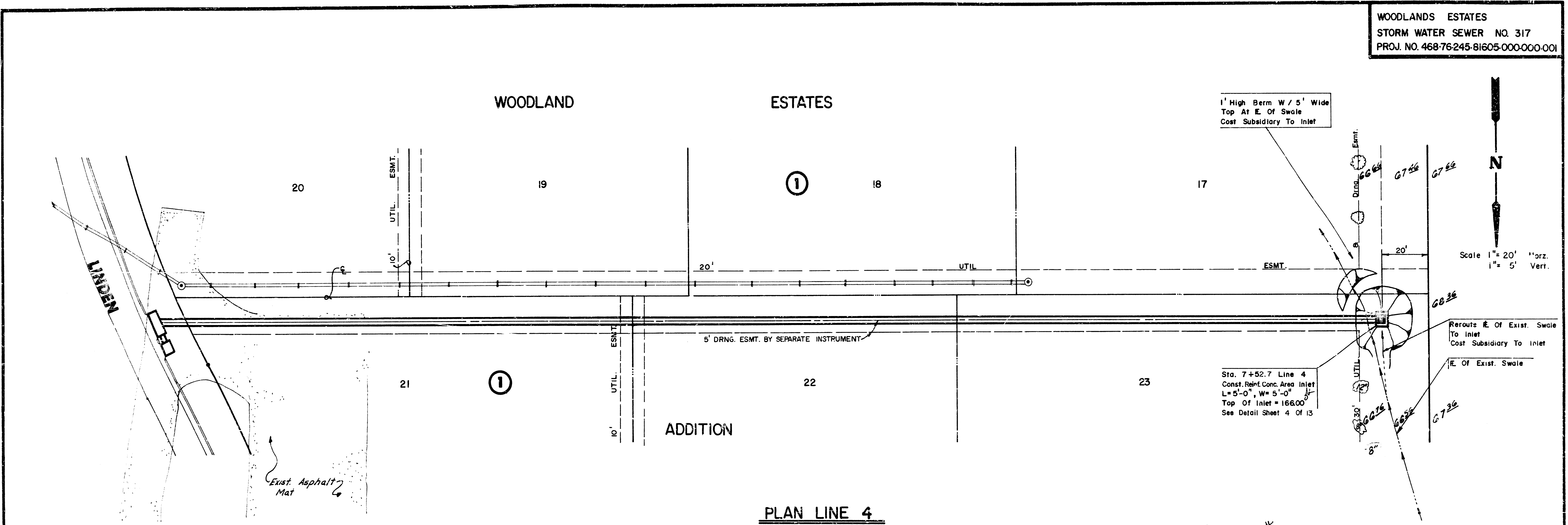


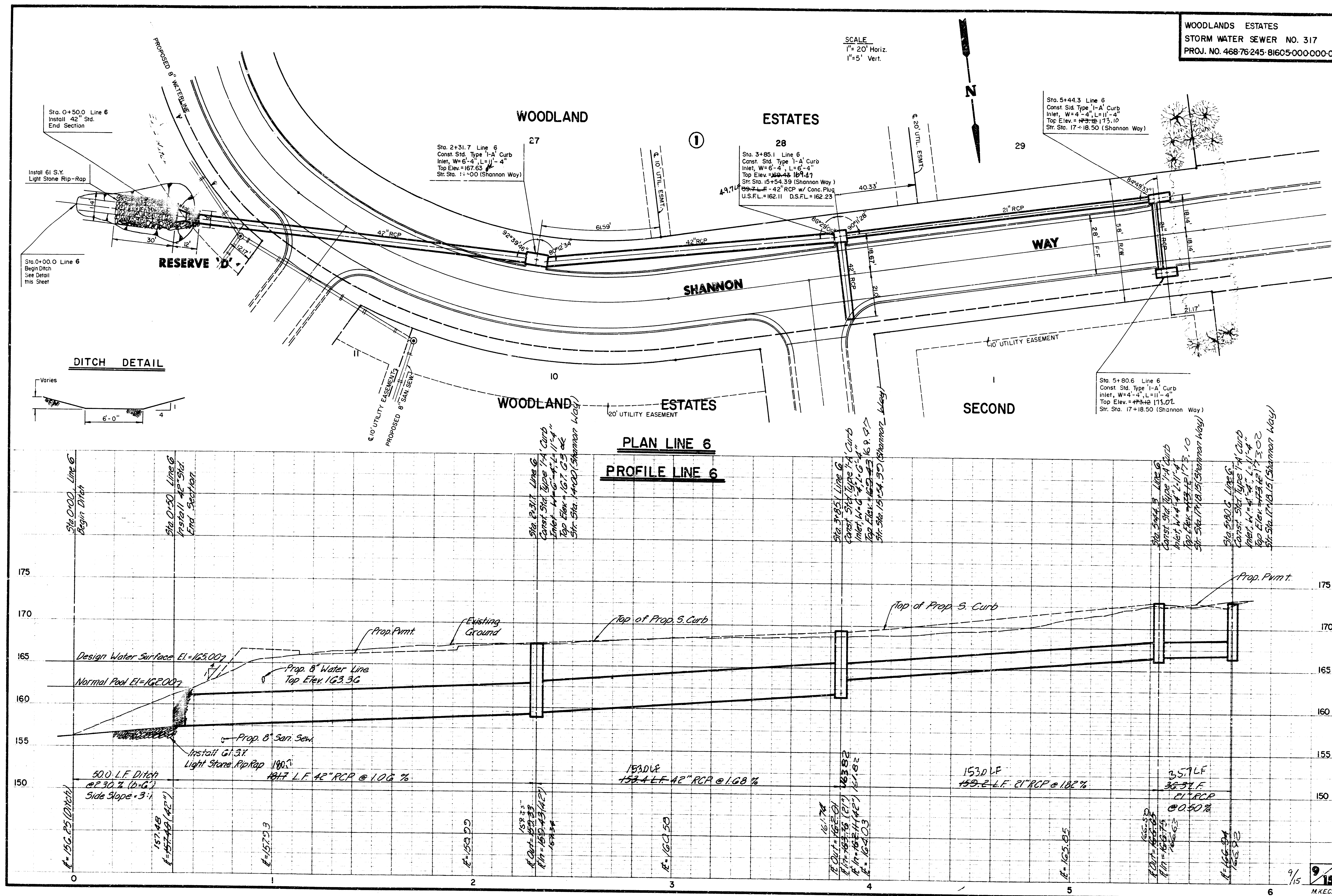




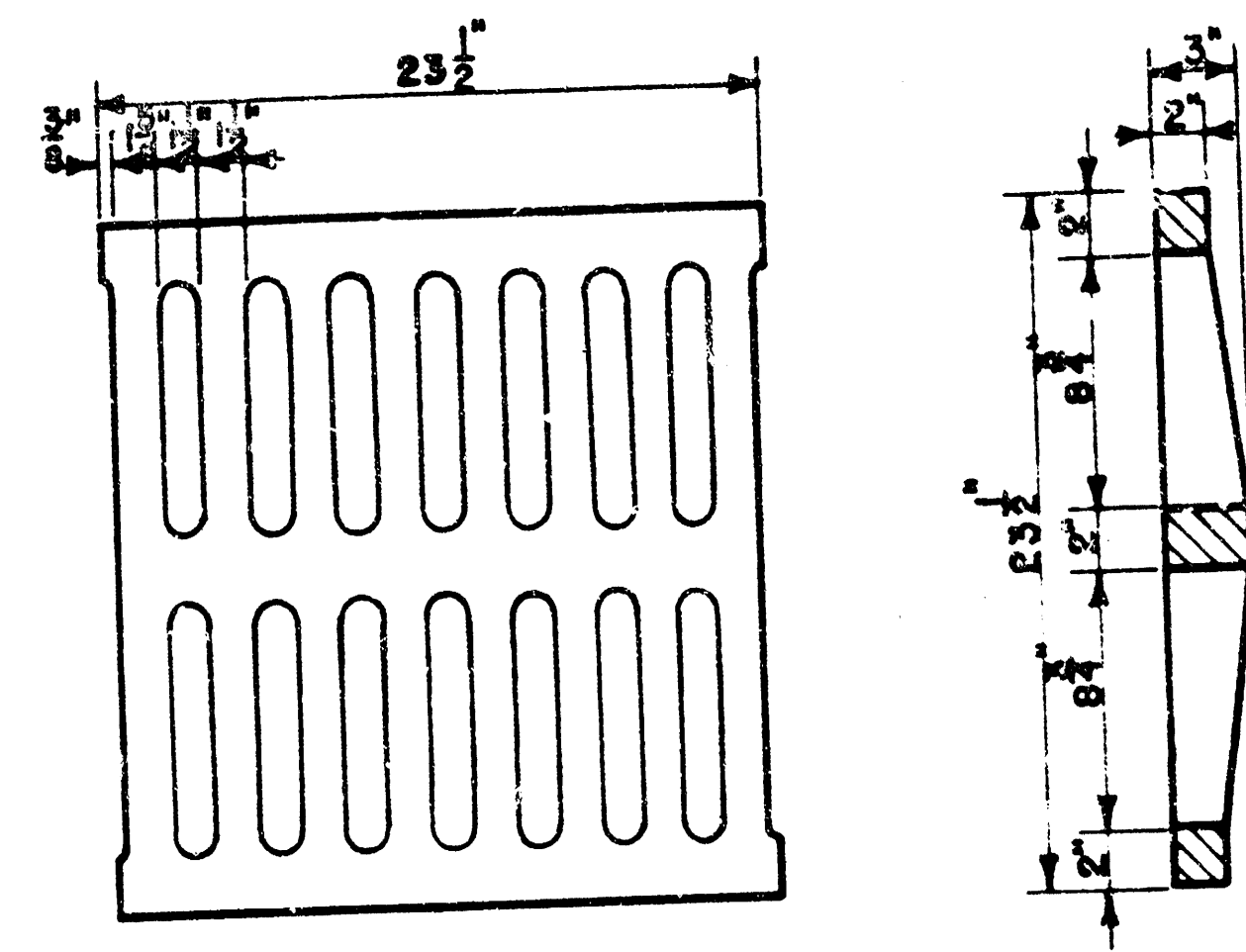
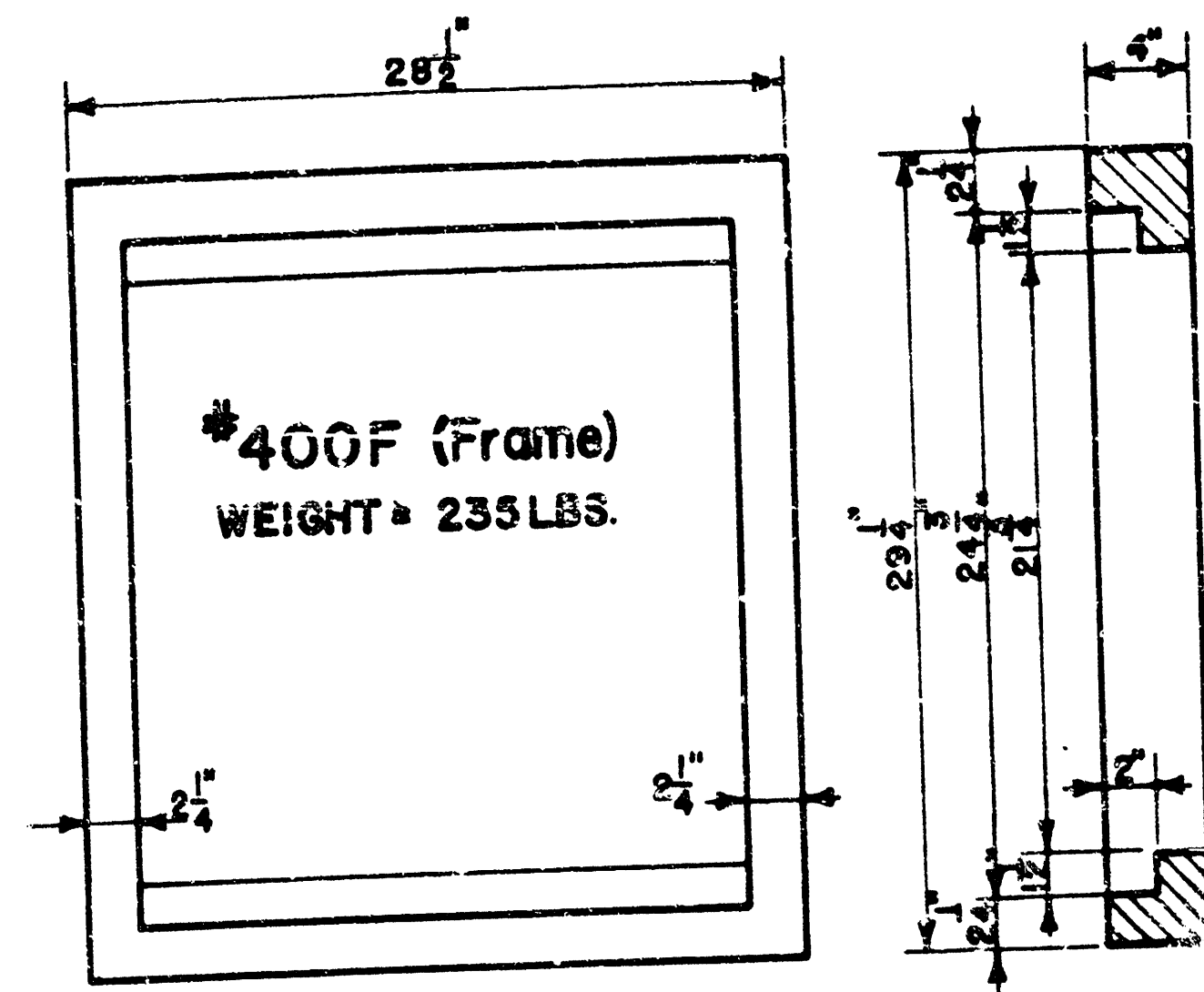
PROFILE LINE 4



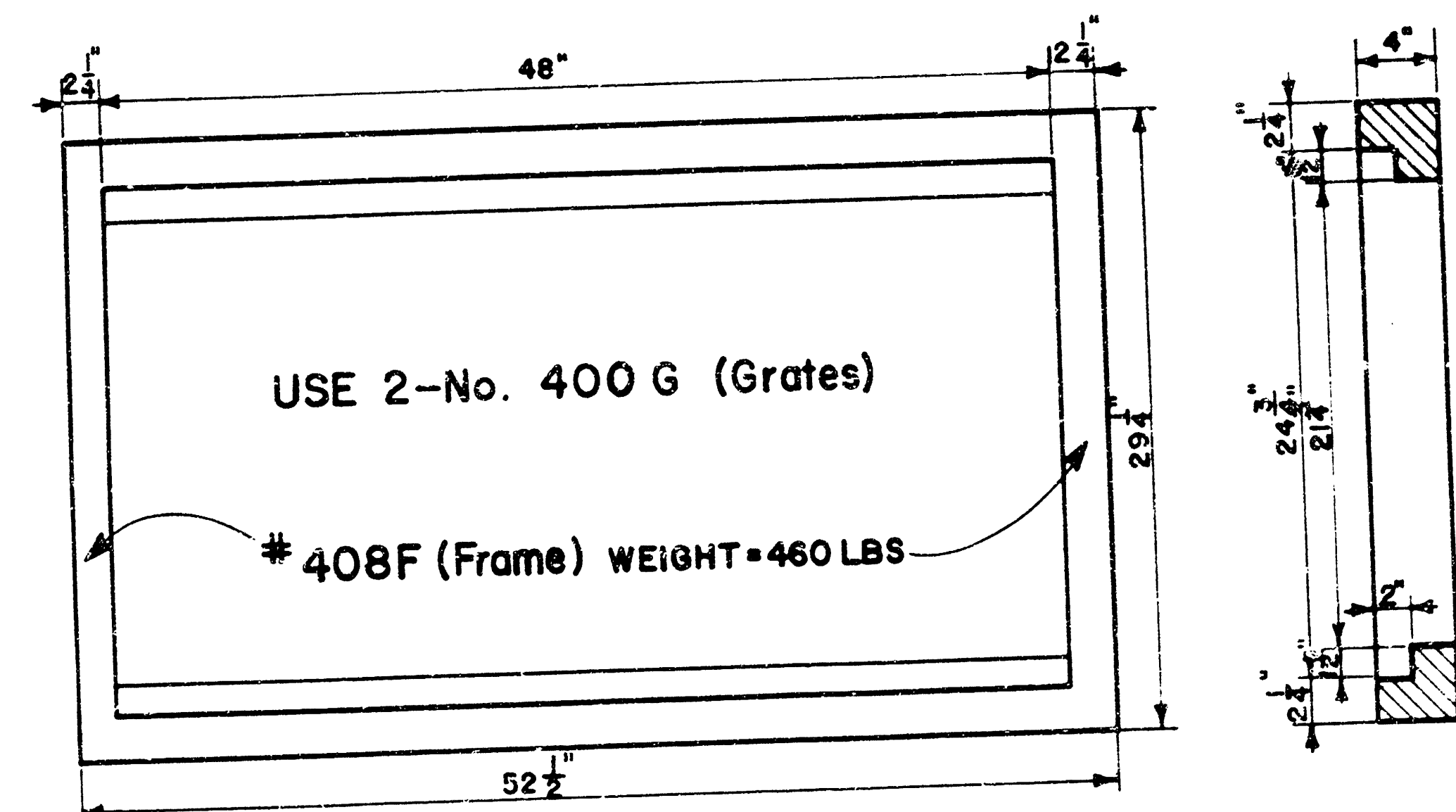




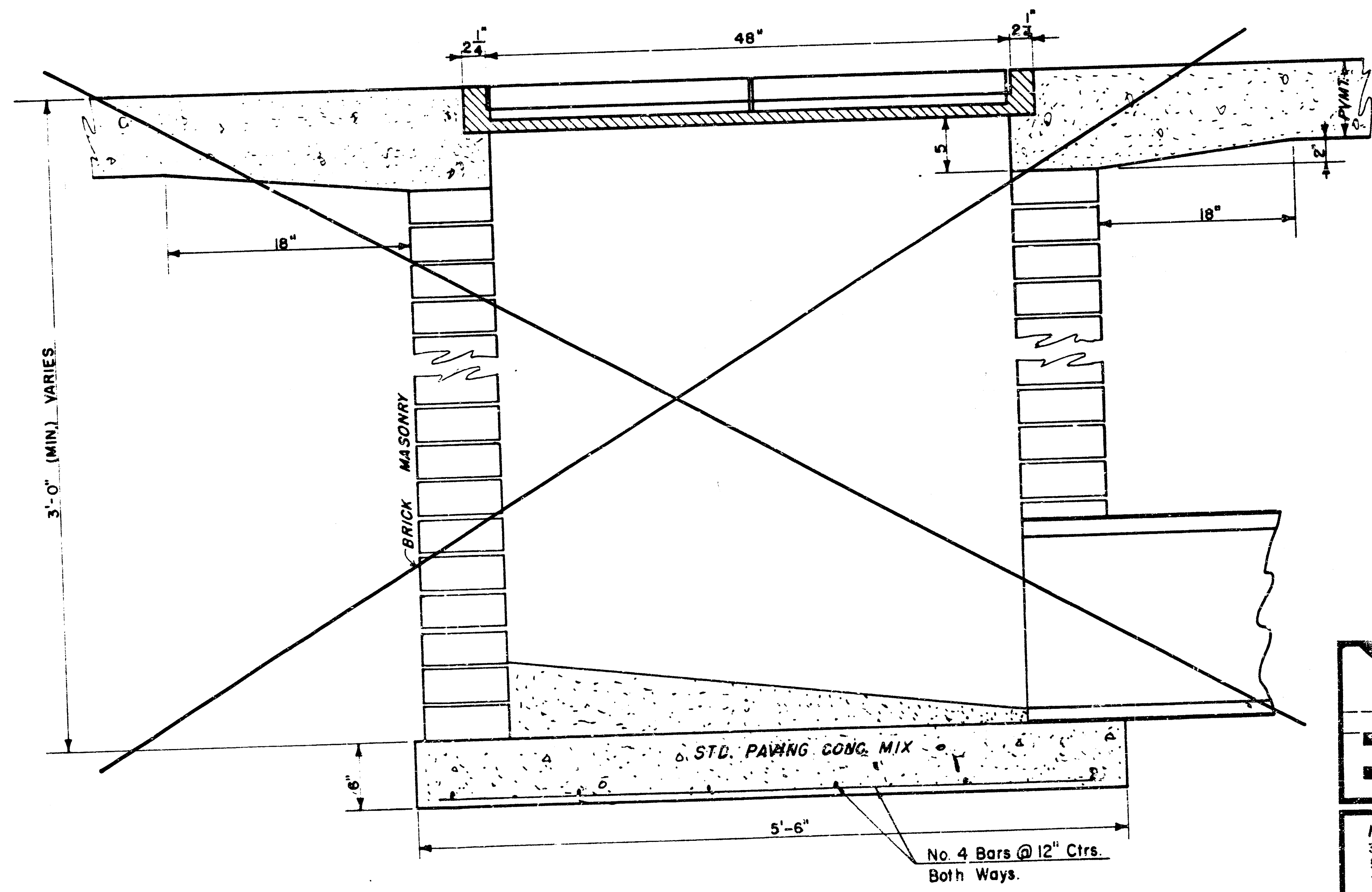
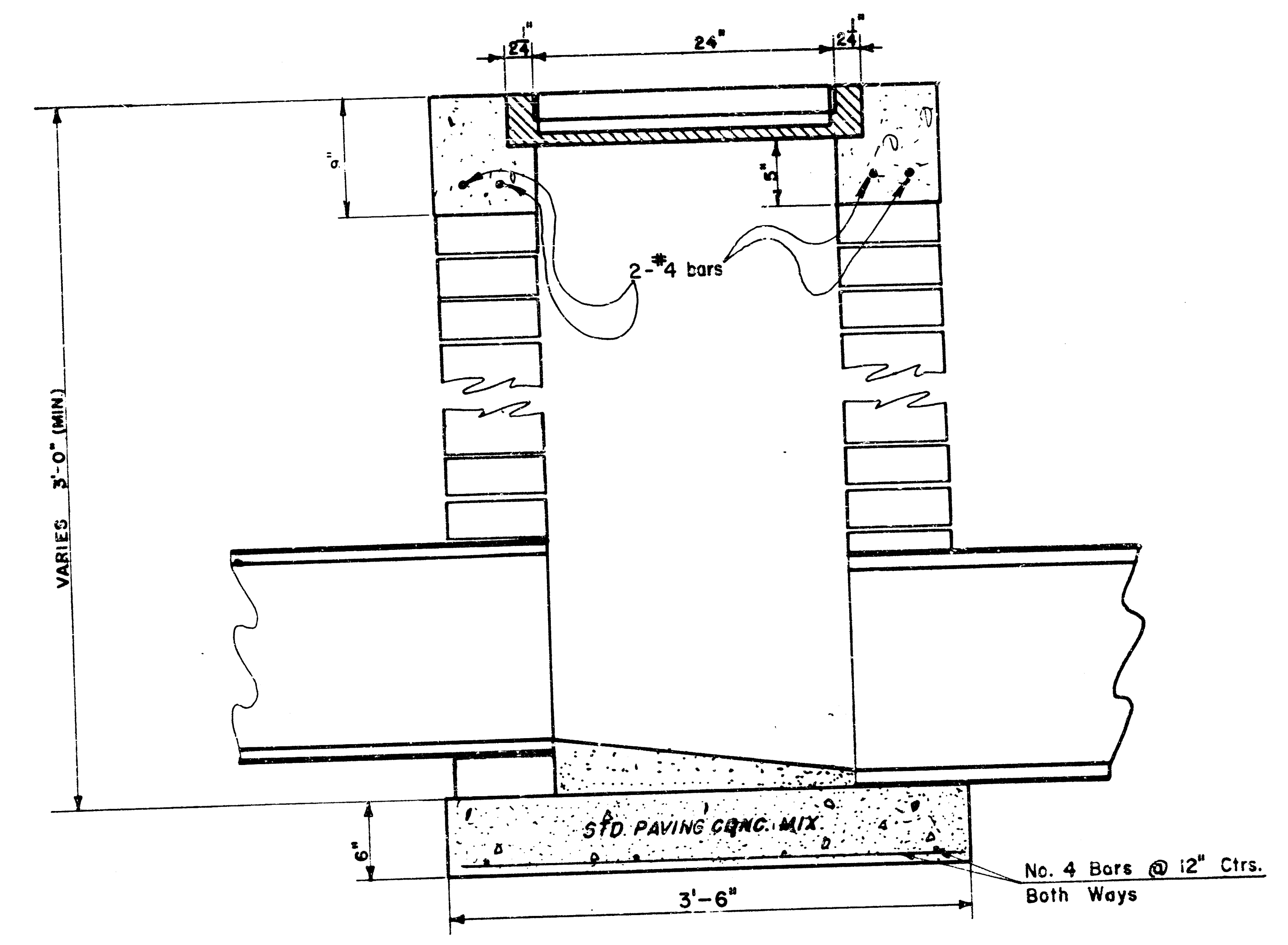
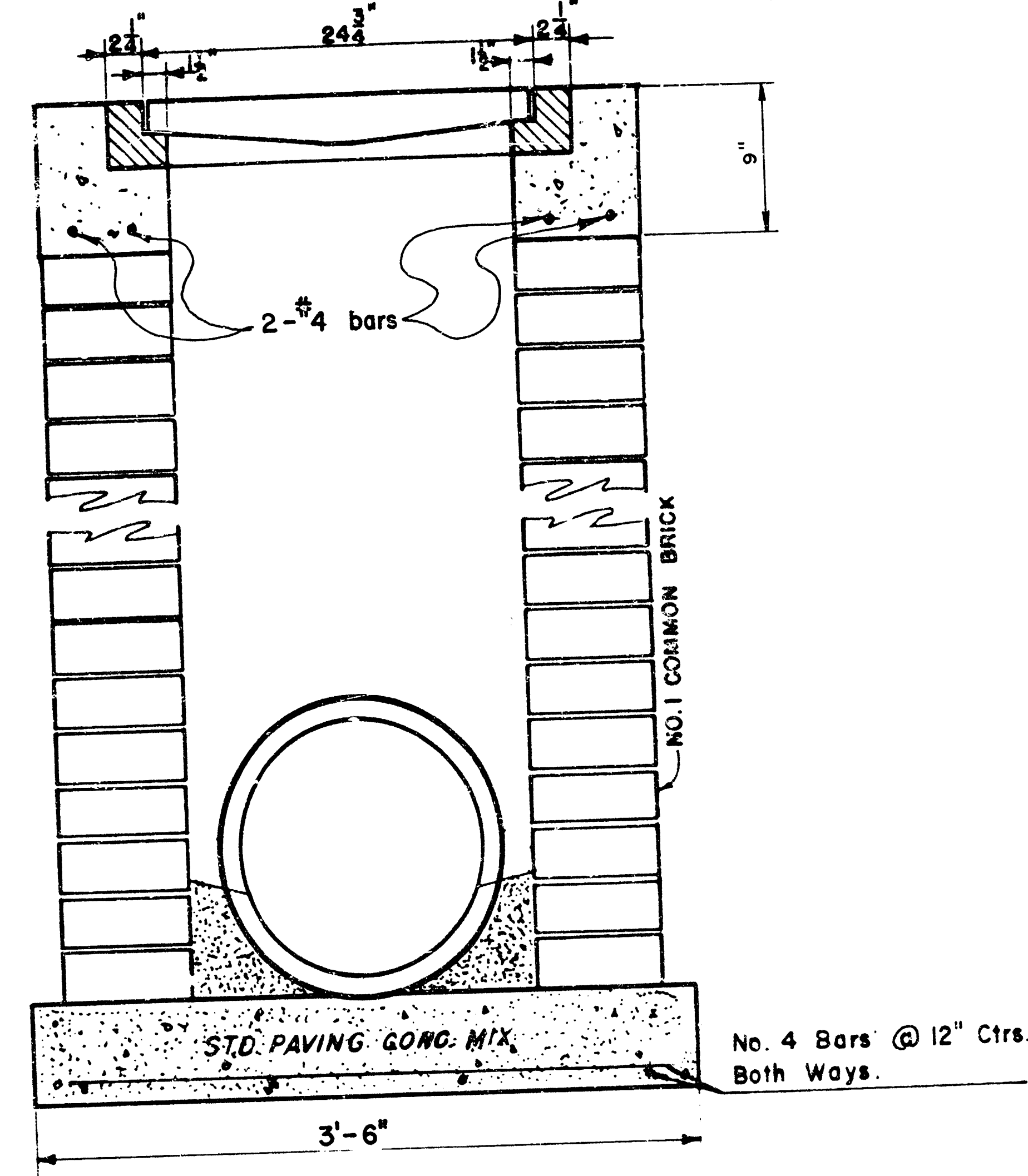
NOTE: Grates shall be imprinted on the top surface with "CITY OF WICHITA" using letters at least 1" in height. Other marking methods may be used only if approved by the engineer.



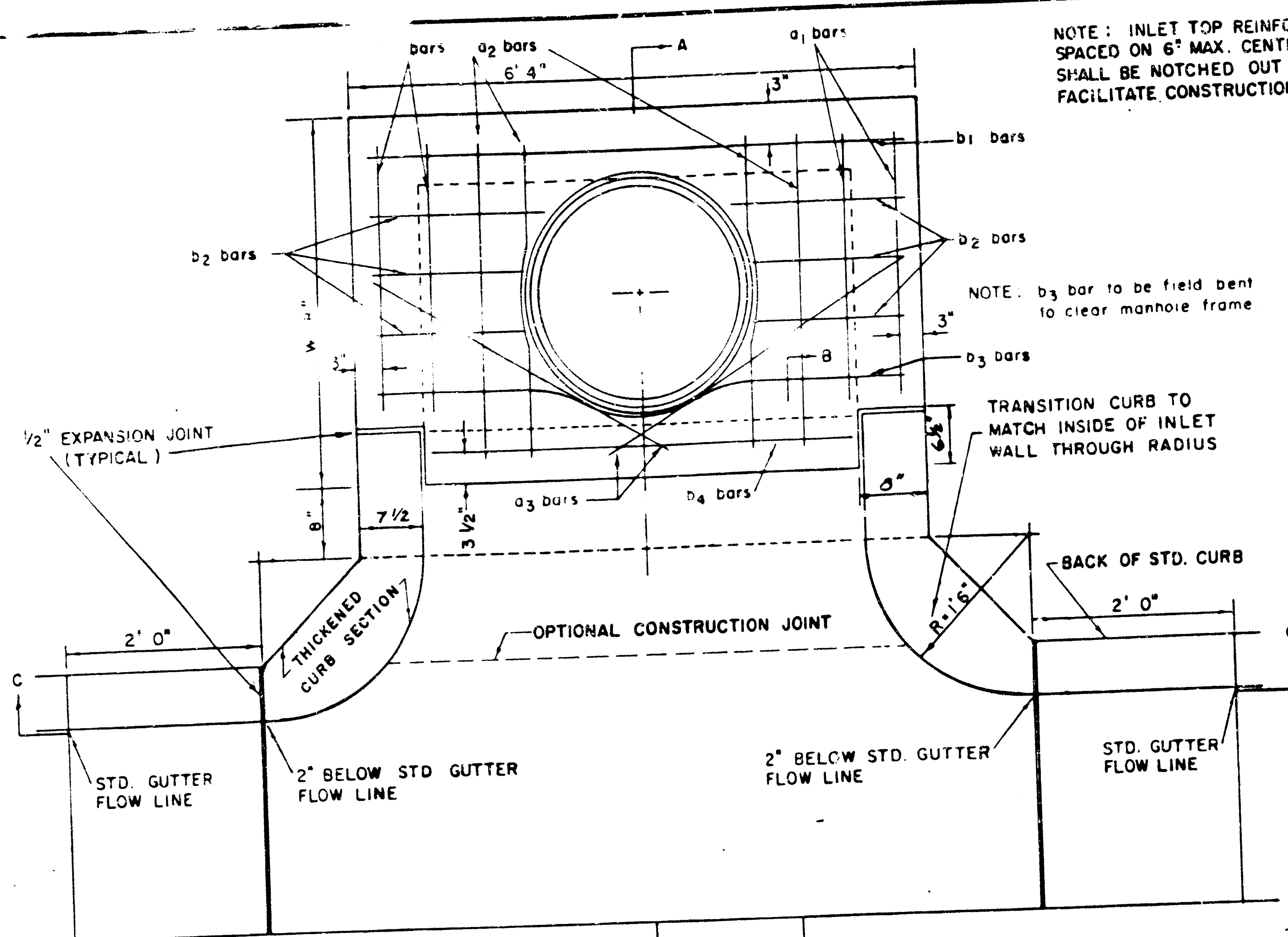
24"x24" Frame & Grate Detail



Double 24"x24" Frame Detail



	WOODLAND ESTATES		Design FBN, KJS
	STANDARD		Drawn by D.G.
	DROP INLET		Checked by
			Date Dec., 1986
MID-KANSAS ENGINEERING CONSULTANTS PA 3500 NORTH ROCK ROAD BUILDING 1800 WICHITA, KANSAS 67226			10/15 682-6561 Sheet 16 of 15



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

NOTE: b3 bar to be field bent to clear manhole frame

TRANSITION CURB TO MATCH INSIDE OF INLET WALL THROUGH RADIUS

BACK OF STD. CURB

STD. GUTTER FLOW LINE

a1 bar = W-21"

a2 bar = W-15"

1 1/2" R

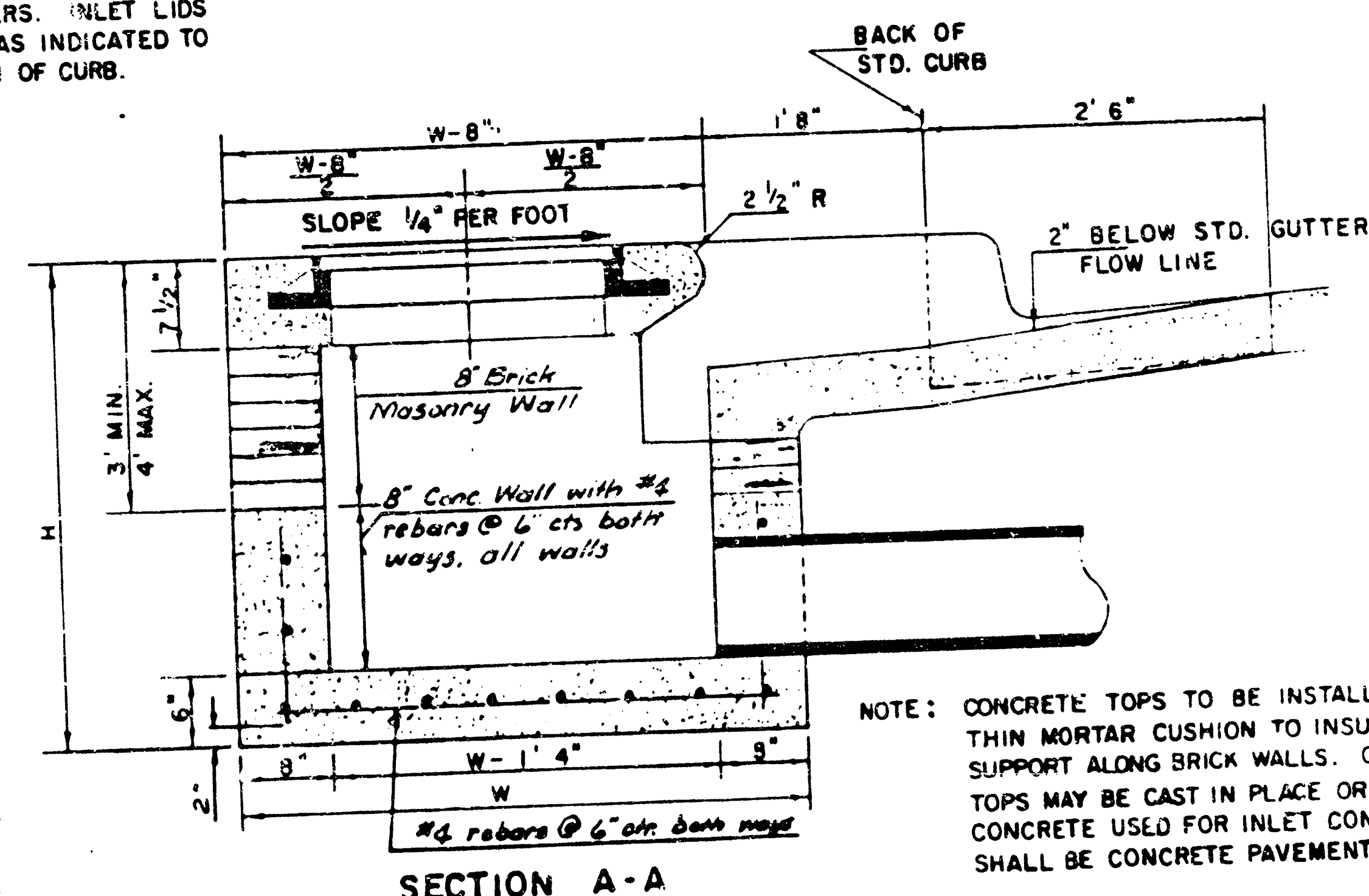
STEEL SCHEDULE

BAR	a1	a2	a3	b1	b2	b3	b4	WT. LBS.
NUMBER	4	4	2	1	3	5	7	9
SIZE	"4	"4	"4	"4	"4	"4	"4	"6
W=4'4"	5'7"	6'7"	4'0"	6'1"	-	-	-	1'9"
W=5'4"	7'7"	8'7"	5'0"	6'1"	-	-	-	1'9"
W=6'4"	9'7"	10'7"	6'0"	6'1"	-	-	-	1'9"
W=7'4"	11'7"	12'7"	7'0"	6'1"	-	-	-	1'9"
W=8'4"	13'7"	14'7"	8'0"	6'1"	-	-	-	1'9"

* NOTE: a3 BARS TO BE PLACED APPROX. 2" BELOW TOP OF INLET COVER

BENDING DIAGRAM

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

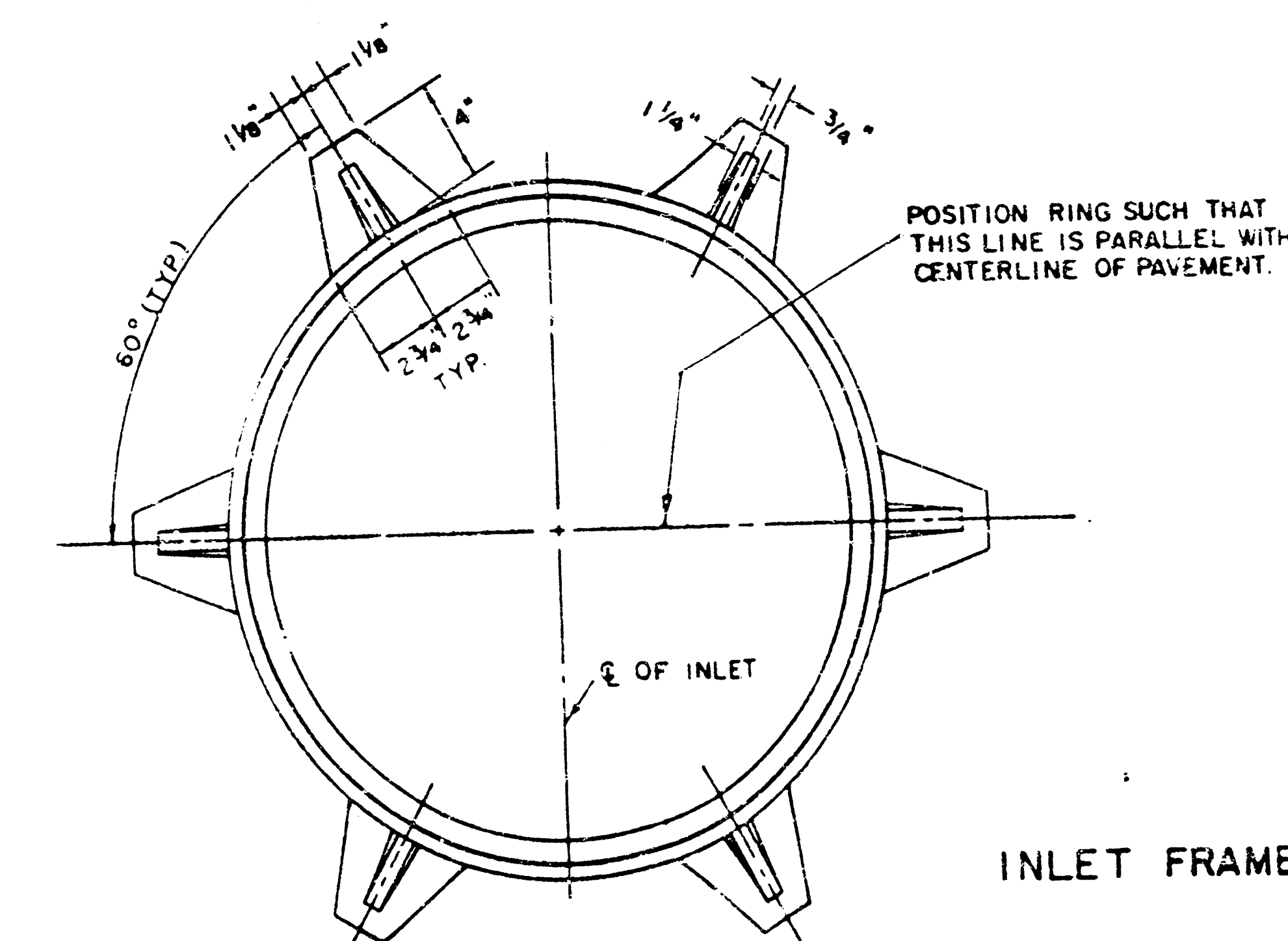


NOTE: CONCRETE TOPS TO BE INSTALLED ON THIN MORTAR CUSHION TO INSURE FULL SUPPORT ALONG BRICK WALLS. CONCRETE TOPS MAY BE CAST IN PLACE OR PRECAST. CONCRETE USED FOR INLET CONSTRUCTION SHALL BE CONCRETE PAVEMENT MIX.

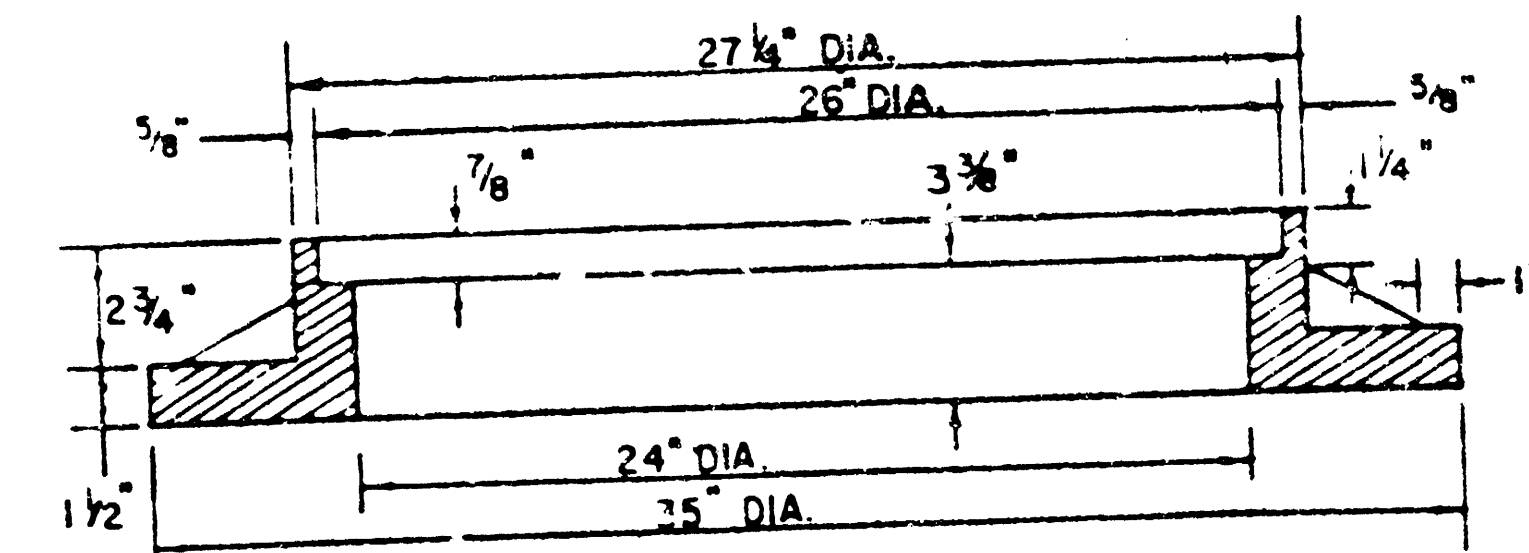
NOTE: CONTRACTOR SHALL HAVE THE OPTION OF CONSTRUCTING 8" BRICK MASONRY WALLS BETWEEN THE CONCRETE INLET BASE AND TOP ON THIS INLET WHEN W = 4'4" AND H = 6'6" OR LESS.

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.

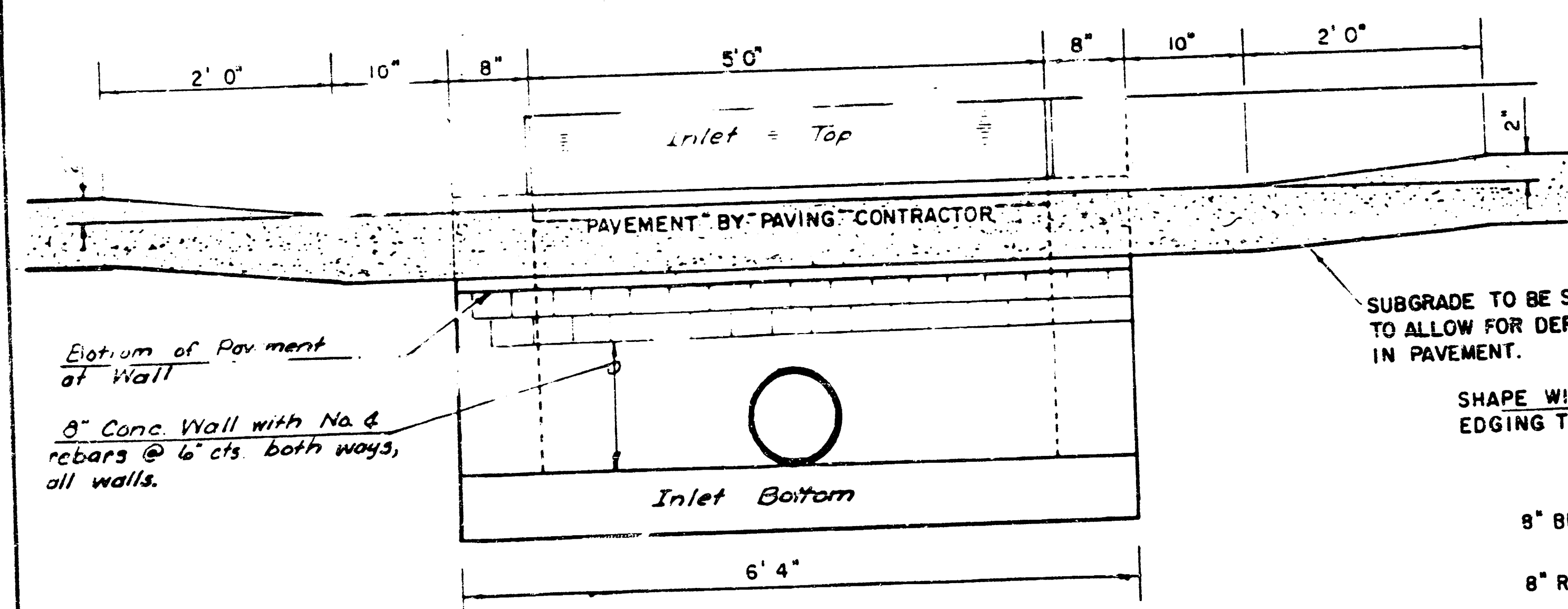
INLET INVERT SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.



WEIGHT = 160 LBS.



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



Elevation of Pavement at Wall

8" Conc. Wall with No. 4 rebar @ 6" cts. both ways, all walls.

Inlet Bottom

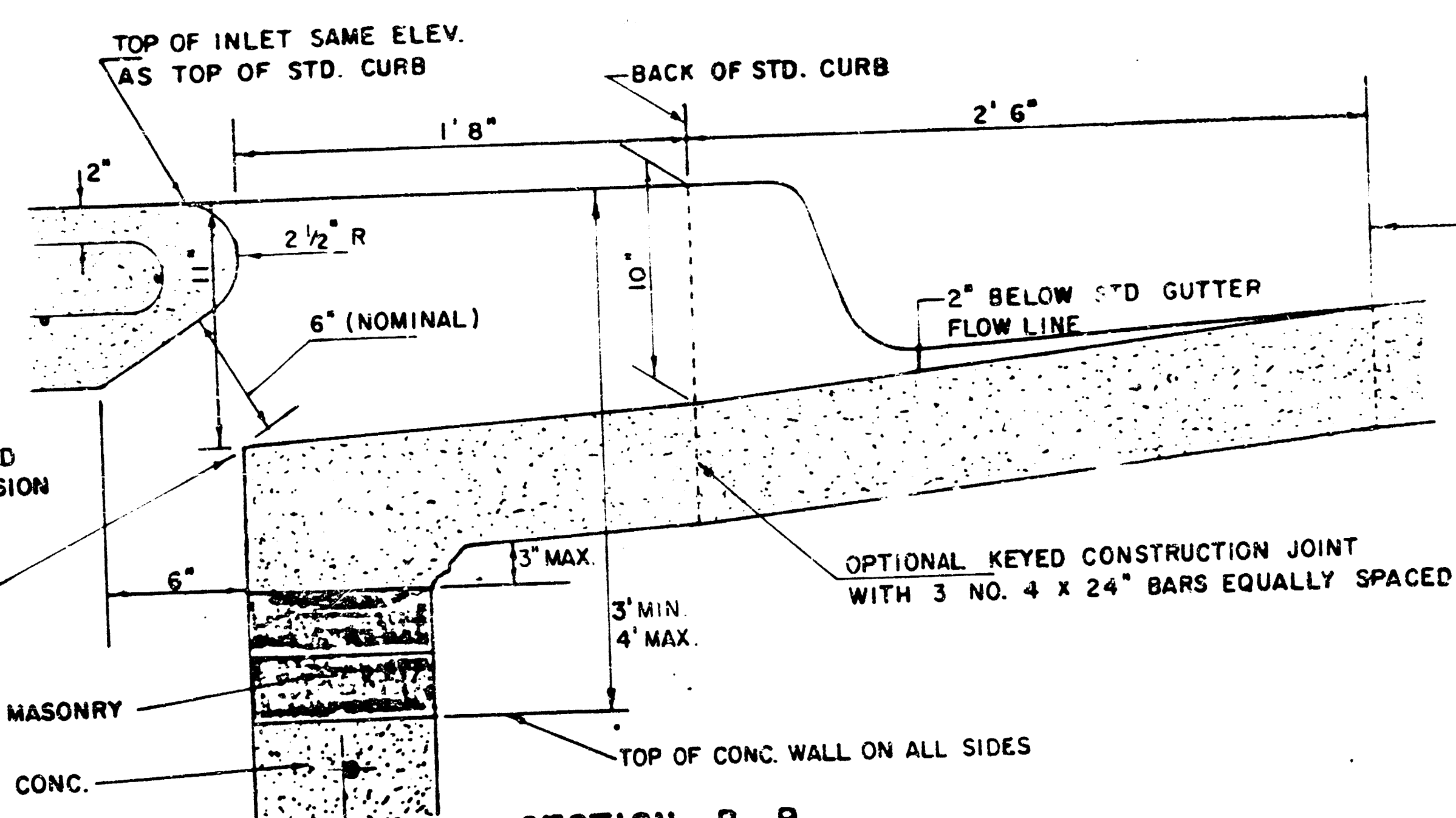
SECTION C-C

SUBGRADE TO BE SHAPED TO ALLOW FOR DEPRESSION IN PAVEMENT.

SHAPE WITH EDGING TOOL

8" BRICK MASONRY

8" REINF. CONC.



TOP OF INLET SAME ELEV. AS TOP OF STD. CURB

BACK OF STD. CURB

2 1/2" R

6" (NOMINAL)

3" MAX.

3" MIN.

4" MAX.

OPTIONAL KEYED CONSTRUCTION JOINT WITH 3 NO. 4 x 24" BARS EQUALLY SPACED

TOP OF CONC. WALL ON ALL SIDES

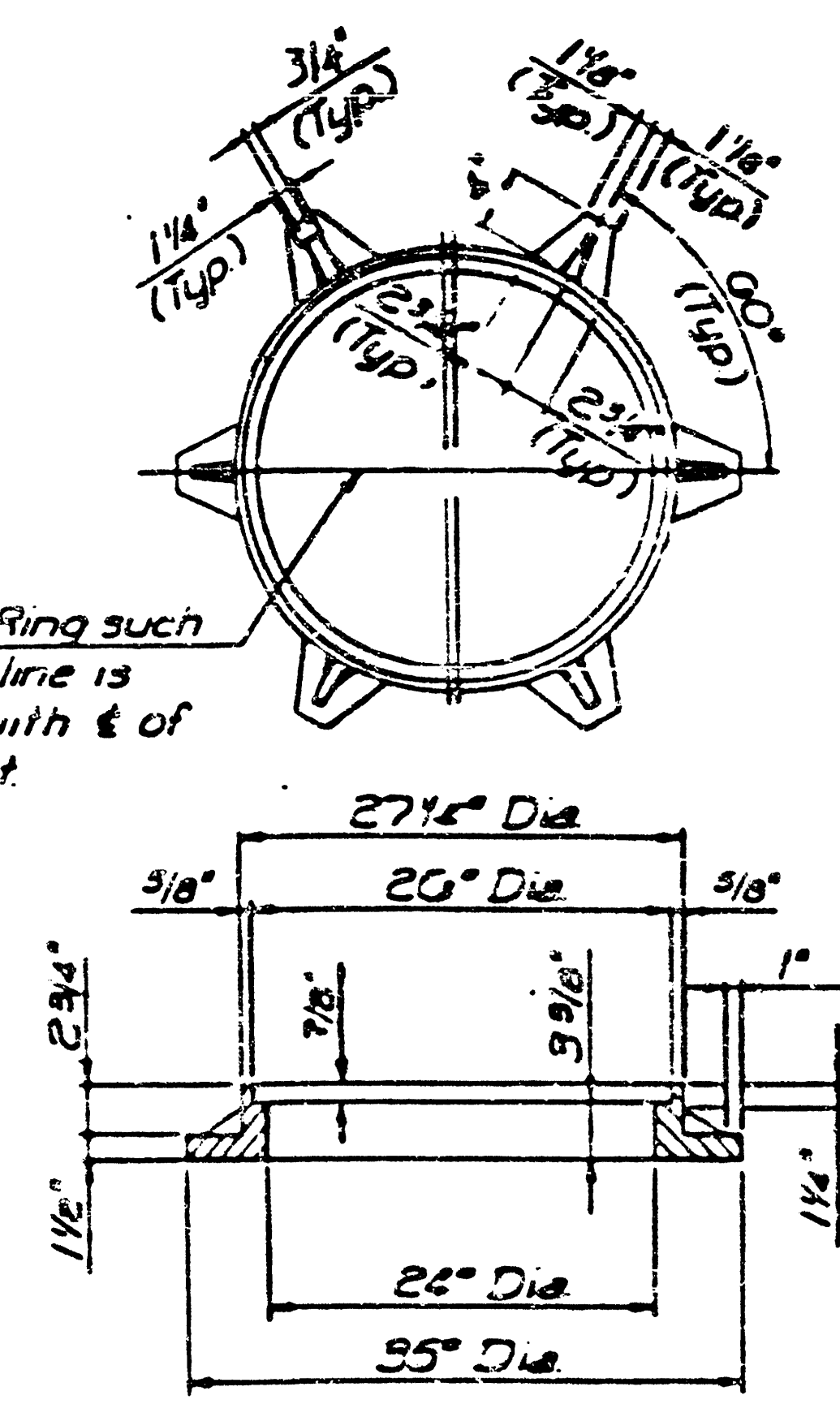
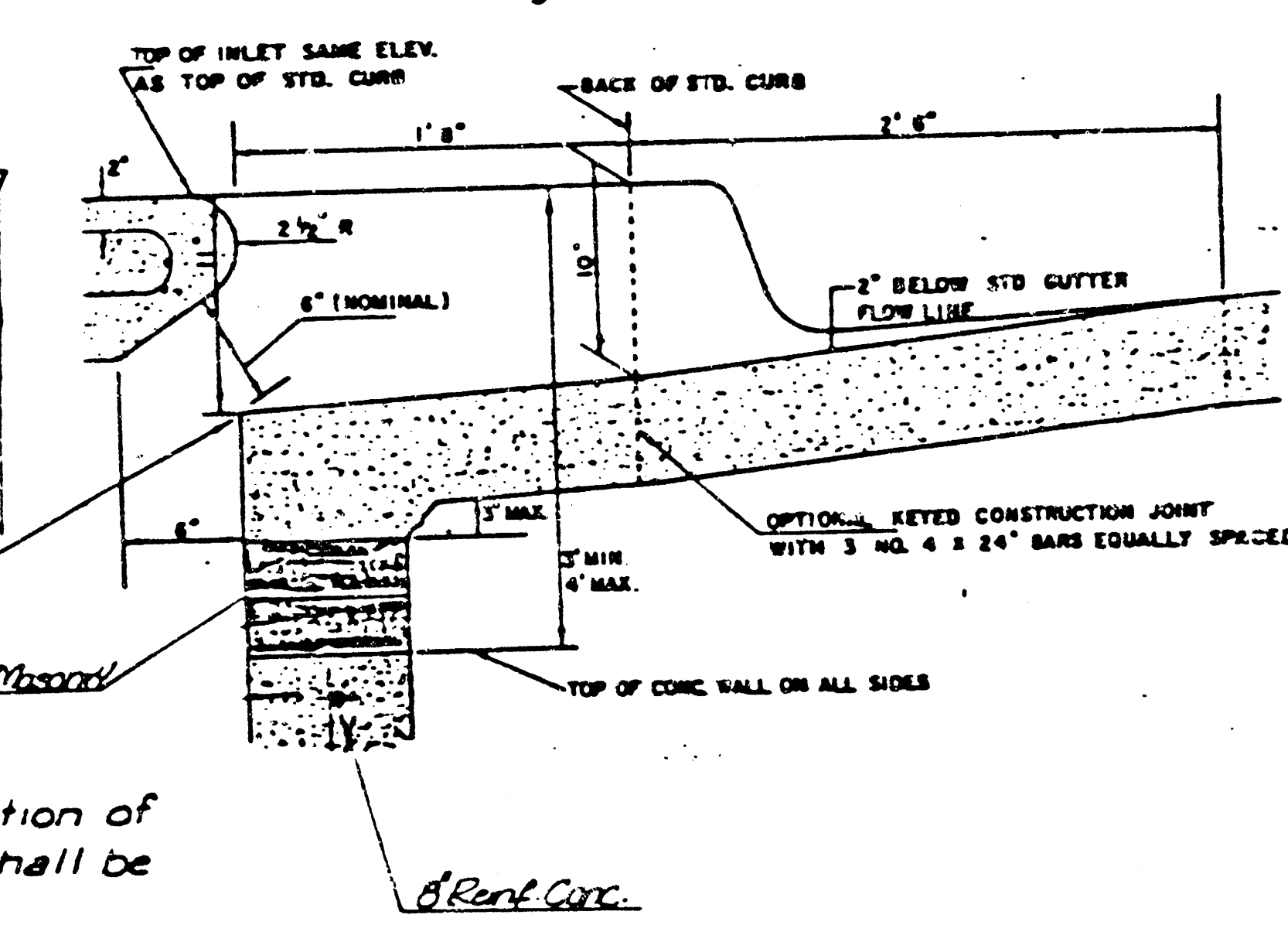
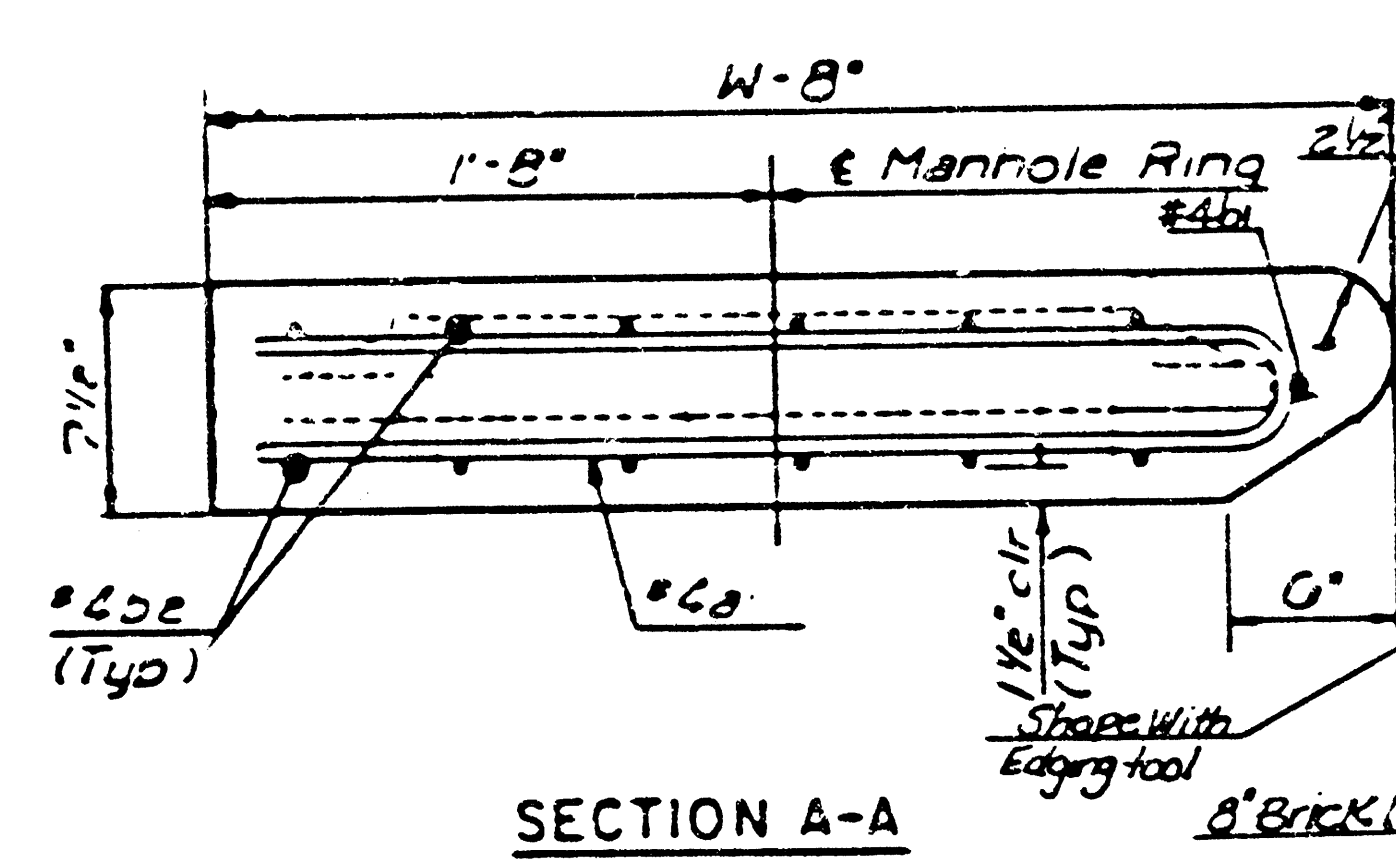
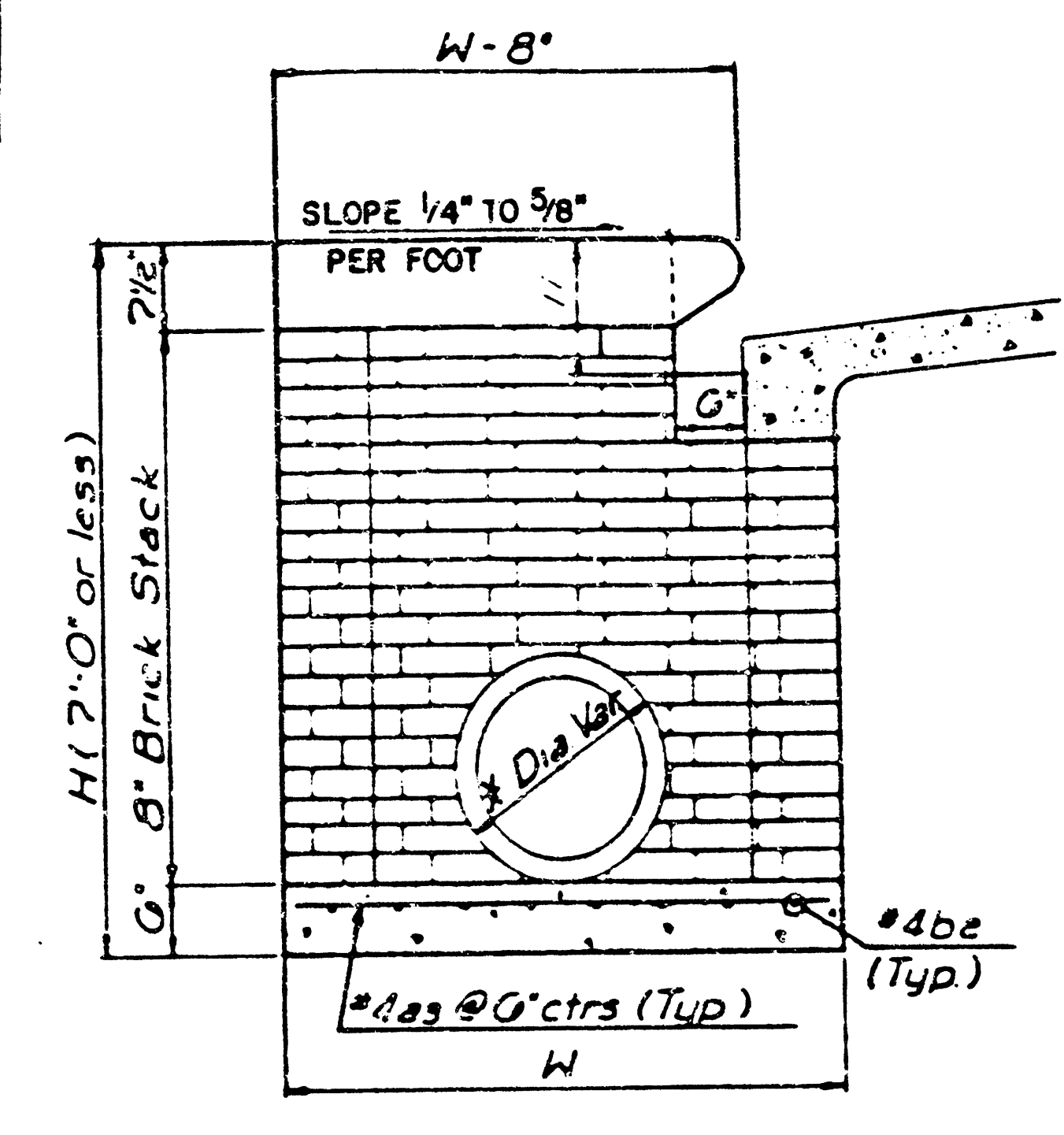
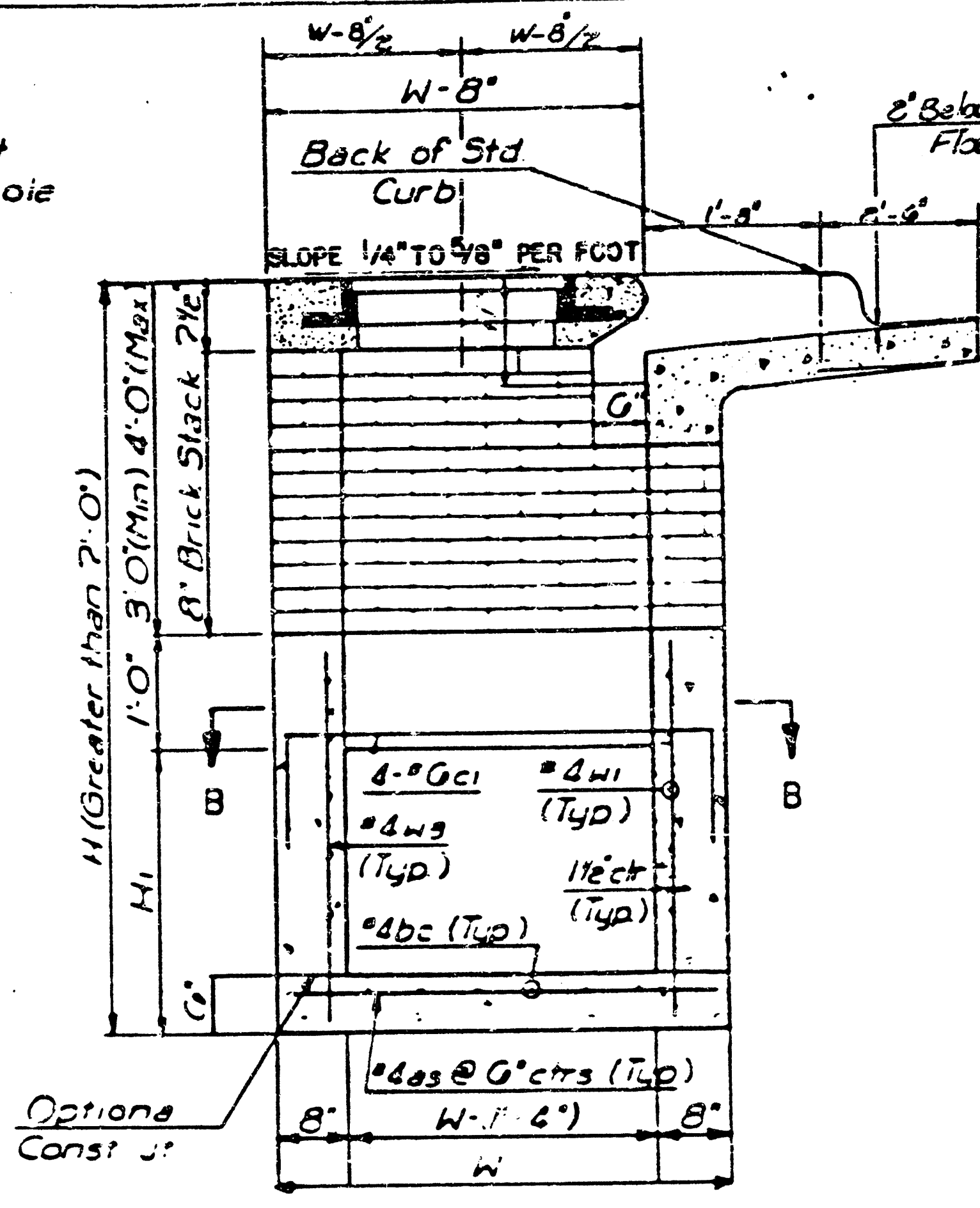
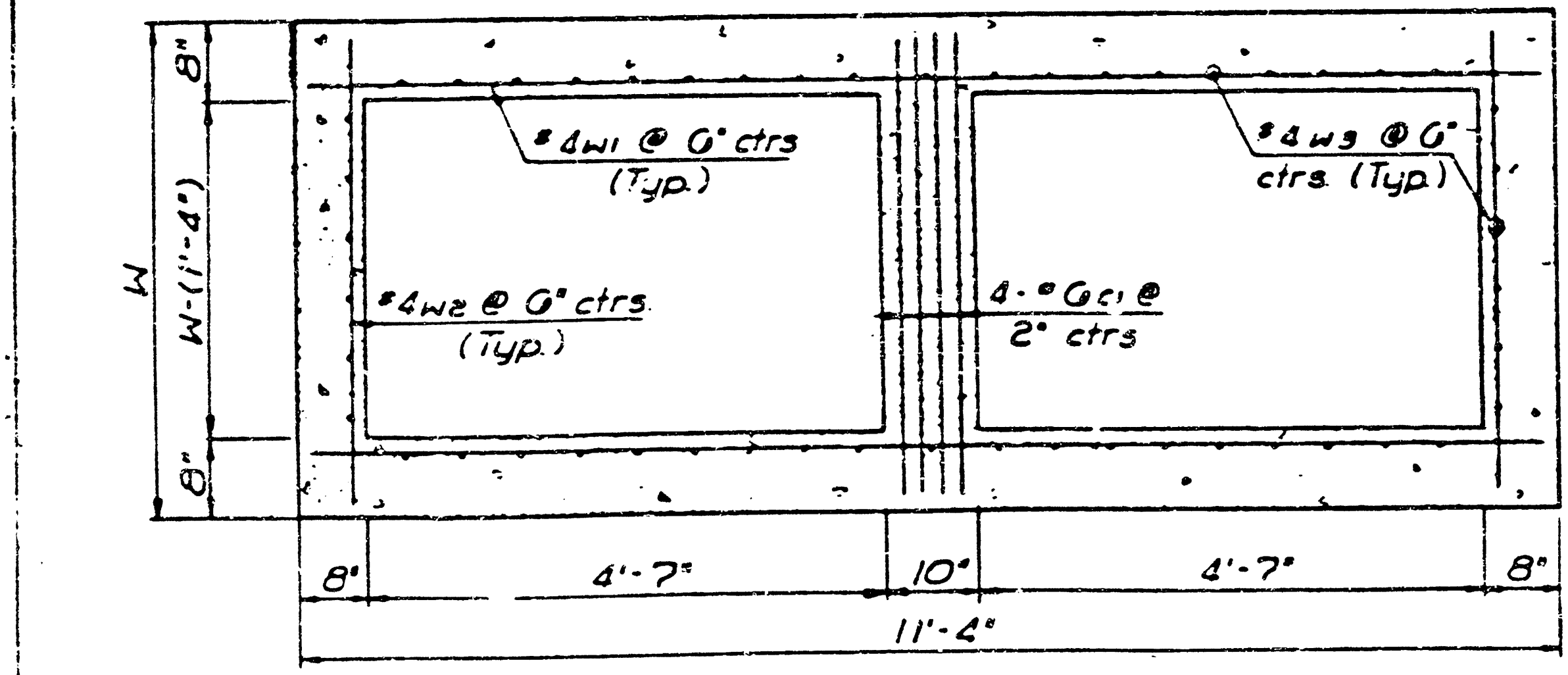
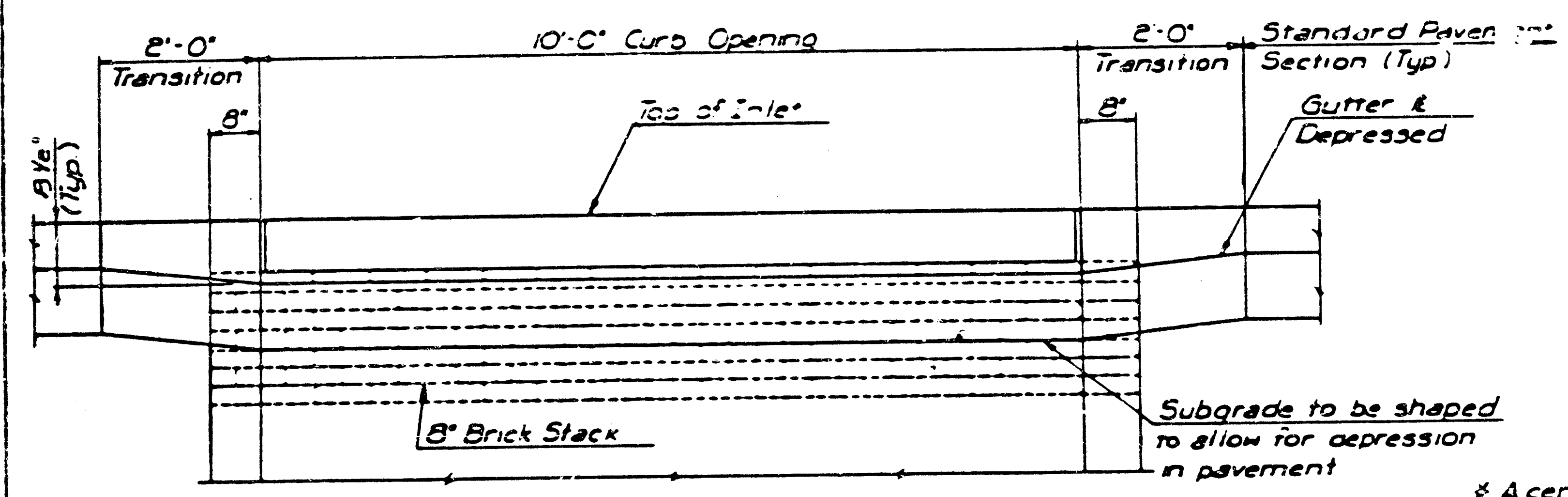
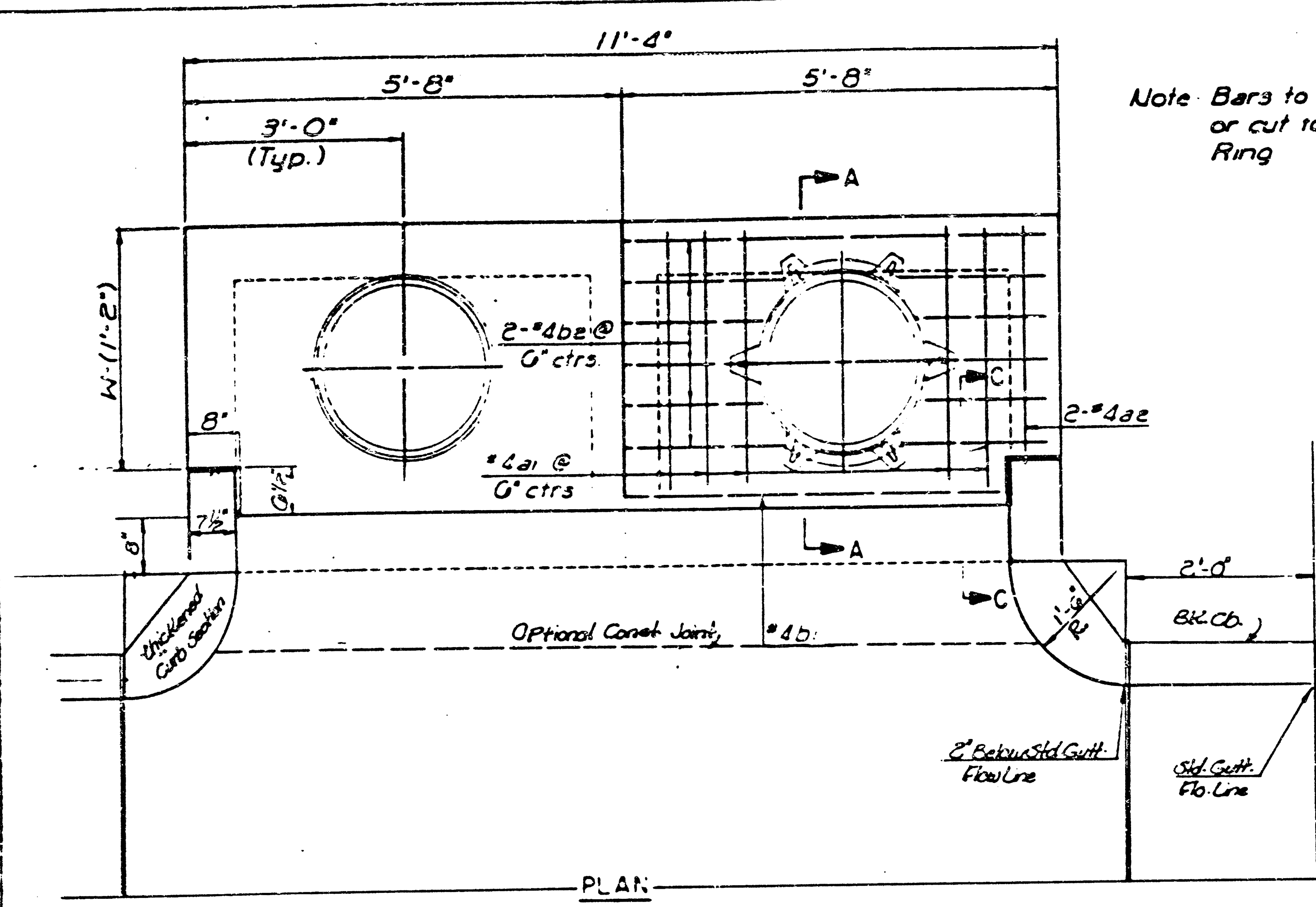
LIMITS OF GUTTER SHAPING AND/OR EDGE OF COMB. CURB AND GUTTER

DETAIL STANDARD TYPE IA CURB INLET
CITY OF WICHITA, KANSAS
INLET OPENING = 6" x 5' 0"

JUNE 1984

11/15

11/15



* A center wall opening shall be provided by means of a section of reinforced concrete pipe. The minimum diameter used shall be that of the outlet pipe.

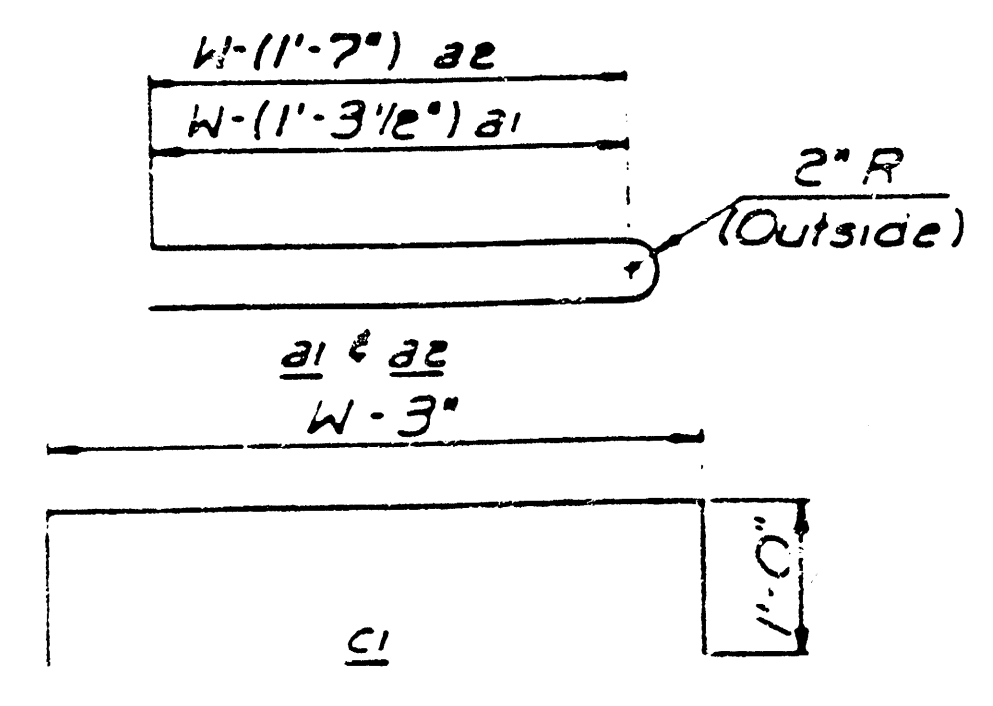
Note Concrete top to be installed on thin mortar cushion to insure full support along wall's

SLAB AND FLOOR REINFORCING									
		W=4'-4"	W=5'-4"	W=6'-4"	W=7'-4"	W=8'-4"			
Mark	Size	No	Length	No	Length	No	Length	No	Length
a1	#4	13	6'-7 1/4"	13	8'-7 1/4"	13	10'-7 1/4"	13	12'-7 1/4"
a2	#4	2	6'-0"	2	8'-0"	2	10'-0"	2	12'-0"
a3	#4	20	4'-1"	20	5'-1"	20	6'-1"	20	7'-1"
b1	#4	1	0'-8"	1	0'-8"	1	0'-8"	1	0'-8"
b2	#4	18	11'-1"	24	11'-1"	30	11'-1"	36	11'-1"

WALL REINFORCING									
		W=4'-4"	W=5'-4"	W=6'-4"	W=7'-4"	W=8'-4"			
Mark	Size	No	Length	No	Length	No	Length	No	Length
c1	#4	4	6'-1"	4	7'-1"	4	8'-1"	4	9'-1"
w1	#4	1	11'-1"	1	11'-1"	1	11'-1"	1	11'-1"
w2	#4	1	4'-1"	1	5'-1"	1	6'-1"	1	7'-1"
w3	#4	2	3	2	3	2	3	2	3

* Field bend or cut Reinforcing as required for clearance

① 4 (H1-G*) ② 40+4 (W-1) ③ H1-(D*)

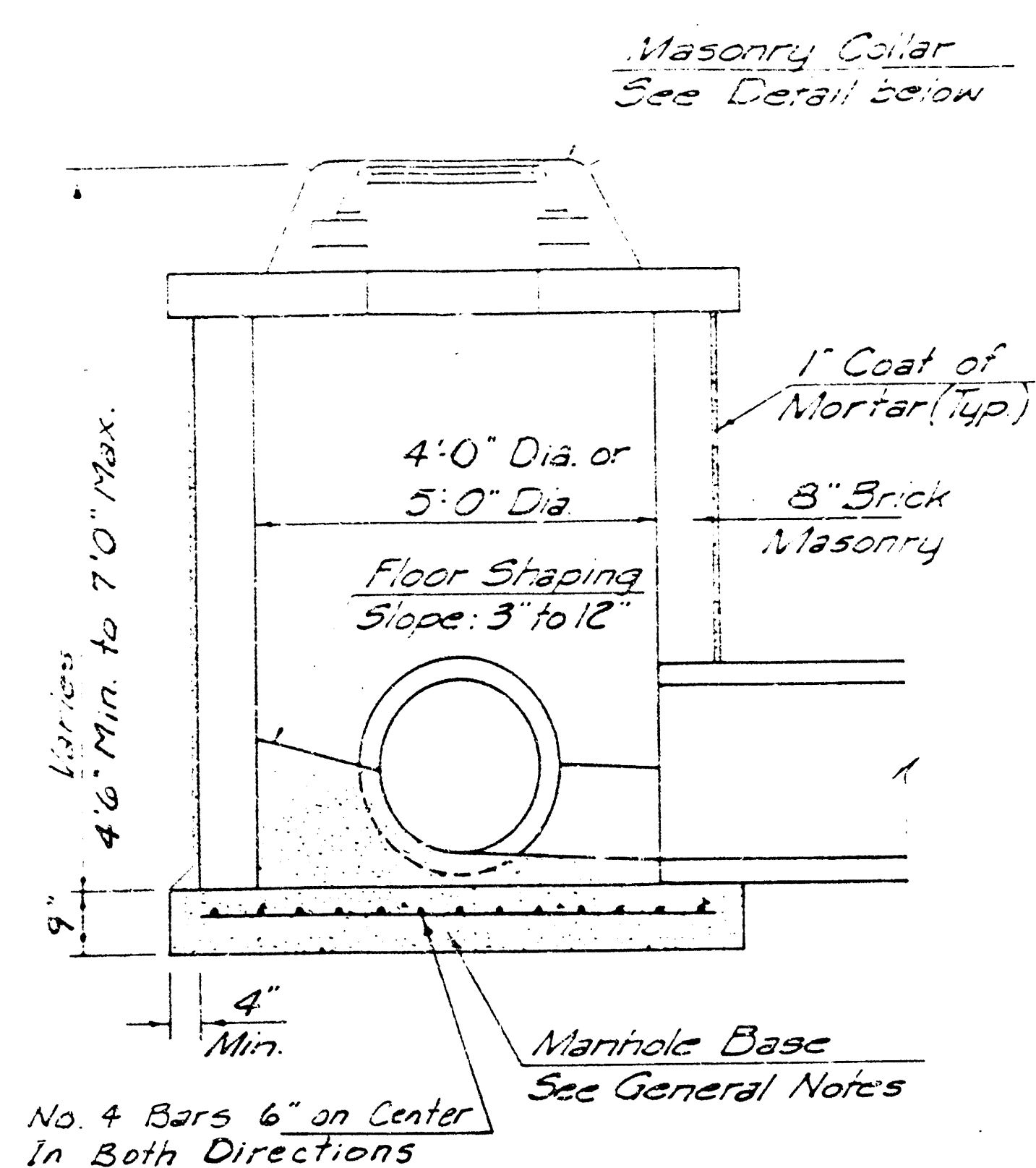


SEE CITY OF WICHITA STANDARD MANHOLE FRAME AND COVER DETAIL SHEET FOR COVER DETAILS TO BE USED WITH INLET FRAME.

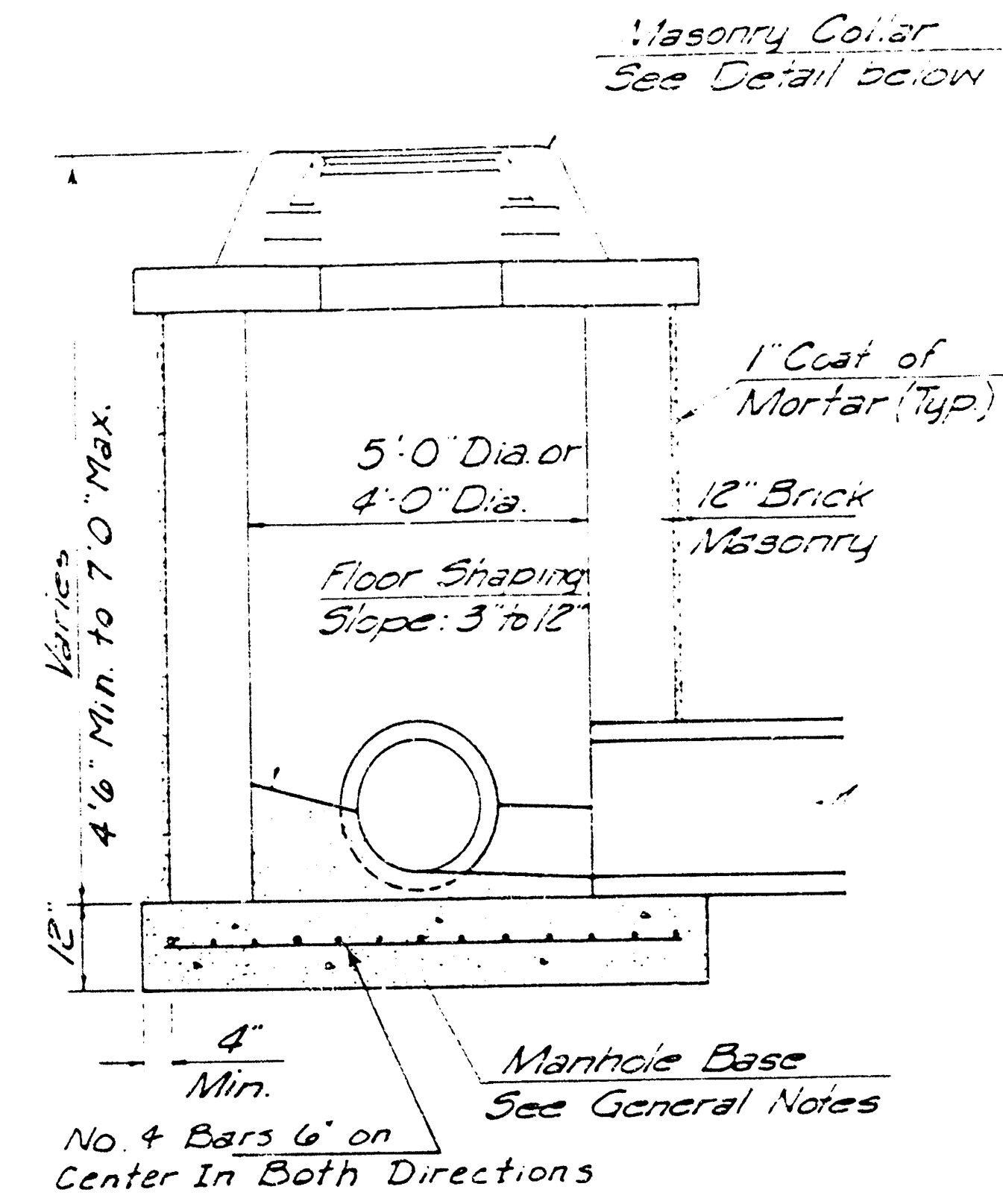
GENERAL NOTES
Concrete shall be COW Standard Paving Mix. All exposed edges shall be finished with an edging tool. Reinforcing Bars shall be field bent or cut to clear pipes. All bars are #4 bars at 6" spacing and shall have a minimum clearance of 1 1/2" unless otherwise noted. Floors of inlet shall be shaped with 3 Sack Sand Mix Concrete to increase hydraulic efficiency such that the inlet will be self cleaning between all inlet and/or outfall pipe(s). The Contractor shall have the option of constructing 8" Brick Masonry Walls between the concrete inlet base and top on this inlet when H=7'-0" or less and W=6'-4" or less.

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

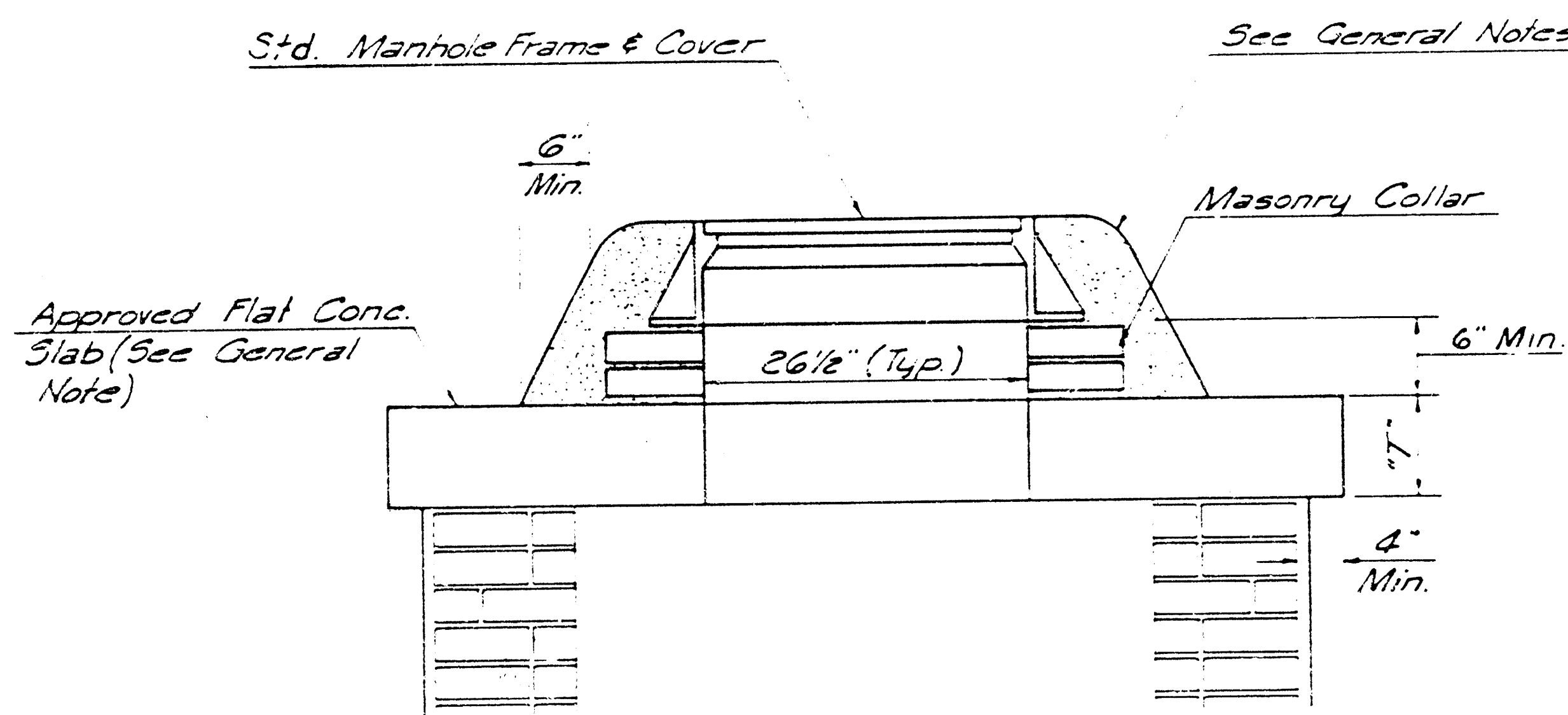
DETAIL STANDARD TYPE IA CURB INLET
INLET OPENING = 6' x 10'-0"
CITY OF WICHITA
M. E. LINDEBAK, CITY ENGINEER
OCTOBER 1984



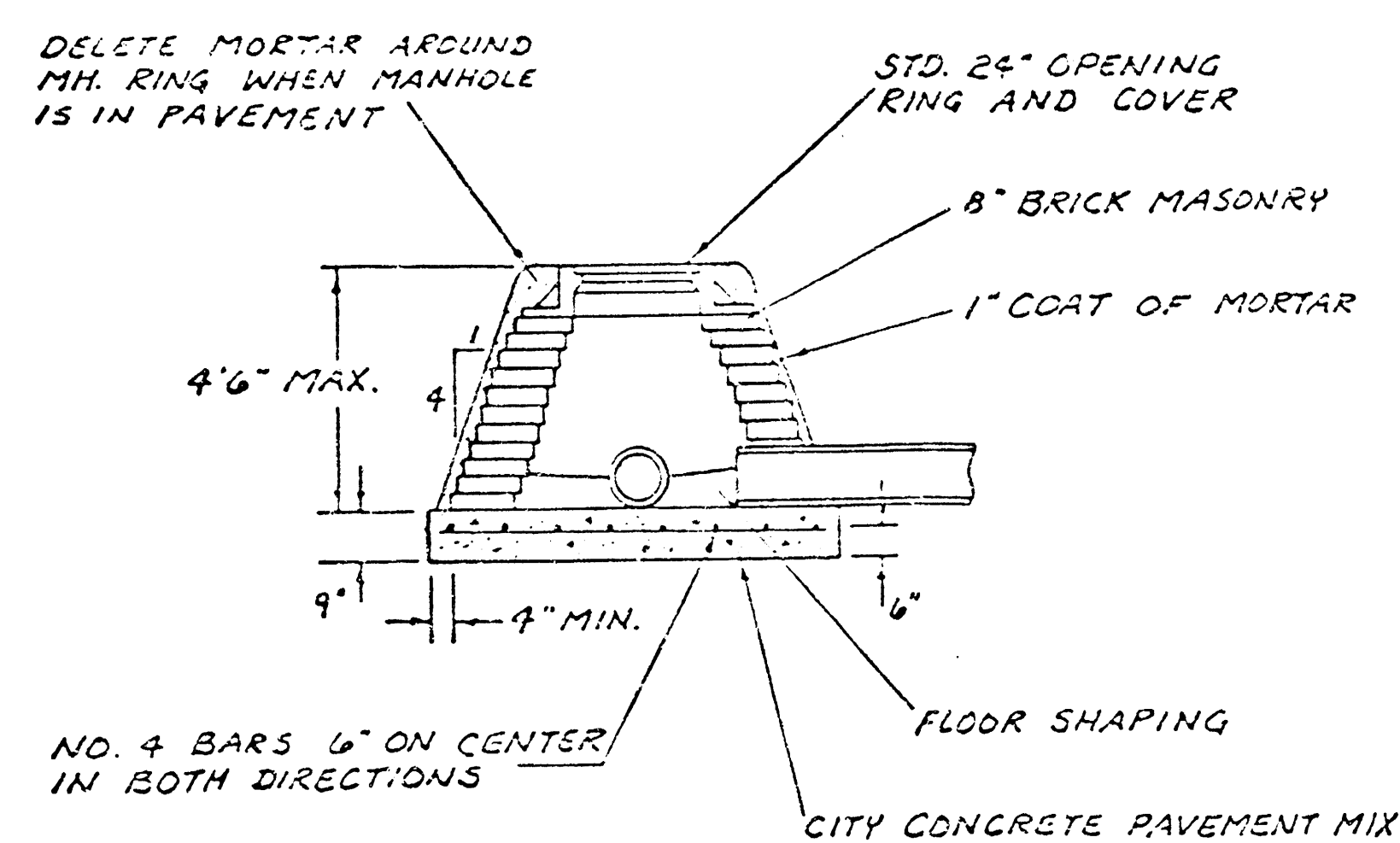
SHALLOW TYPE "A" MANHOLE



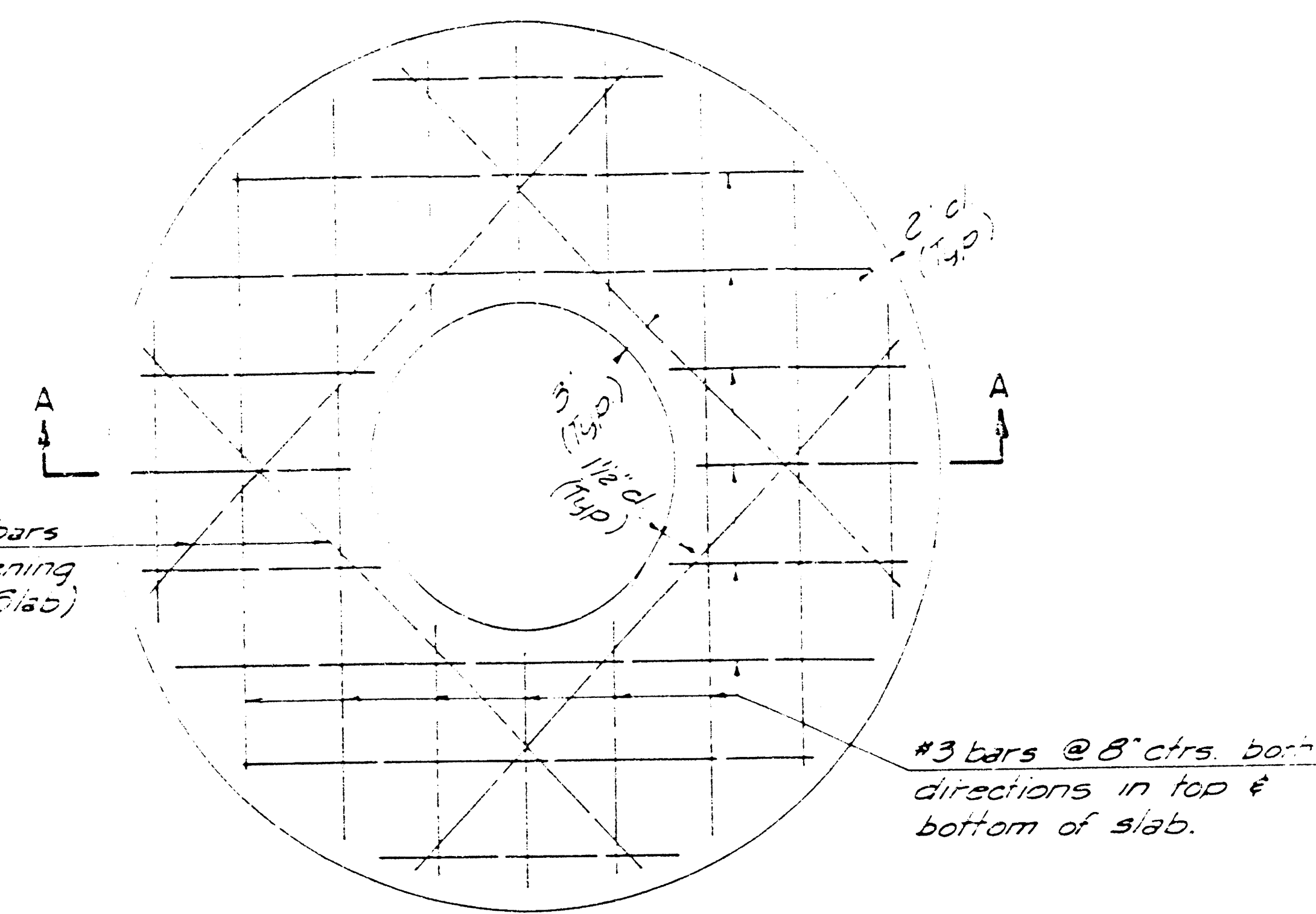
SHALLOW TYPE "B" MANHOLE



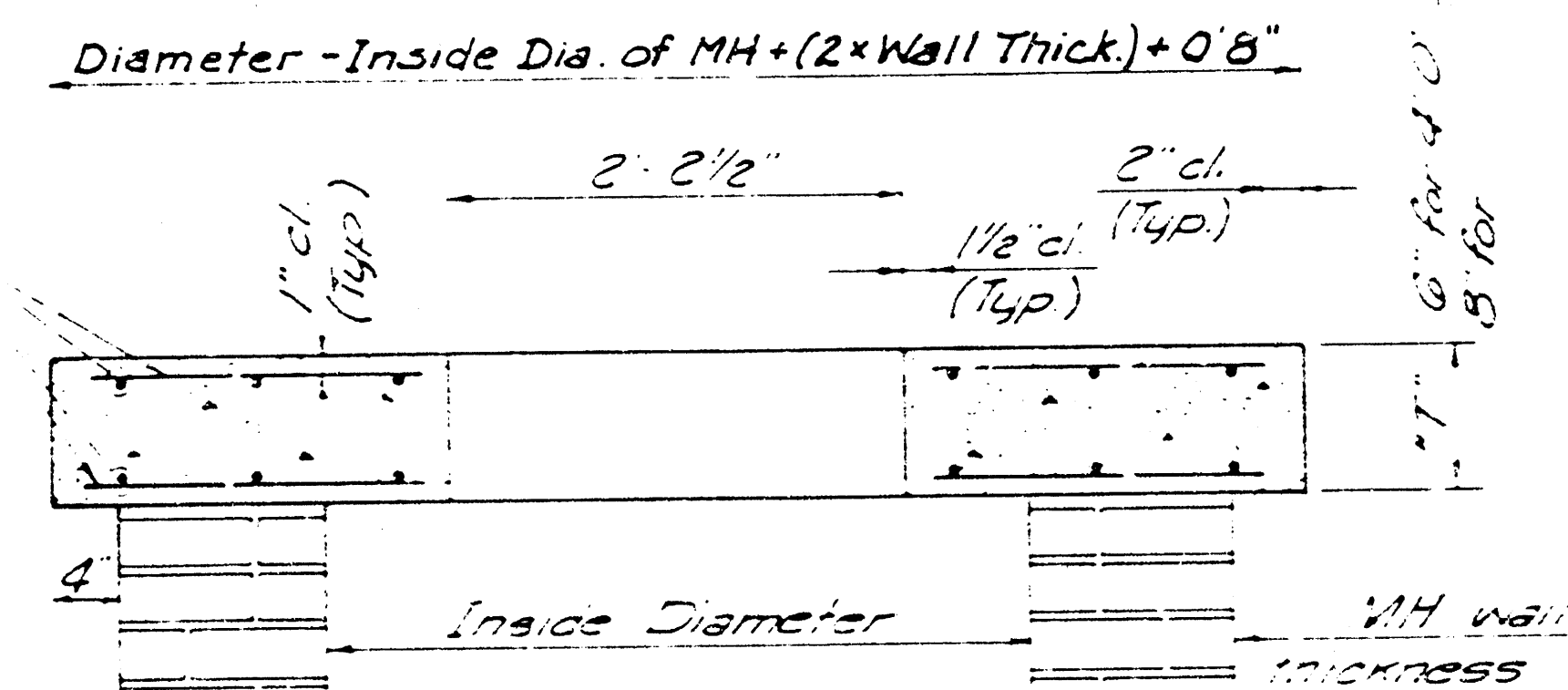
MASONRY COLLAR DETAIL



SPECIAL SHALLOW TYPE "A" MANHOLE

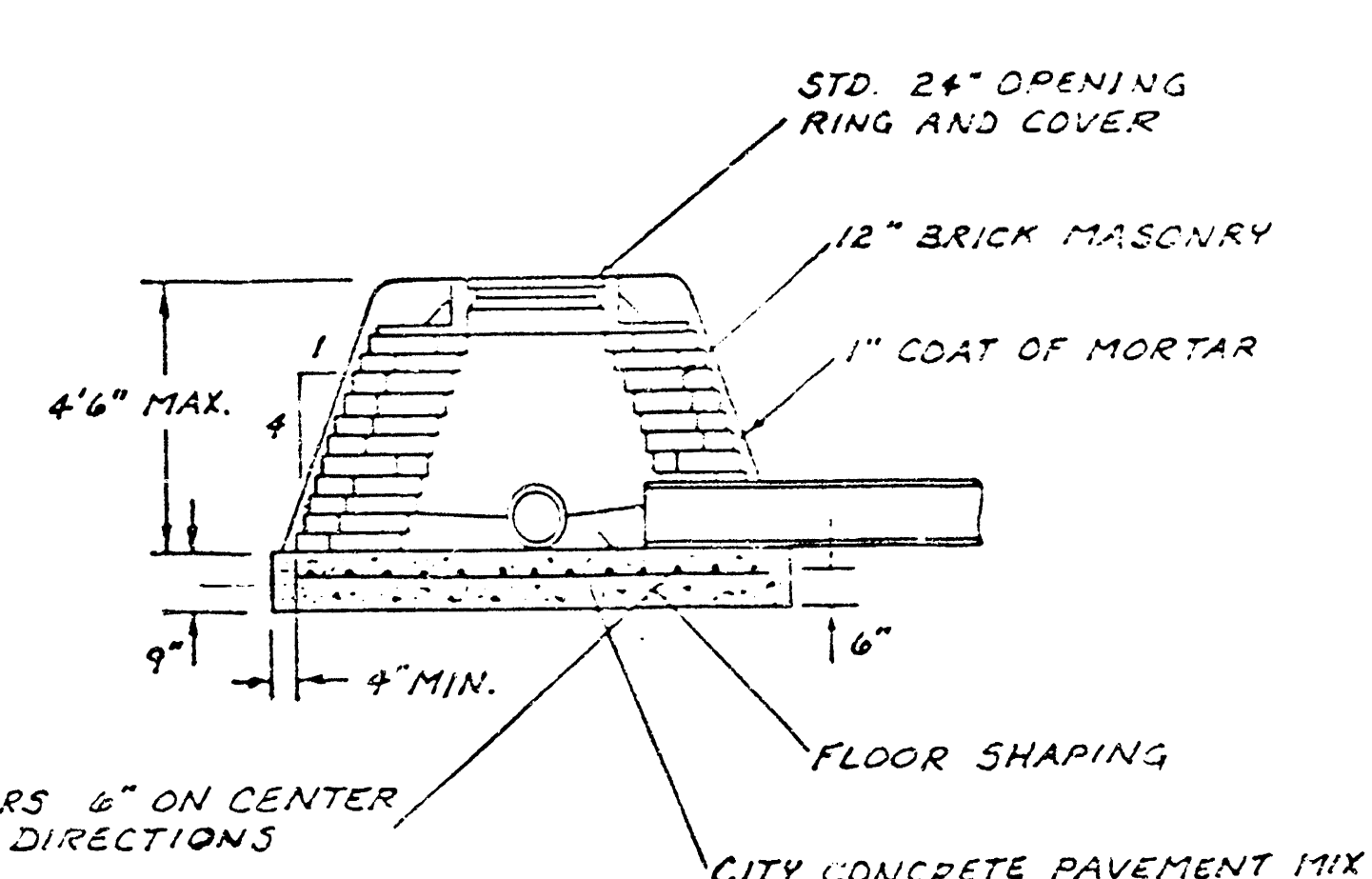


PLAN



SECTION A-A

FLAT CONCRETE SLAB DETAILS



SPECIAL SHALLOW TYPE "B" MANHOLE

GENERAL NOTES

- MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 BAGS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE CEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. TYPE "A" SHALLOW MANHOLES CAN BE USED ON SEWERS WHEN THE MANHOLE IS NOT LOCATED WITHIN PUBLIC STREET PAVEMENT. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24" SHALL HAVE AN INSIDE DIAMETER OF 4". MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE 24" OR LARGER SHALL HAVE AN INSIDE DIAMETER OF 5". COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.
- REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED 6" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
- THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN ON THE DRAWINGS. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO NEAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.
- PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE GRADED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. WHEN CLAY PIPE IS USED, THE GRADE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MANHOLE. THE GRADE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. COST OF GRADE WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
- MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWINGS.
- THE CROWN OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
- STANDARD SHALLOW MANHOLES TYPE "A" AND "B" SHALL BE PAID FOR AT THE UNIT PRICE BID PER EACH FOR THE TYPE AND DIAMETER INDICATED. STANDARD SPECIAL SHALLOW MANHOLES TYPE "A" AND "B" SHALL BE PAID FOR AT THE UNIT PRICE BID PER EACH FOR THE TYPE INDICATED. ALL STANDARD SHALLOW MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.

CITY OF WICHITA, KANSAS
STANDARD SHALLOW MANHOLES
TYPE 'A' AND TYPE 'B'

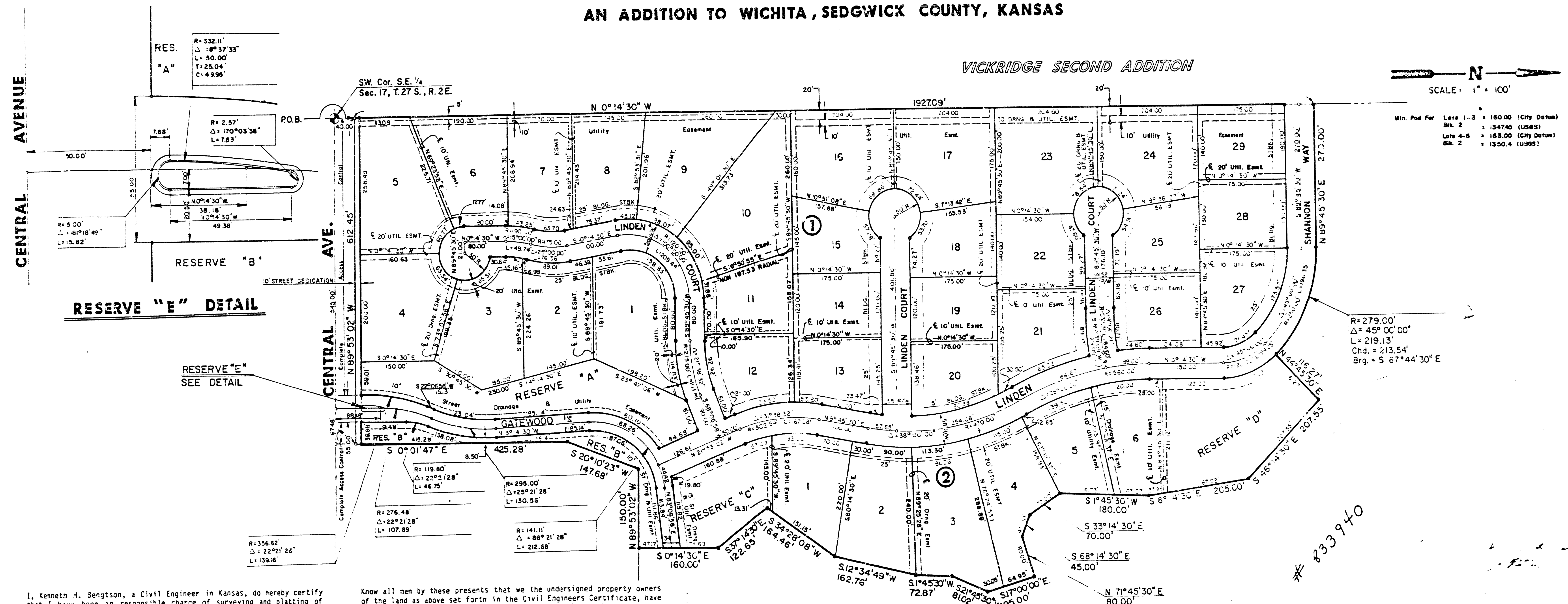
WOODLAND'S ESTATES
STORM WATER SEWER NO.317

14/15
14/15

FINAL PLAT OF
WOODLAND ESTATES

AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS

VICKRIDGE SECOND ADDITION



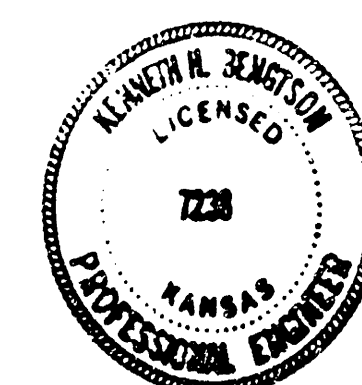
I, Kenneth H. Bengtson, a Civil Engineer in Kansas, do hereby certify that I have been in responsible charge of surveying and platting of "WOODLAND ESTATES" an addition to Wichita, Sedgwick County, Kansas, into Lots, Blocks, Reserves, and Streets, the same being accurately set forth in the accompanying plat and described herein:

A tract of land lying in the Southeast Quarter of Section 17, Township 27 South, Range 2 East of the 6th P.M., more particularly described as follows:

Beginning at a point 40.00 feet North and on the West line of said Southeast Quarter; thence N 0° 14' 30" W, 1927.09 feet; thence N 89° 45' 30" E, 270.00 feet to a point on a curve to the right having a central angle of 45° 00' 00", a radius of 279.00 feet, and a long chord of 217.54 feet bearing S 67° 44' 30" E; thence along said curve a distance of 219.13 feet; thence S 44° 45' 30" E, 116.27 feet; thence S 46° 14' 30" E, 207.55 feet; thence S 33° 14' 30" E, 70.00 feet; thence S 68° 14' 30" E, 45.00 feet; thence S 71° 45' 30" E, 80.00 feet; thence S 17° 00' 00" E, 45.00 feet; thence S 21° 45' 30" W, 81.02 feet; thence S 1° 45' 30" W, 72.87 feet; thence S 12° 34' 49" W, 162.76 feet; thence S 34° 28' 08" W, 164.46 feet; thence S 37° 14' 30" E, 122.65 feet; thence S 0° 14' 30" W, 160.00 feet; thence S 89° 53' 02" W, 150.00 feet; thence S 20° 10' 23" E, 147.68 feet to a point 40.00 feet North of the South line of said Southeast Quarter; thence N 89° 53' 02" W, 612.45 feet, parallel with the South line of said Southeast Quarter to the point of beginning.

I hereby certify that the details of this plat are correct to the best of my knowledge and belief this 20th day of August, 1986.

Kenneth H. Bengtson
Kenneth H. Bengtson, P.E.
Mid-Kansas Engineering Consultants, P.A.
3500 W. Rock Road, Building #800



Know all men by these presents that we the undersigned property owners of the land as above set forth in the Civil Engineers Certificate, have caused the same to be surveyed and platted into lots, blocks, streets and reserves, the same to be known as "WOODLAND ESTATES" an addition to Wichita, Sedgwick County, Kansas. The streets are hereby dedicated to and for the use of the public. Easements for the construction and maintenance of street, drainage and public utilities as indicated on the accompanying plat are hereby granted. Reserves "A", "B" & "C" are being platted for construction and maintenance of public utilities, drainage, landscaping, walk, open space and entry monuments. Reserve "E" is platted for landscaping. Reserve "D" is being platted for construction and maintenance of public utilities, drainage, landscaping and irrigation. The Reserves shall be owned and maintained by the Homeowners Association. Minimum pad elevation on Lots 1 through 6 inclusive, Block 2 shall be as indicated on the face of the plat. All abutters right of access to or from the North line of Central Avenue over and across the South lines of Lots 4 and 5 Block 1, Reserve A, and Reserve B of "Woodland Estates" are hereby granted to the City of Wichita.

RITCHIE ASSOCIATES, INC., a Kansas Corporation

Jack D. Ritchie, President

STATE OF KANSAS ss:
SEDGWICK COUNTY

Be it remembered that on this 20th day of August, 1986, before me a Notary Public in and for said State and County, came Ritchie Associates, Inc., by Jack D. Ritchie, President, to me personally known to be the same person who executed the foregoing instrument of writing and duly acknowledged the execution of the same. In testimony whereof I have hereunto set my hand and affixed my notarial seal the day and year above written.

Teresa A. Niles
My Appointment Expires:



This plat of "WOODLAND ESTATES" has been submitted to and approved by the Wichita-Sedgwick County Metropolitan Area Planning Commission, Wichita, Kansas.

Dated this 7th day of August, 1986.

WICHITA-SEDGWICK COUNTY METROPOLITAN AREA PLANNING COMMISSION

David Baranoff, Vice-Chairman

Michael C. Lindeau, Secretary

This plat approved and all dedications shown hereon, if any, accepted by the City Commission of the City of Wichita, Kansas, this 2nd day of September, 1986.

Tony Casado, Mayor

Donna C. Glick, City Clerk

Entered on transfer record this 22 day of September, 1986.

Don Wright, County Clerk

STATE OF KANSAS ss:
SEDGWICK COUNTY

This is to certify that this instrument was filed for record in the Register of Deeds office this 22nd day of September, 1986.

Pat Keller, Register of Deeds

Ed Bros, Deputy

Ed Kesa



20.00

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