

WHISPERING BROOK COMMERCIAL 2ND ADDITION

(A REPLAT OF WHISPERING BROOK COMMERCIAL ADDITION)
TO WICHITA, SEDGWICK COUNTY, KANSAS

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E., CITY ENGINEER
PRIVATE STORM WATER SEWER
IN
WHISPERING BROOK COMMERCIAL 2ND ADDITION
CITY OF WICHITA PRIVATE PROJECT NO. 1125PPS (607661)

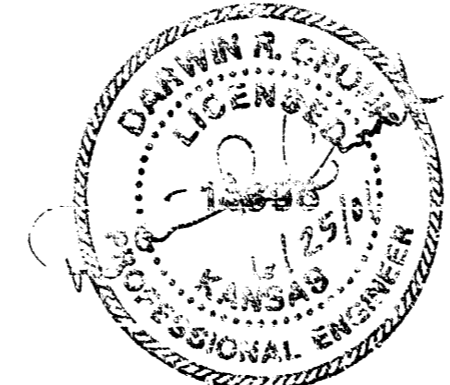
SCALE: 1" = 100'

• = 3/4" IRON PIPE WITH PEC CAP UNLESS NOTED OTHERWISE

B.M. RAILROAD SPIKE IN EAST FACE POWER POLE AT SW CORNER WOODLAWN AND BELLVIEW.
ELEV. = 183.42 (CITY DATUM)
ELEV. = 1370.82 (N.G.V.D.)

B.M. 1" POST 10' N.E. OF PROPERTY CORNER 220' WEST OF WOODLAWN AND 280' SOUTH OF 37TH STREET NORTH CENTERLINE.
ELEV. 188.05 (CITY DATUM)
ELEV. 1375.45 (N.G.V.D.)

CITY: CITY OF WICHITA BENCHMARK 78' E. AND 58' S. OF THE CENTERLINES OF 37TH ST. AND WOODLAWN.
ELEV. = 183.04 (CITY DATUM)
ELEV. = 1370.44 (N.G.V.D.)

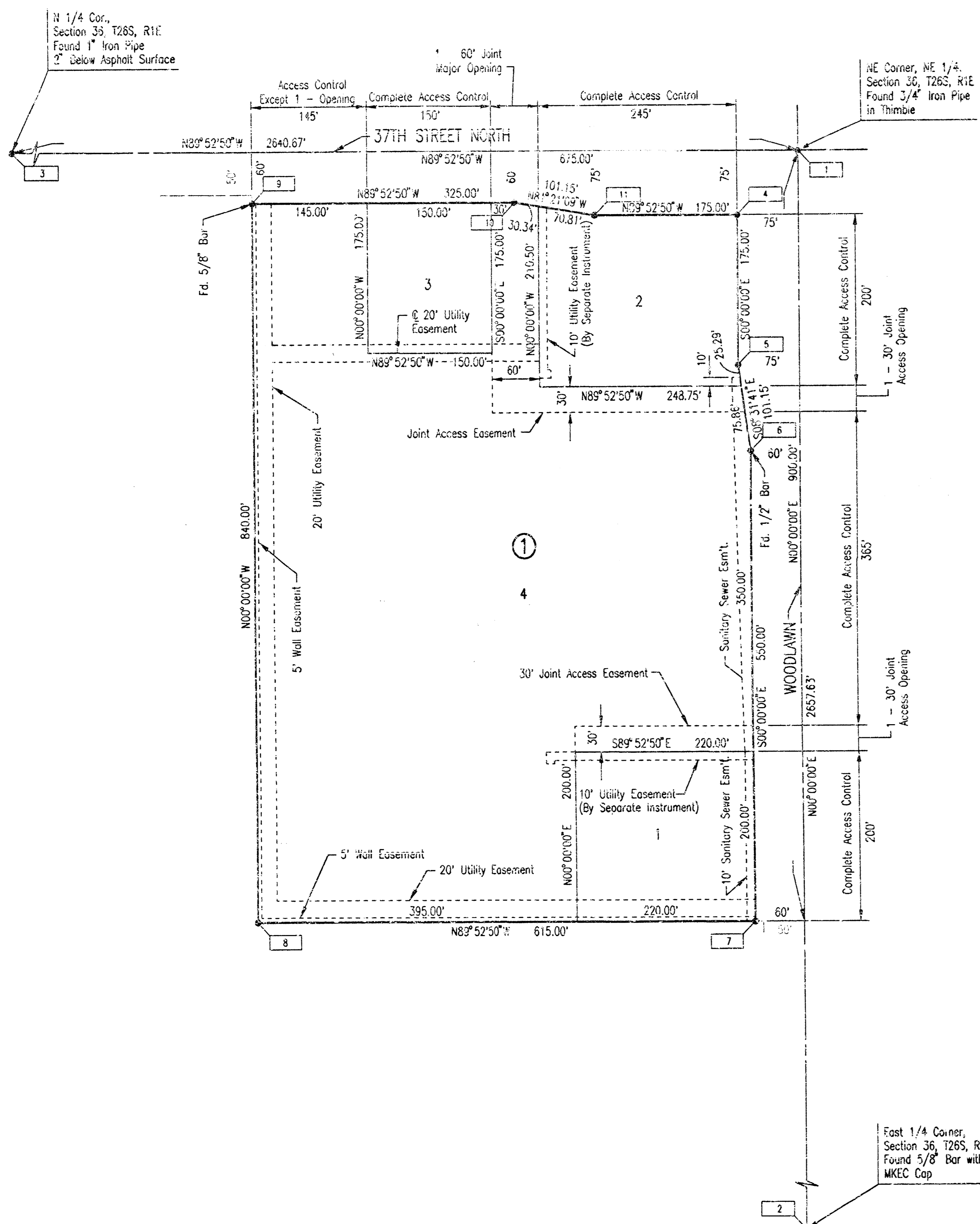


APPROVED AS NOTED
BY CITY ENGINEER OF WICHITA

NOTE TO CONTRACTOR

SANITARY SEWERS _____
STORM SEWERS 1/8" & 6/29/01
DRIVEWAY APPROACHES _____
WATER MAINS _____
PAVING _____

INSPECTION AND TESTING FOR THIS PROJECT IS TO BE PROVIDED BY A LICENSED CONSULTING ENGINEERING FIRM CONTRACTED BY THE CONTRACTOR. 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 UNTIL SUCH INSPECTION IS ARRANGED FOR AND REQUIRED BONDC HAVE BEEN SUBMITTED TO AND APPROVED BY THE CITY ENGINEER. IMPROVEMENTS PERFORMED UNDER THIS PROJECT SHALL NOT BE ACCEPTED BY THE CITY UNTIL ALL APPLICABLE DOCUMENTATION HAS BEEN SUBMITTED TO THE CITY ENGINEER. THIS MAY INCLUDE AS-BUILT DRAWINGS, INSPECTION LOGS, TEST DOCUMENTATION, TV TAPES, AND A CERTIFICATE OF COMPLETION. THE ABOVE SHALL BE PERFORMED BY THE CONSULTING FIRM CONTRACTED TO INSPECT THIS PROJECT.



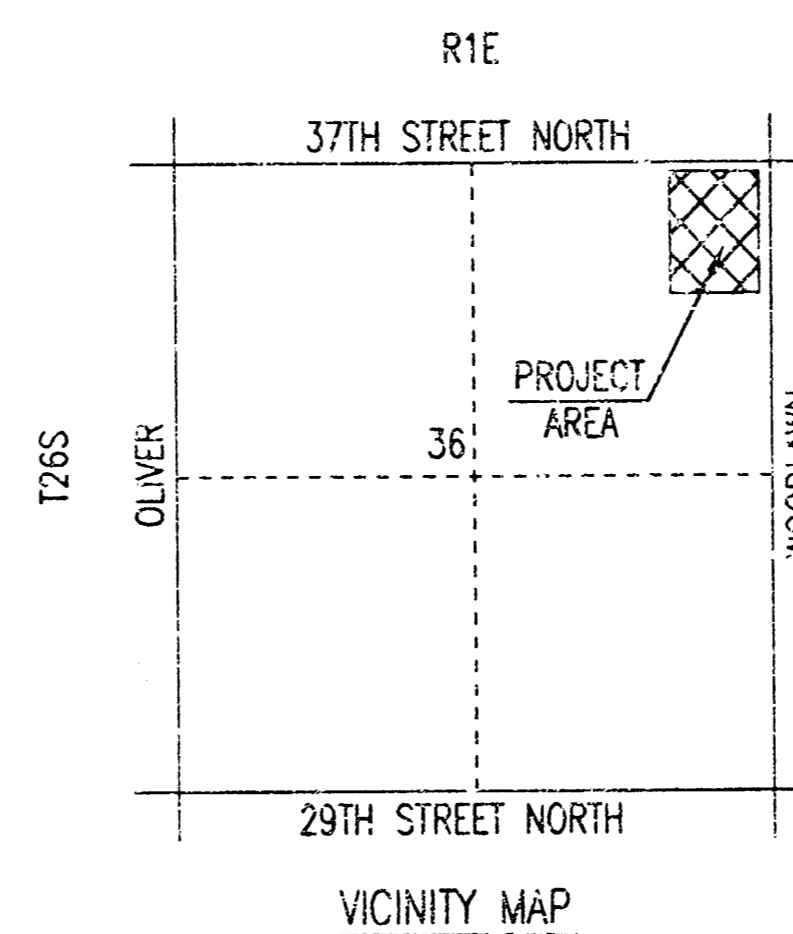
CONTROL POINTS		
COORDINATE LIST		
POINT	NORTH	EAST
1	5,000.0000	5,000.0000
2	3,741.8323	5,000.0000
3	5,002.0141	4,333.8686
4	4,925.1562	4,925.0000
5	4,750.1562	4,925.0000
6	4,650.1248	4,933.9999
7	4,100.1248	4,933.9999
8	4,101.4067	4,325.0012
9	4,941.4059	4,325.0010
10	4,640.7294	4,650.0002
11	4,925.5210	4,750.0004
12	5,005.5050	2,359.3360

④ = COORDINATE POINT NO.

GENERAL NOTES

- ALL CONSTRUCTION AND MATERIALS TO COMPLY WITH CITY OF WICHITA SPECIFICATIONS AND STANDARDS.
- ALL ELEVATIONS SHOWN ARE BASED ON CITY OF WICHITA DATUM.
- THE CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH TO REMAIN OPEN OVERNIGHT AND WEEKENDS TO LESS THAN 50 FEET.
- AT LEAST 72 HOURS PRIOR TO BEGINNING EXCAVATION (EXCLUDING WEEKENDS AND HOLIDAYS), THE CONTRACTOR SHALL CONTACT THE KANSAS ONE-CALL SYSTEM, A UTILITY LOCATION SERVICE, AT (316) 887-2470 TO REQUEST THE LOCAL UTILITY COMPANIES MARK ANY EXISTING LINES WITHIN THE PROJECT AREA.
- UNDERGROUND UTILITY SERVICE LINES AND OVERHEAD UTILITY POLE LINES ARE TO BE ADJUSTED AS NECESSARY BY OTHERS PRIOR TO CONSTRUCTION UNLESS THE PLANS SPECIFICALLY CALL FOR THEIR ADJUSTMENT BY THE CONTRACTOR OR UNLESS THE PLANS SPECIFICALLY IDENTIFY A UTILITY TO BE ADJUSTED BY ITS OWNER DURING CONSTRUCTION. EXISTING UTILITIES AND THEIR LOCATIONS, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR THE DESIGN. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR WILL 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 IN ACCORDANCE WITH STATE LAWS.
- CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL MANHOLE COVERS.
- ALL LAWN/TURF AREAS ON ADJACENT PROPERTIES DISTURBED BY CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE RESTORED WITH THE SAME GRASS/SOIL AS EXISTING. RESTORATION OF DISTURBED AREAS SHALL INCLUDE, BUT NOT BE LIMITED TO, TOP SOIL PREPARATION, SEEDING, MULCH, AND/OR RESEEDING. ALL SEEDING/SODDING WORK SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.
- RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES INCLUDING ANY TREES REMOVED AND TREE TRIMMINGS SHALL BE DISPOSED OF ON SITES PROVIDED BY THE CONTRACTOR. THESE SITES SHALL ALSO BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE, AND SITE LOCATION. LOCATIONS THAT, IN THE OPINION OF THE ENGINEER, WILL LEAVE AN UNSIGHTLY APPEARANCE WILL NOT BE APPROVED. ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOOD PLAIN WILL REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIAL DUMPED IN WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS MAY REQUIRE ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED DISPOSAL LOCATION.
- THE CONTRACTOR SHALL AVOID REACH OR TRIMMING OF ANY TREES OR SHRUBS WHERE FEASIBLE. WHERE THE CONTRACTOR BELIEVES THE REMOVAL OR TRIMMING IS UNAVOIDABLE, HE SHALL COORDINATE SUCH WORK WITH THE ENGINEER.
- THE CONTRACTOR SHALL PREVENT ANY CONSTRUCTION DEBRIS FROM ENTERING THE EXISTING SANITARY SEWER AND/OR STORM SEWER DURING CONSTRUCTION.
- CONTRACTOR IS REQUIRED TO MAINTAIN CONTINUOUS FLOW OF SEWAGE IN EXISTING MAINS AT ALL TIMES.
- THE CONTRACTOR SHALL SEED ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES WITH TEMPORARY RYE GRASS. RYE GRASS SEED SHALL BE PLANTED AT A MINIMUM RATE OF SIX (6) POUNDS PER ONE THOUSAND (1,000) SQUARE FEET. THIS TEMPORARY SEEDING MAY BE OMITTED ONLY IF PERMANENT SEEDING IS TO BE COMPLETED WITHIN 14 DAYS AFTER THE AREA HAS BEEN DISTURBED.
- THE CONTRACTOR IS REQUIRED TO PREVENT SEDIMENT LASEN RUNOFF FROM ENTERING ADJACENT ROADWAYS AND STORM SEWER SYSTEMS. THIS MAY INCLUDE ERECTING SILT FENCE ALONG ADJACENT ROADWAYS, INSTALLING INLET PROTECTION FOR INLETS ON WOODLAWN AND DITCH CHECKS ALONG 37TH STREET NORTH OR TEMPORARY SEEDING OF DISTURBED AREAS THAT WILL NOT HAVE ACTIVITY FOR MORE THAN 14 DAYS. SEE LANDSCAPE PLAN AND SPECIFICATIONS FOR SEEDING, MULCHING AND TOP SOIL PREPARATION. SEE SH. NOS. C18 FOR EROSION CONTROL PLAN AND DETAILS.
- THE WATER DEPARTMENT SHALL FIELD LOCATE WATER VALVES ONE TIME DURING CONSTRUCTION WHEN REQUESTED BY THE CONTRACTOR. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PRESERVE SUCH FIELD LOCATIONS DURING THE CONSTRUCTION PROCESS. WATER VALVES, WATER VALVE BOXES OR FIRE HYDRANTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.

BOOKED
E-6
10/2/03
RDL



DNSR: SAD OFFER: SAD SCALE: 1"=100.00
G:\V\001\1125PPS\PLAT_06-22-2001_08.40.57.cim

WHISPERING BROOK COMMERCIAL 2ND ADDITION

PLAT AND GENERAL NOTES

Professional Engineering Consultants, P.A.
303 S. TOPSKA • WICHITA, KANSAS 67202
316-262-2691 • FAX 316-262-3003

Designed by	GLM	Checked by	
Drawn by	GLM	Date	MAY 2001
		Job No.	011

18 14 7

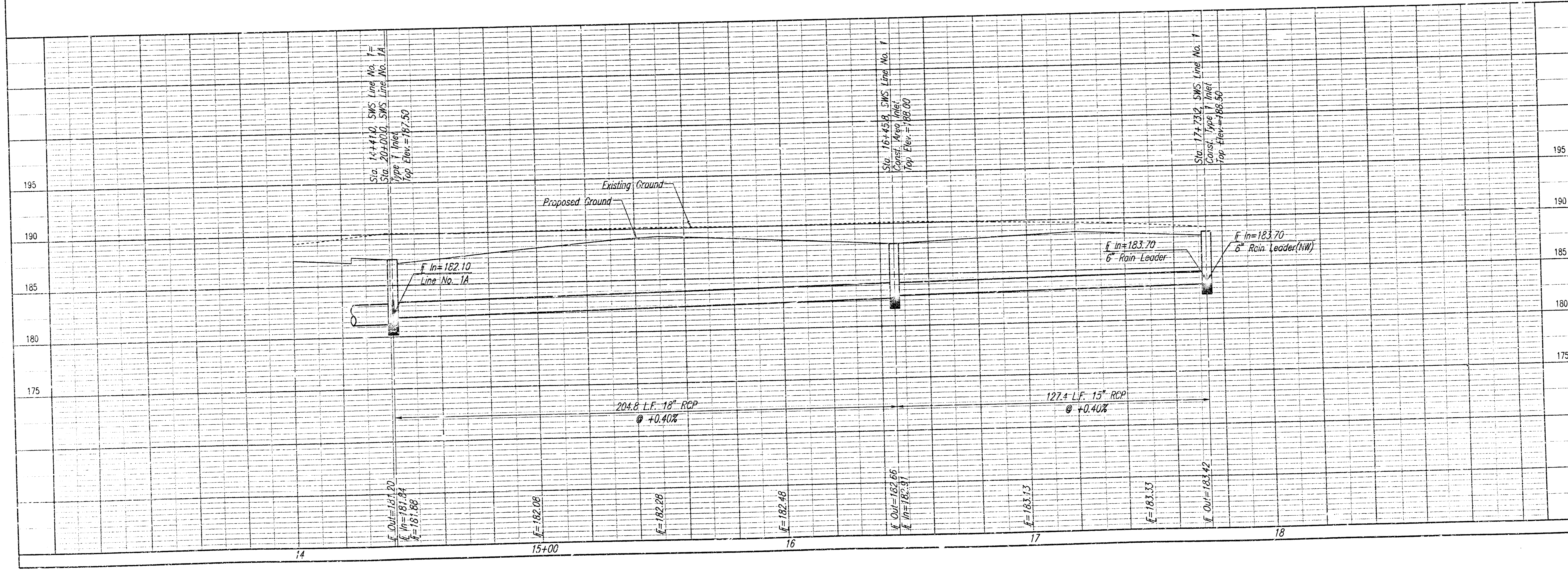
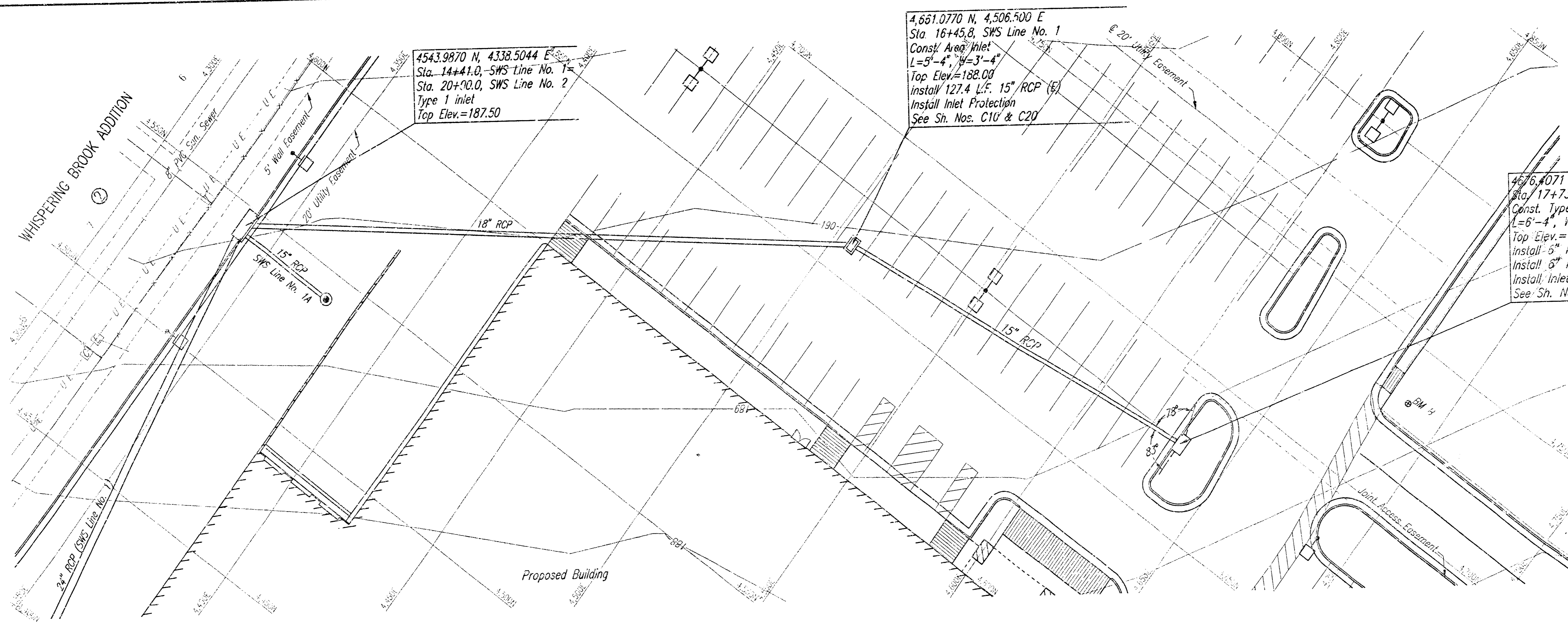
WHISPERING BROOK ADDITION

4543.9870 N, 4338.5044 E
Sta. 14+41.0, SWS Line No. 1
Sta. 20+00.0, SWS Line No. 2
Type 1 Inlet
Top Elev.=187.50

4,661.0770 N, 4,506.500 E
Sta. 16+45.8, SWS Line No. 1
Const. Area Inlet
L=5'-4", W=3'-4"
Top Elev.=188.00
Install 127.4 L.F. 15" RCP (E)
Install Inlet Protection
See Sh. Nos. C10 & C20

4676.4071 N, 4632.9967 E
Sta. 17+73.2, SWS Line No. 1
Const. Type 1 Inlet
L=6'-4", W=4'-4"
Top Elev.=188.50
Install 5" PVC Stub and Plug (NW)
Install 6" PVC Stub and Plug (S)
Install Inlet Protection
See Sh. Nos. C9 & C20

SCALE: 1"=20'



WHISPERING BROOK COMMERCIAL 2ND ADDITION
SWS LINE NO. 1
STA. 14+41.0 TO STA. 17+73.2

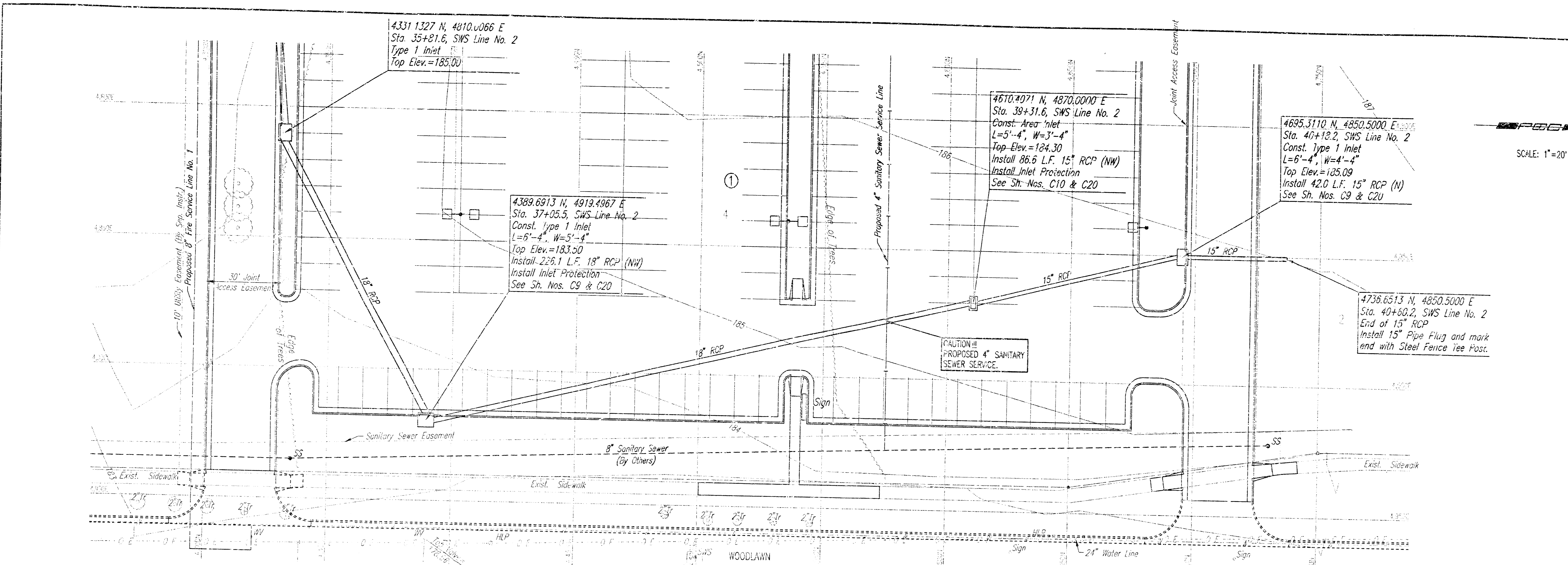
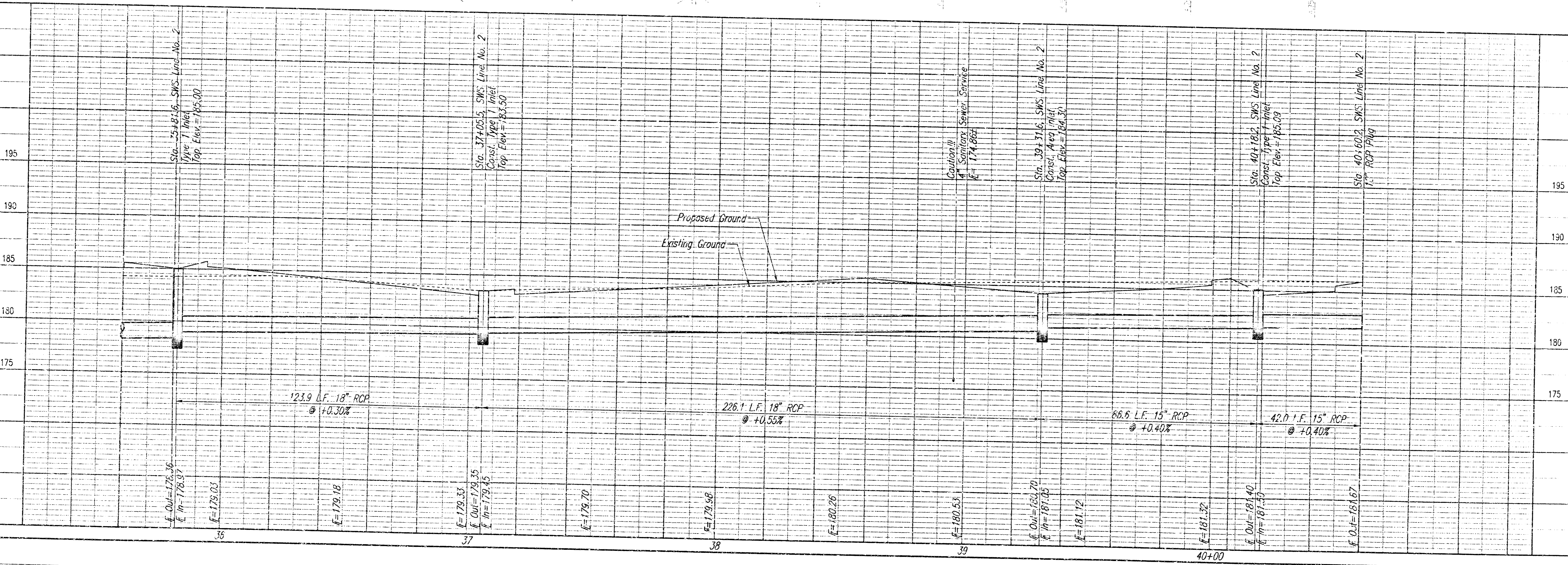
Professional Engineering Consultants, P.A.
303 S. FOREKA WICHITA, KANSAS 67202
316-262-2691 • FAX 316-262-5065



Job No. 01115
Date: MAY 2001

Scale: KTR

DSNR, KBR, OPER, S&D, SCALE: 1"=20' 00
 01/20/11 01:55:36:am/2sh12_06-22-2011 08:43:46 am



SCALE: 1"=20'

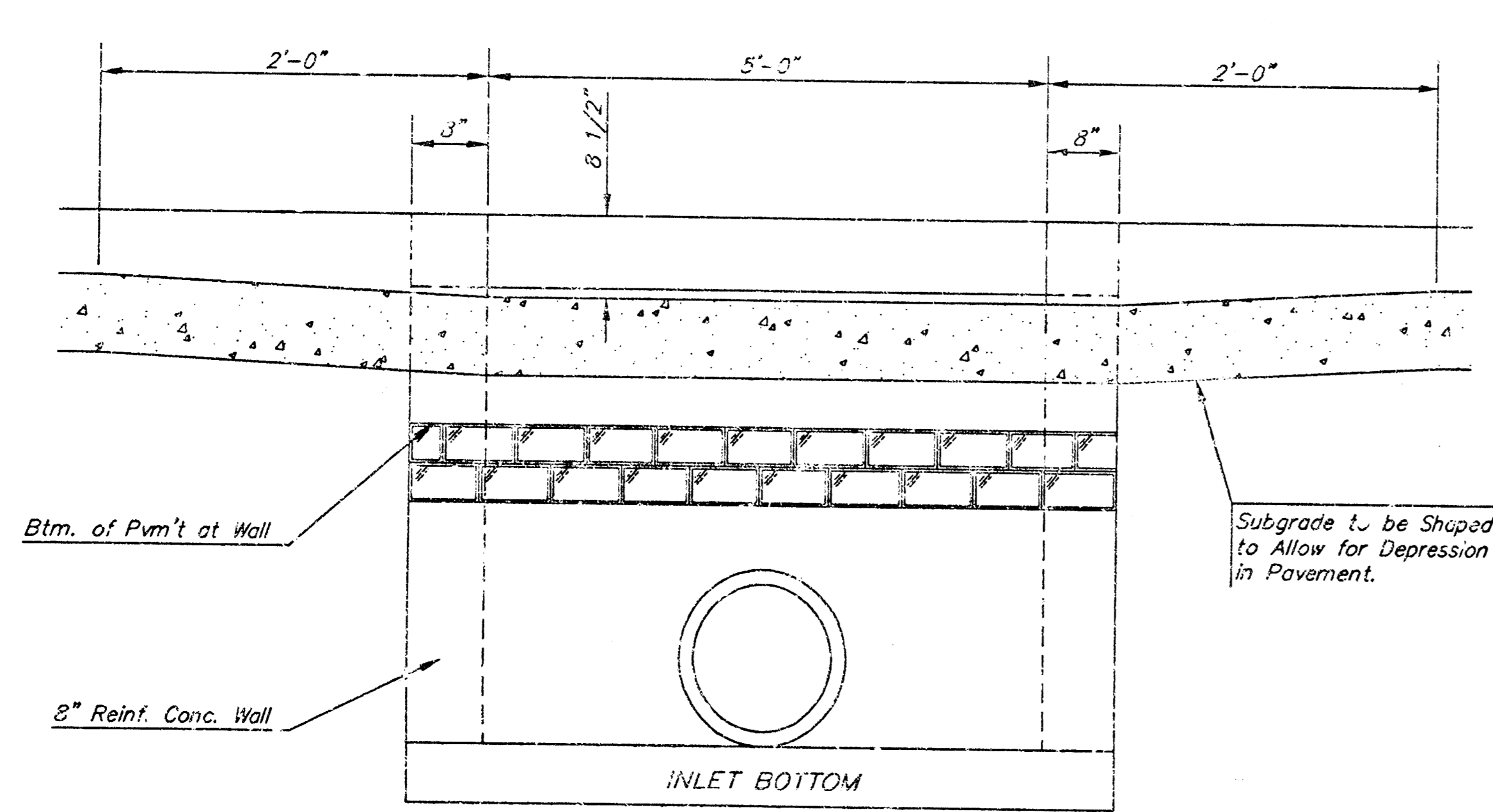
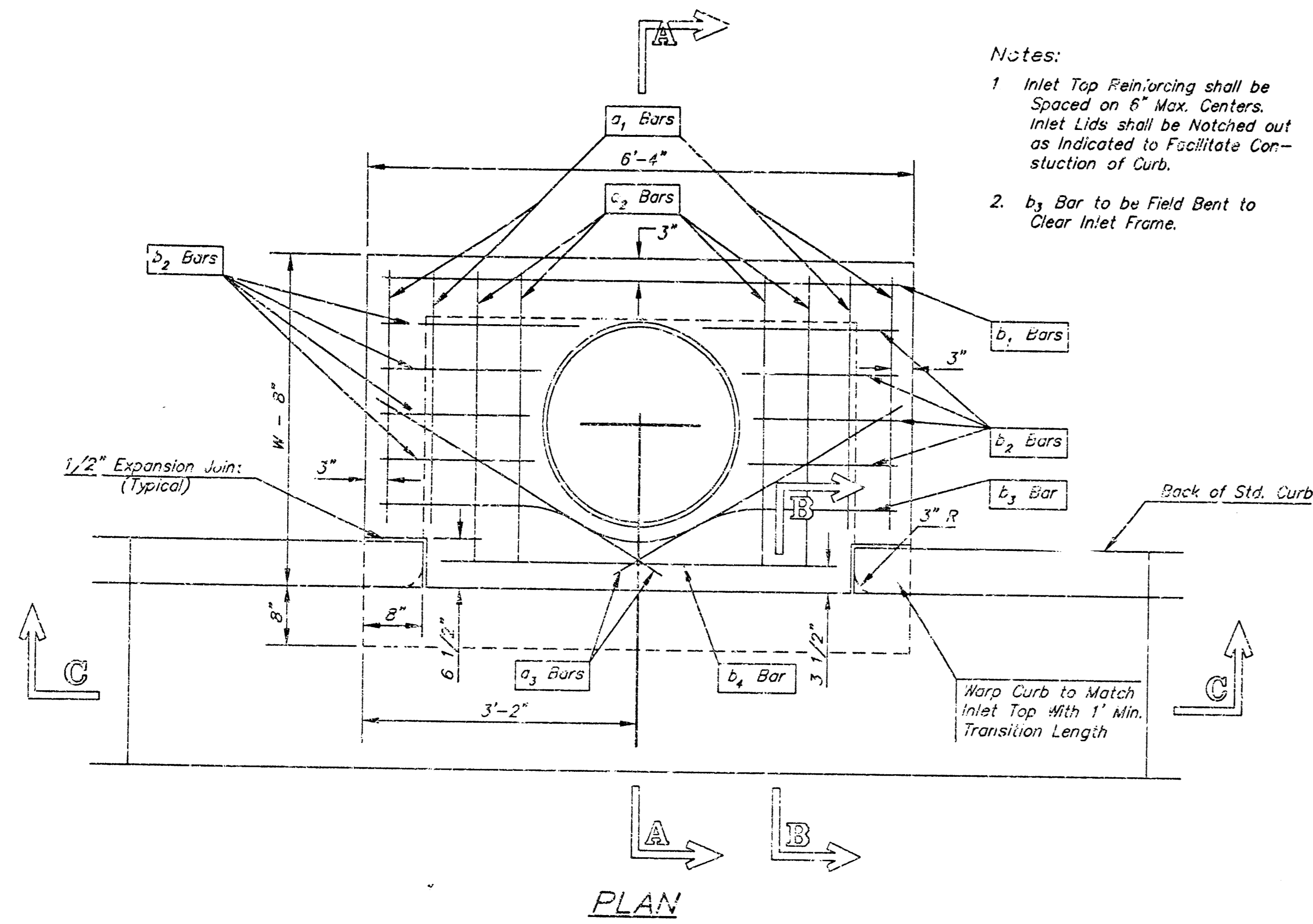
Professional Engineering Consultants, P.C.
 1501 W. WICHITA, KANSAS 67202
 (316) 262-3000 • FAX 316-262-3003

SWS LINE NO. 2
 STA. 35+81.6 TO STA. 40+60.2

Job No. 01135
 Date: MAY 2011

Sheet

WILHELM BRUNS, COMMERCIAL, 2ND FLOOR
 SWS LINE NO. 2
 STA. 35+81.6 TO STA. 40+60.2
 C.O.B. PROJECT: 0522, 03, 11, 11/2009, (62-86-1)



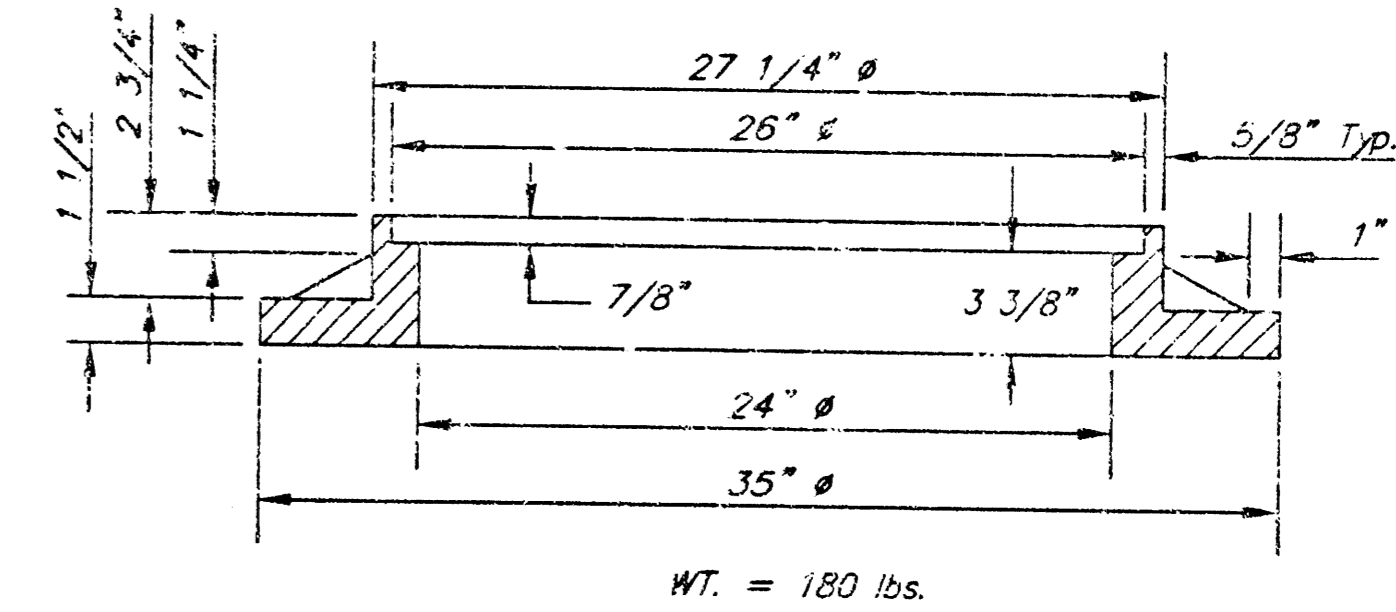
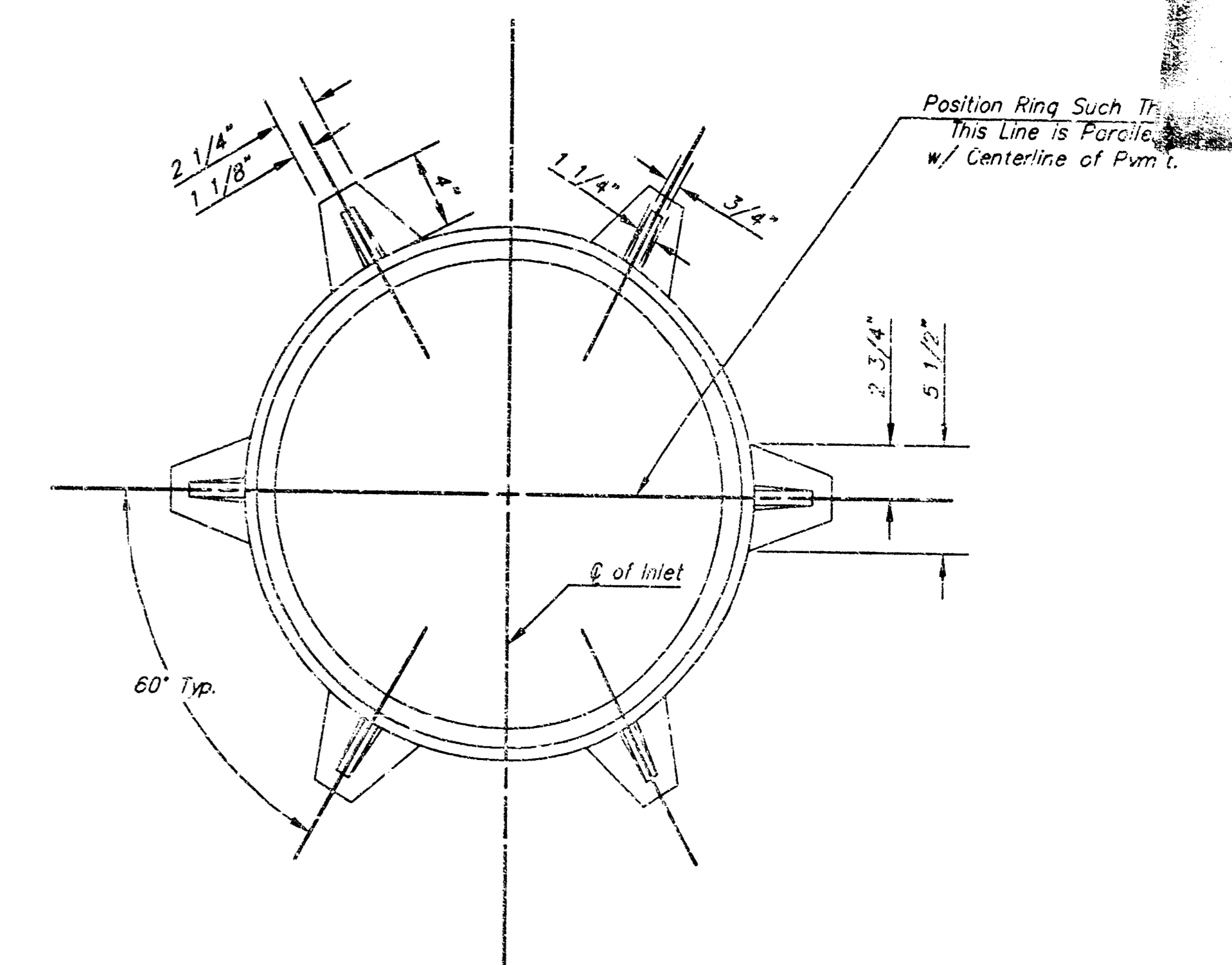
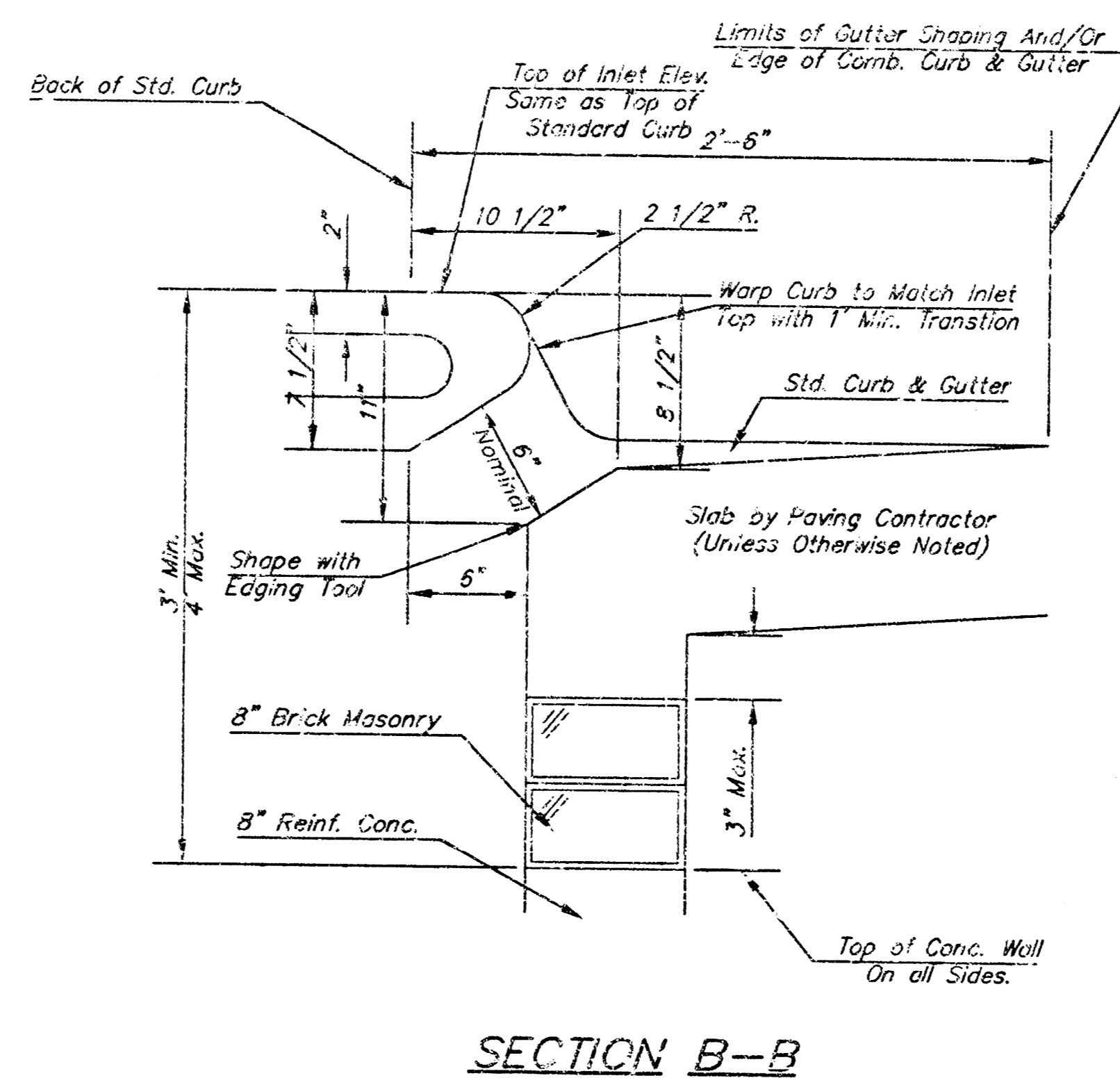
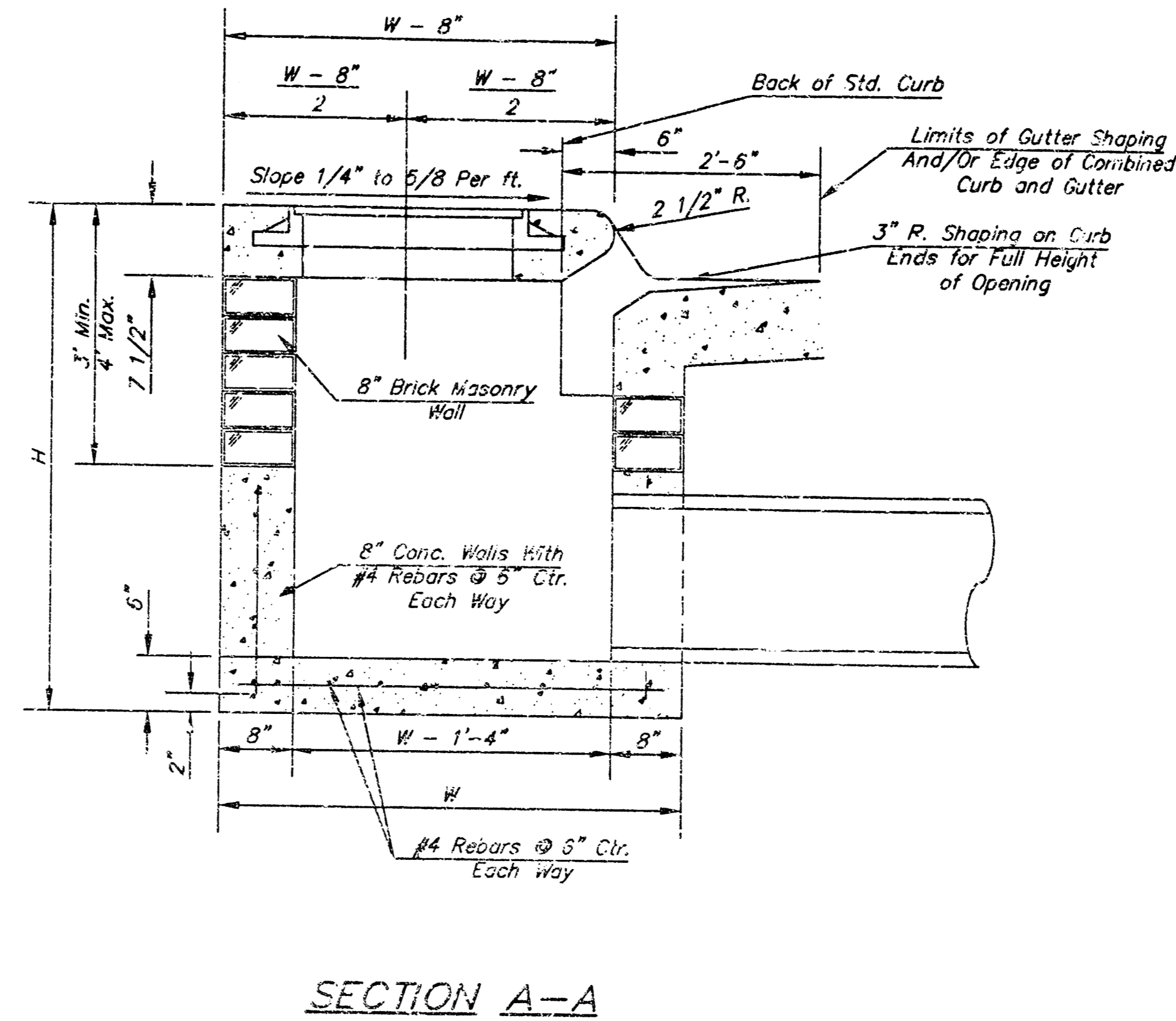
STEEL SCHEDULE

BAR	a ₁	a ₂	a ₃	b ₁				b ₂	b ₃	b ₄	WT. Lbs.	
NUMBER	4	4	2	1	3	5	7	9	8	1	1	
SIZE	#4	#4	#4	#4	#4	#4	#4	#4	#4	#6		
W=4'-4"	5'-7"	6'-7"	4'-0"	6'-1"	-	-	-	-	1'-9"	6'-2"	4'-8"	60±
W=5'-4"	7'-7"	8'-7"	5'-0"	6'-1"	-	-	-	-	1'-9"	6'-2"	4'-8"	81±
W=6'-4"	9'-7"	10'-7"	6'-0"	-	-	6'-1"	-	-	1'-9"	6'-2"	4'-8"	101±
W=7'-4"	11'-7"	12'-7"	7'-0"	-	-	-	6'-1"	-	1'-9"	6'-2"	4'-8"	121±
W=8'-4"	13'-7"	14'-7"	8'-0"	-	-	-	-	6'-1"	1'-9"	6'-2"	4'-8"	141±

Note: a₃ Bars to be Placed Approx. 2" Below Top of Inlet Cover.

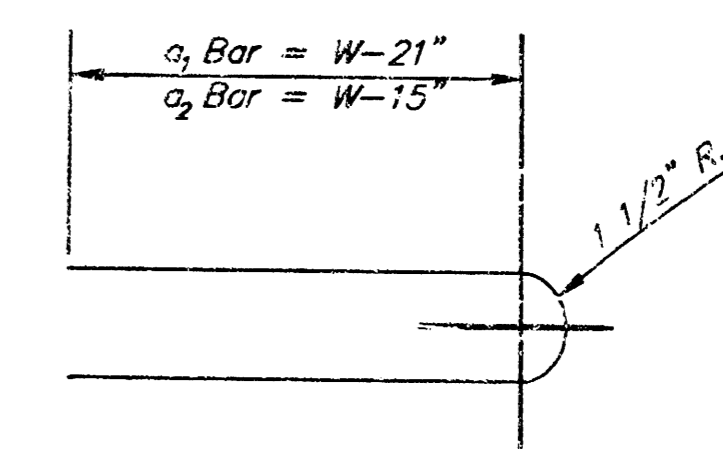
STANDARD CURB INLET PRECAST TOPS

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



MANHOLE RING AND COVER

*See City of Wichita Standard Manhole Ring and Cover Detail Sheet for Cover Details to Be Used With Inlet Frame.

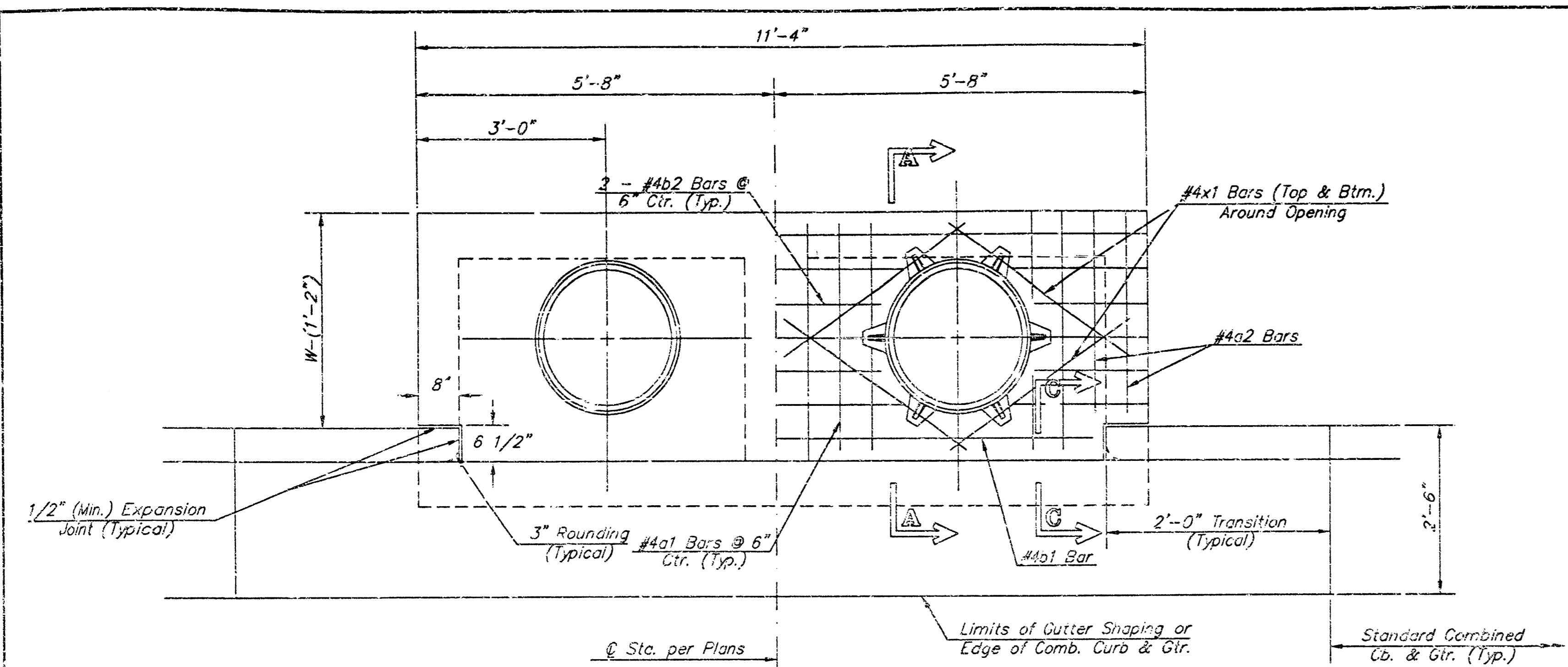


BENDING DIAGRAM

GENERAL NOTES

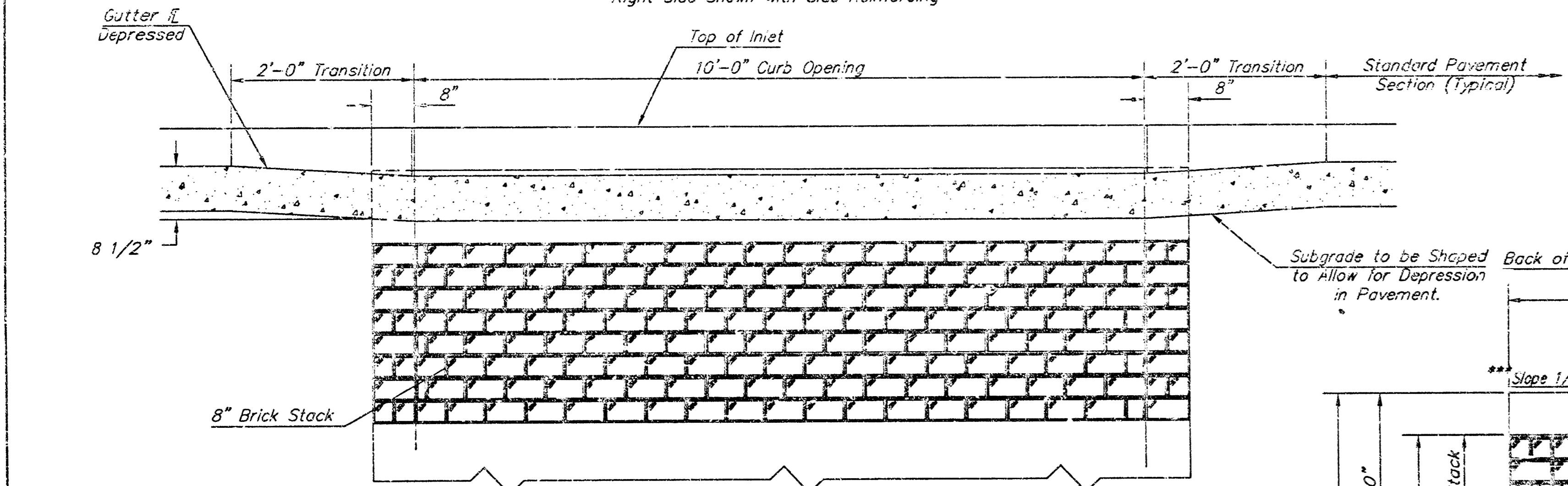
- Concrete tops to be installed on thin mortar cushion to insure full support along brick walls. Concrete tops may be cast in place or precast. Concrete used for inlet construction shall be concrete pavement mix.
- Contractor shall have the option of constructing 8" brick masonry walls between the concrete inlet base and top on this inlet when W=6'-4" and H=7'-0" or less.
- 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.

<p>THE CITY OF WICHITA</p> <p>CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 400 WICHITA MARK SQUARE WICHITA, KANSAS 67202 (316) 266-4501 (316) 266-4114 FAX</p>	<p>STANDARD TYPE 1 CURB INLET</p> <p>OPENING = 6" x 5"</p>	
	<p>M. E. LINDEBAK P.E. - CITY ENGR.</p>	
	<p>PROJECT NUMBER 1125PPS(607861)</p>	<p>CCA NO. XXXXXX</p>
	<p>DATE MAR 96</p>	<p>SHEET 6 OF</p>

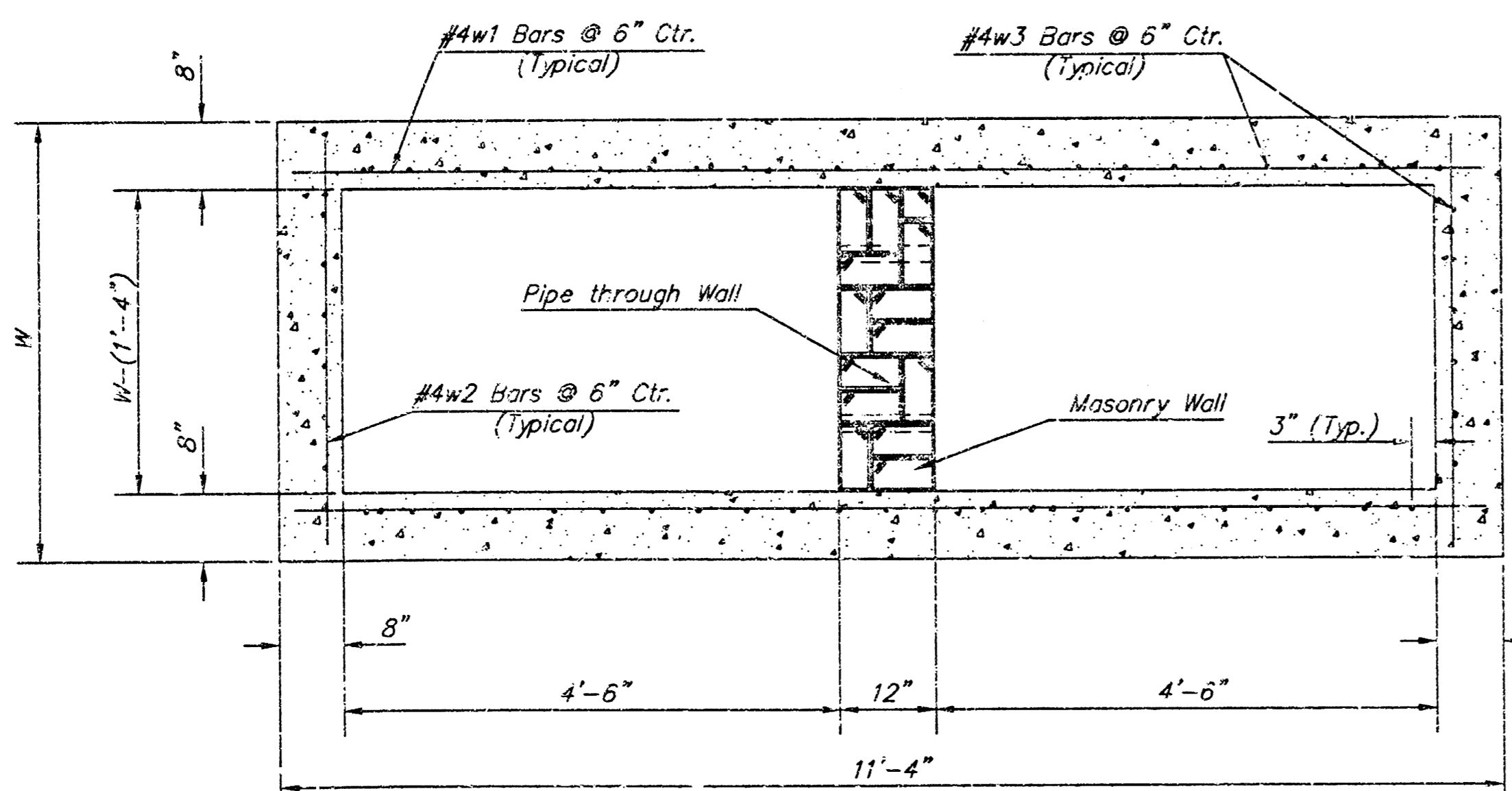


PLAN

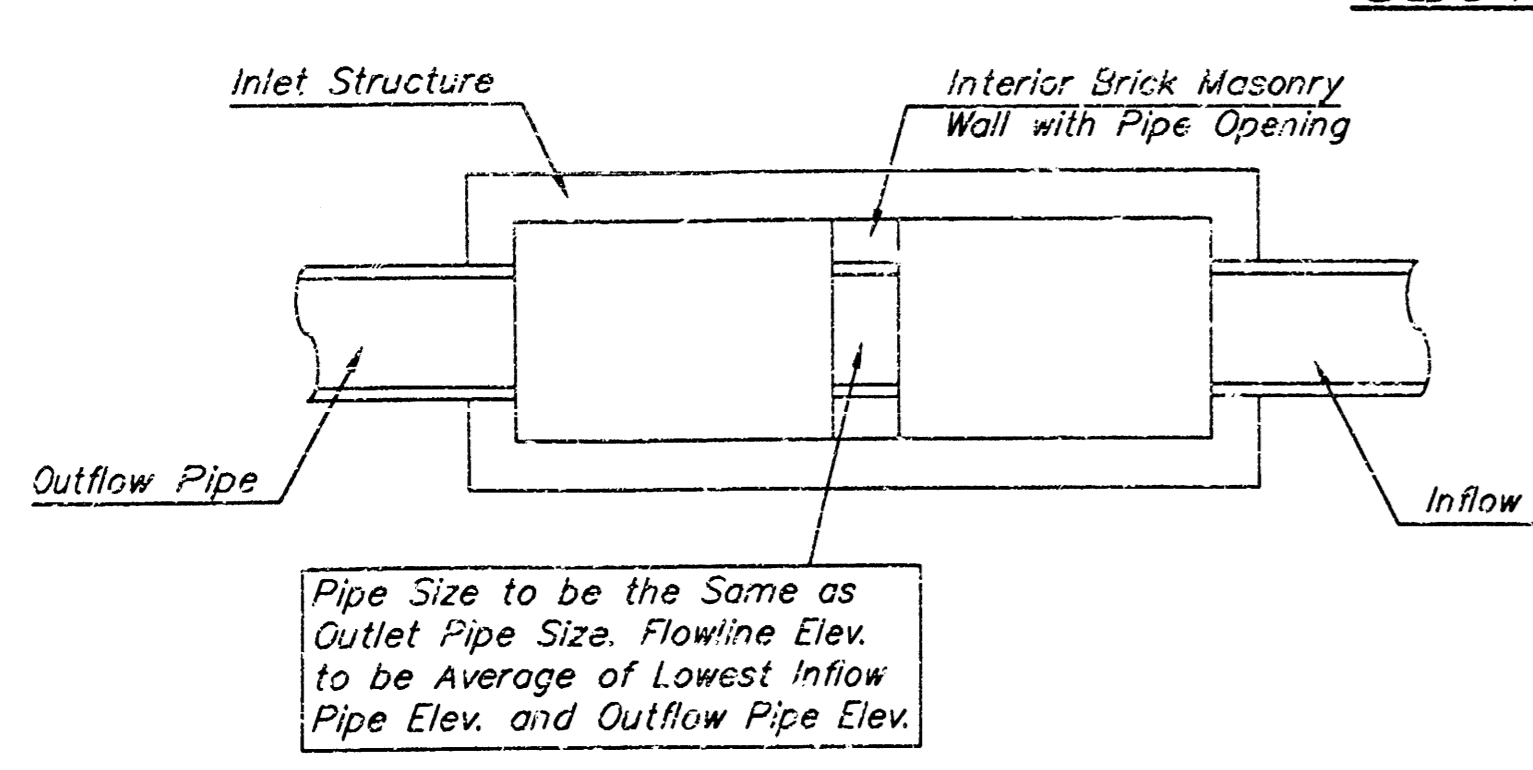
*Left Side Shown Without Slab Reinforcing, Right Side Shown With Slab Reinforcing



ELEVATION

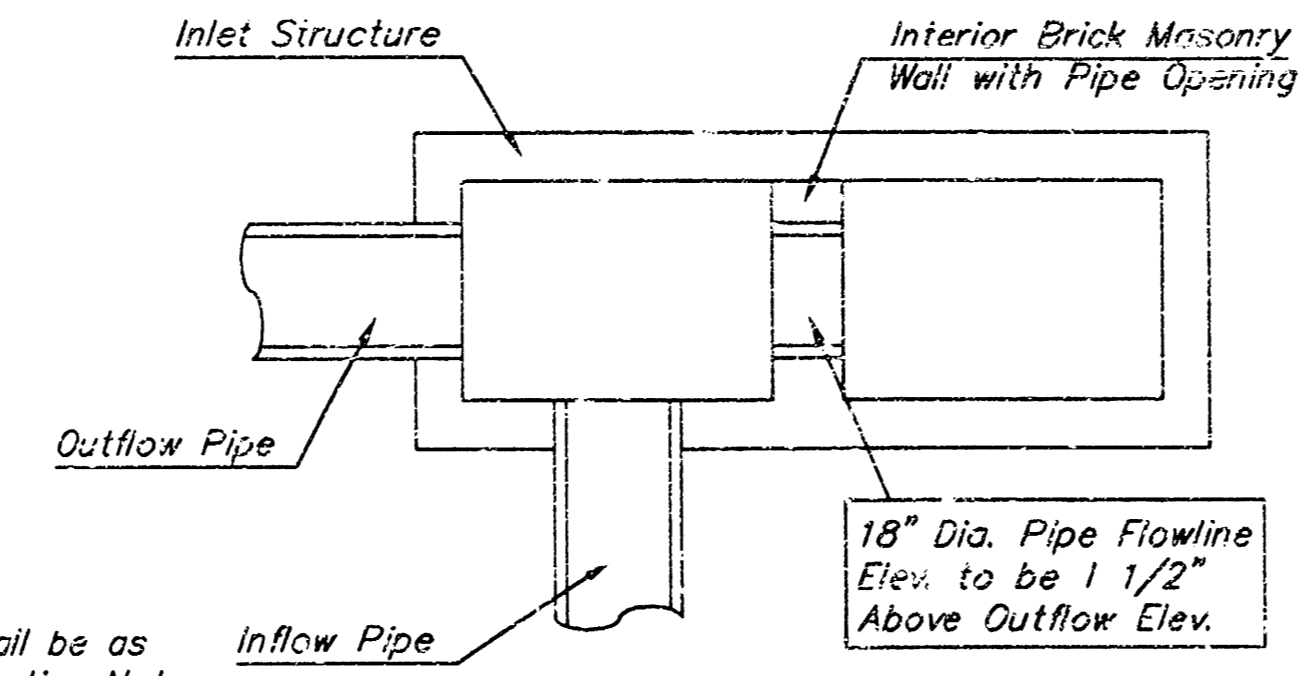


SECTION B-B



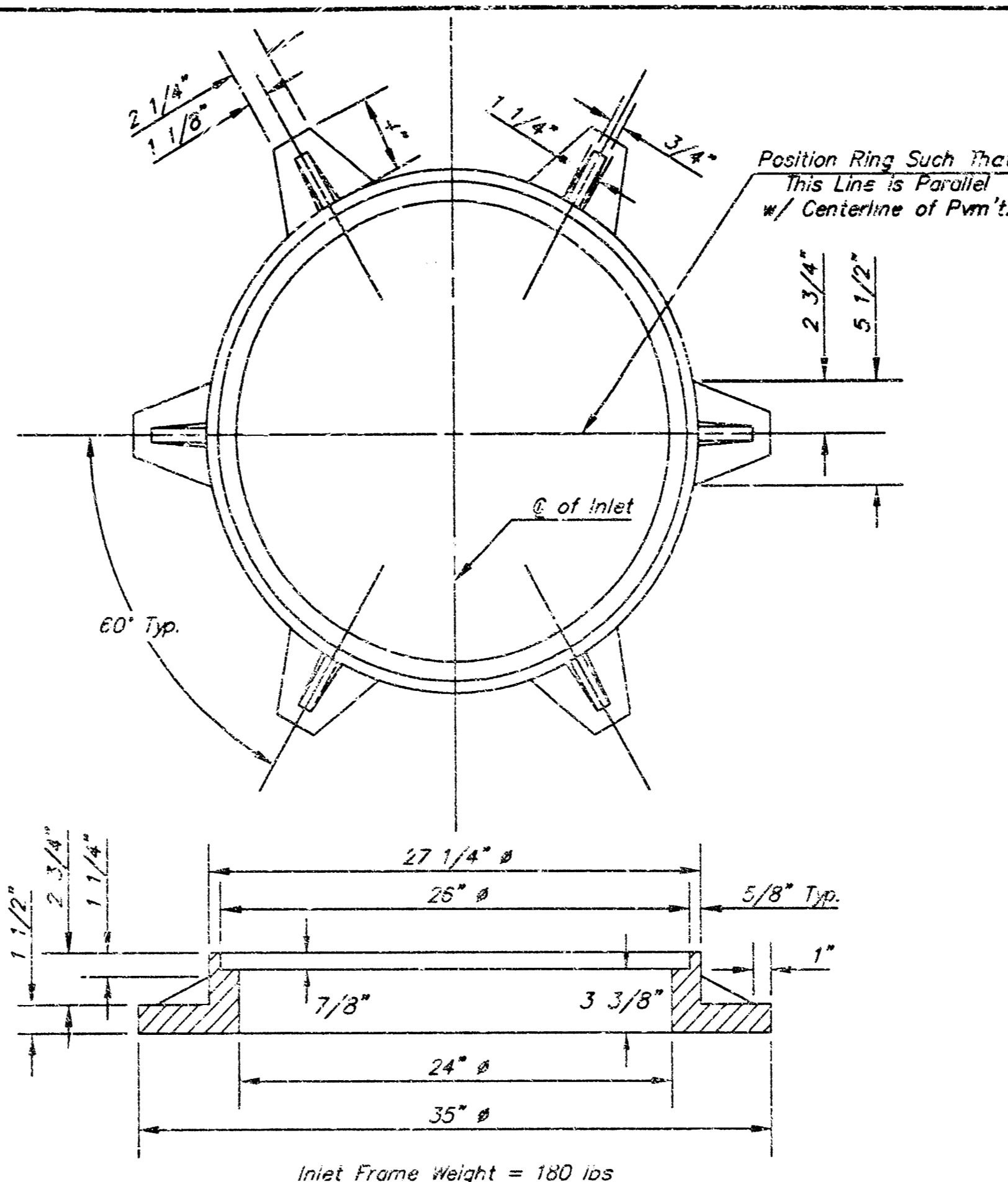
CASE I

Pipe Size to be the Same as Outlet Pipe Size. Flowline Elev. to be Average of Lowest Inflow Pipe Elev. and Outflow Pipe Elev.



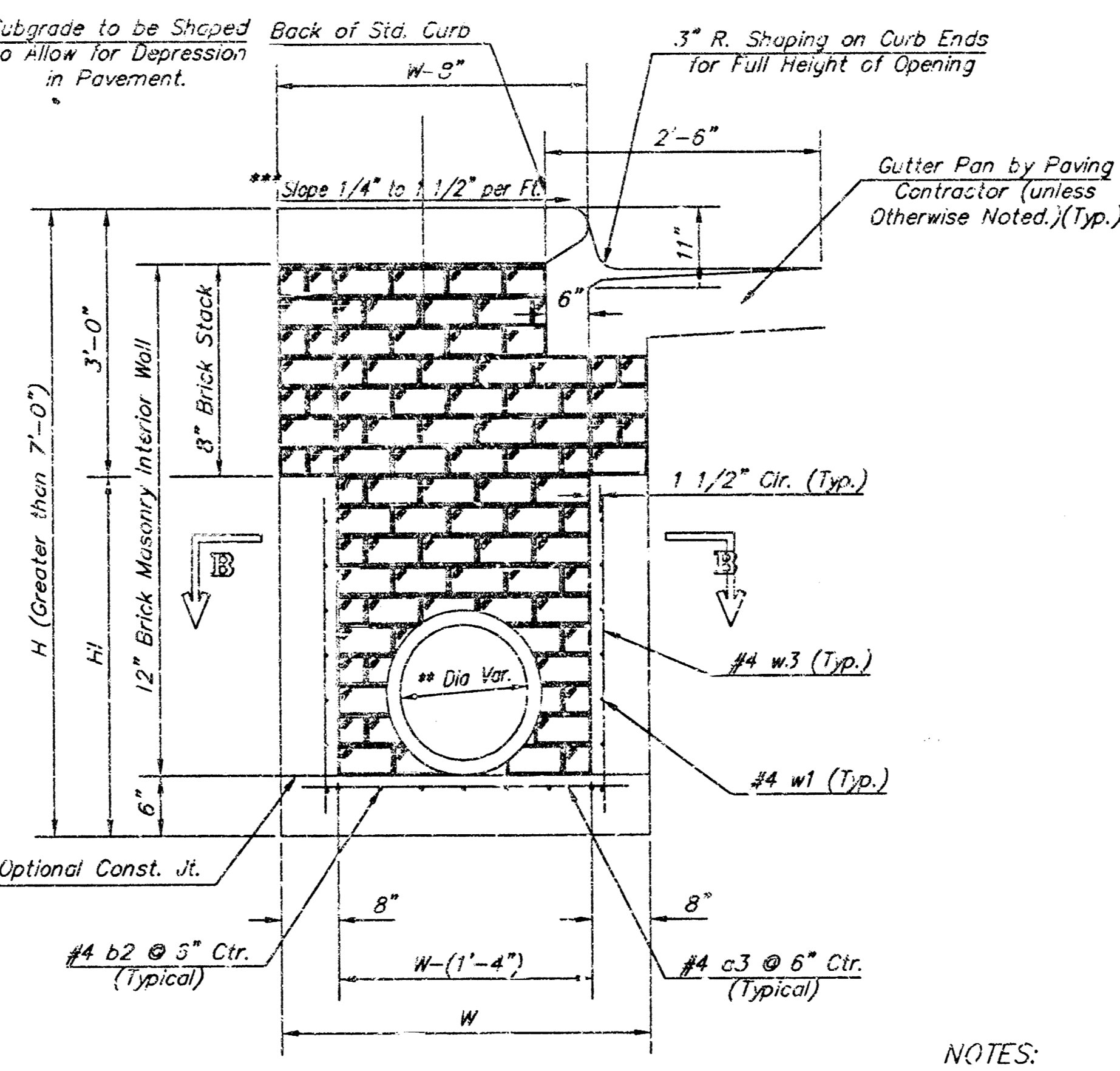
CASE II

NOTE: Center Wall Pipe Size shall be as Specified in Inlet Construction Notes on the Plan/Profile Sheets for those Cases not Shown Here.



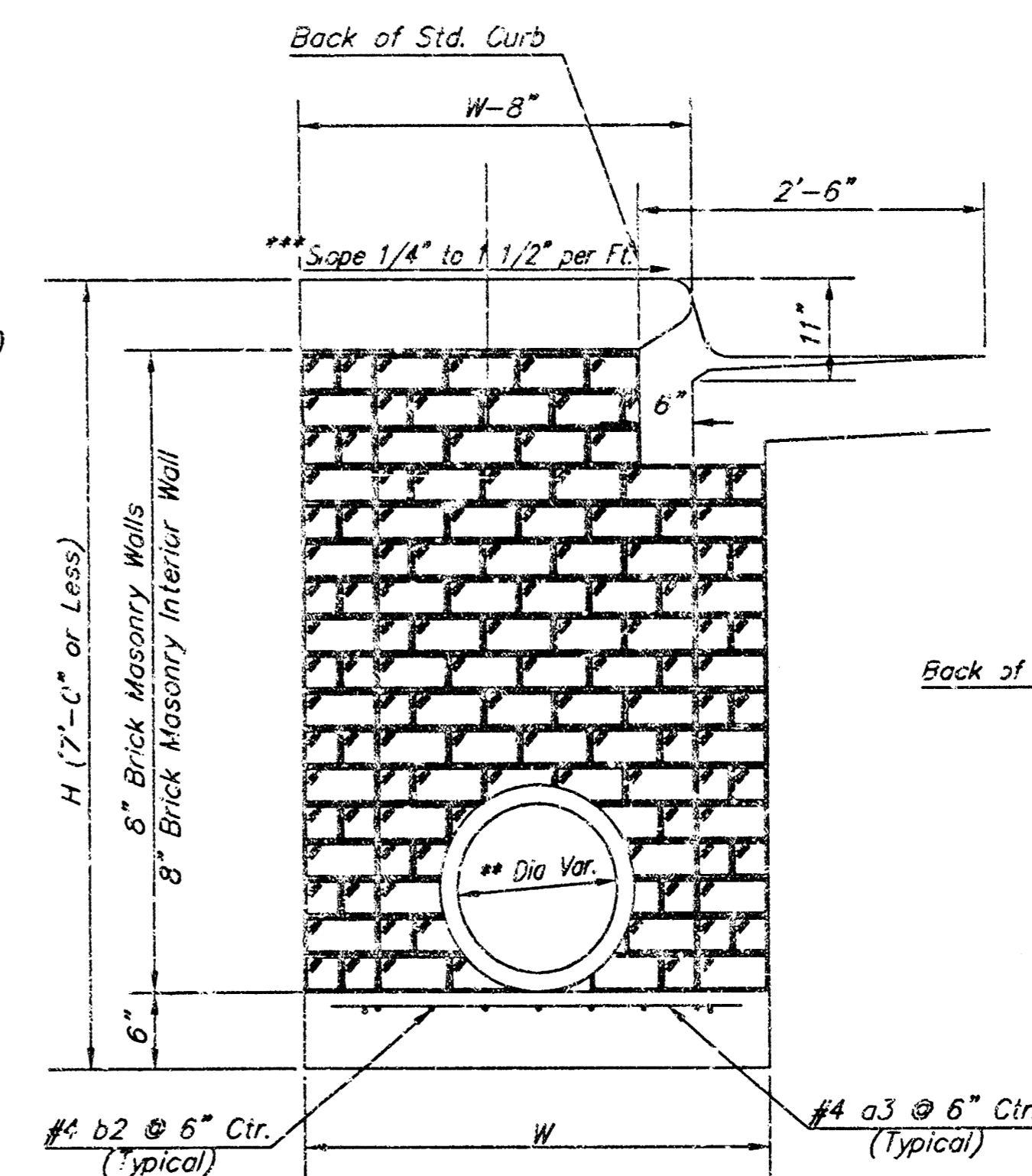
MANHOLE RING AND COVER

*See City of Wichita Standard Manhole Ring and Cover Detail Sheet for Cover Details to be Used With Inlet Frame.

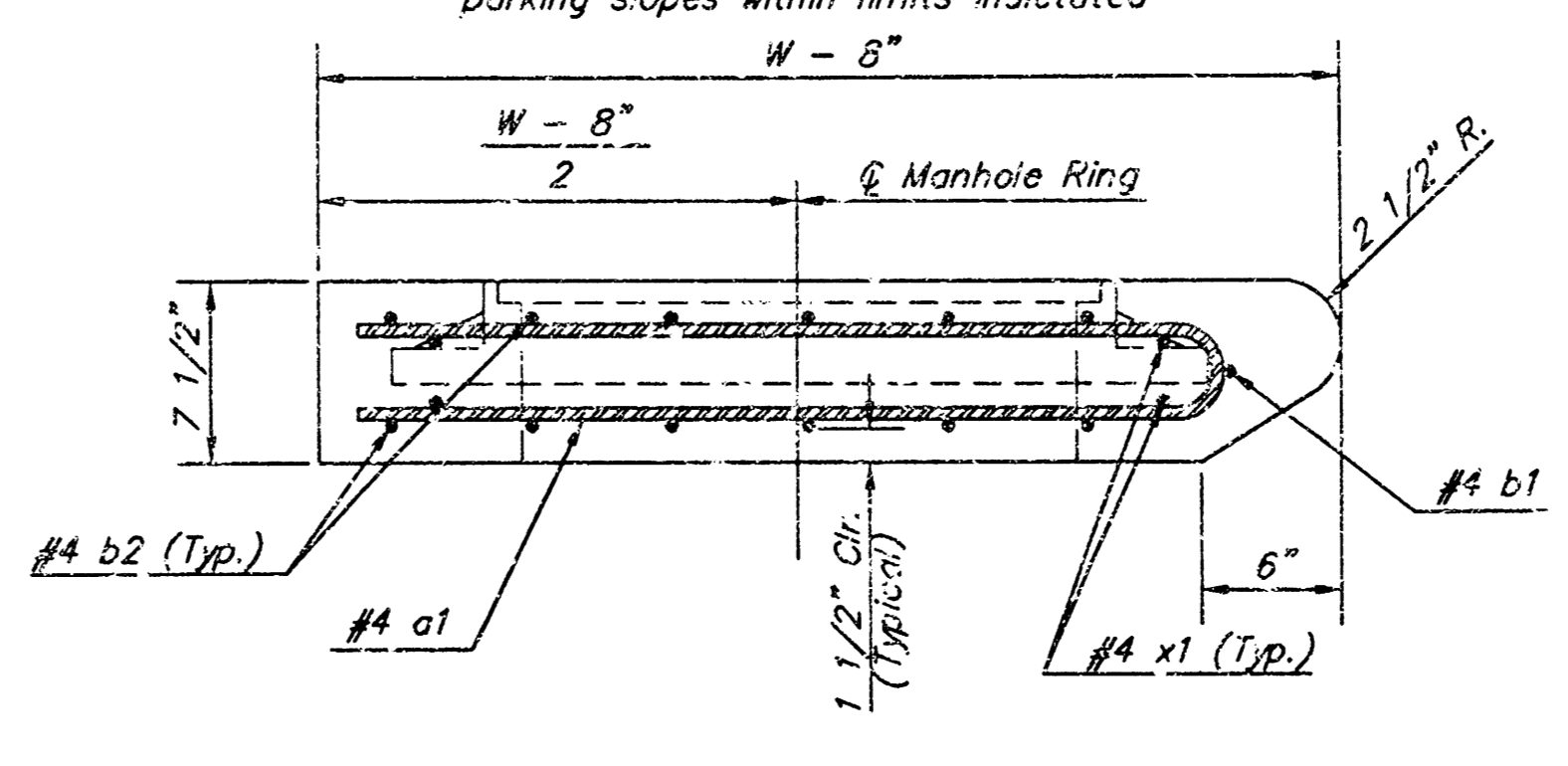


TYPICAL INLET SECTION AT CENTER WALL (REINFORCED CONCRETE WALLS)

NOTES:
 ** A center wall opening shall be provided by means of a section of reinforced concrete pipe. See Case I and Case II below.
 *** Slope of inlet tops to match sidewalk of parking slopes within limits indicated



TYPICAL INLET SECTION AT CENTER WALL (MASONRY WALLS)



SECTION A-A

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	13	6'-7"	13	8'-7"	13	10'-7"	13	12'-7"	13	14'-7"
a2	#4	4	6'-0"	4	8'-0"	4	10'-0"	4	12'-0"	4	14'-0"
a3	#4	23	4'-1"	23	5'-1"	23	6'-1"	23	7'-1"	23	8'-1"
b1	#4	1	9'-9"	1	9'-9"	1	9'-9"	1	9'-9"	1	9'-9"
b2	#4	23	11'-1"	29	11'-1"	35	11'-1"	41	11'-1"	47	11'-1"
x1	#4	16	3'-10"	16	4'-2"	16	4'-10"	16	4'-10"	16	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	11'-1"	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"	1	8'-1"
w3	#4	52	6"	56	6"	60	6"	64	6"	68	6"

* Field Bend or Cut Reinforcing as Required for Clearance.
 (1) 4 (H = 12") (H = 21") Rounded down to nearest 0.5"
 (2) H = 3"

STANDARD CURB INLET PRECAST TOPS

W	PRE-CAST TOP SIZE	PIPE SIZE	CU. YD. CONC.
4'-4"	1'-8" x 11'-4" x 7 1/2"	21" & SMALLER	0.83±
5'-4"	4'-8" x 11'-4" x 7 1/2"	24" & 30"	1.09±
6'-4"	5'-8" x 11'-4" x 7 1/2"	36" & 42"	1.35±
7'-4"	6'-8" x 11'-4" x 7 1/2"	48" & 54"	1.61±
8'-4"	7'-8" x 11'-4" x 7 1/2"	60" & 66"	1.87±

BENDING DIAGRAM

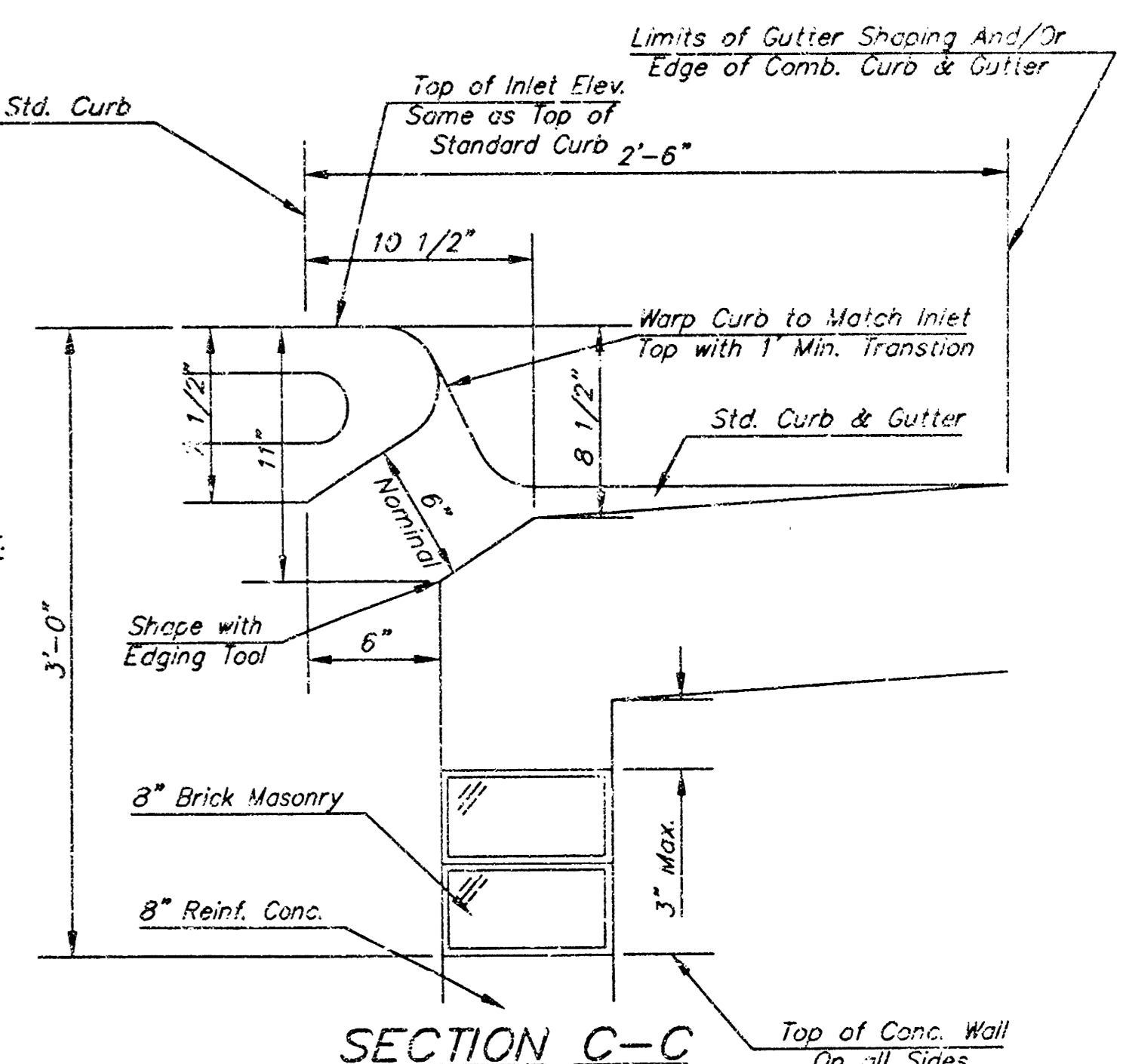
GENERAL NOTES:

Concrete shall be C.O.M. standard paving mix. All exposed areas shall be finished with an edging tool. Reinforcing bars shall be field bent or cut to clear pipes and inlet rings. All bars are #4 bars @ 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 outlet pipe(s). The contractor will be required to construct 8" brick masonry walls between the inlet base and top on this inlet when H=7'-0" or less and W=6'-4" or less. When H is greater than 6'-4" and H is less than 7'-0", the outside inlet walls below the brick stock shall be reinforced concrete construction.

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.

The ends of all pipes installed in inlets shall be cut off flush with the inside face of the wall.

This detail is identical to the standard detail drawing except that the gutter transition length is increased from 2'-0" to 3'-6".



SECTION C-C

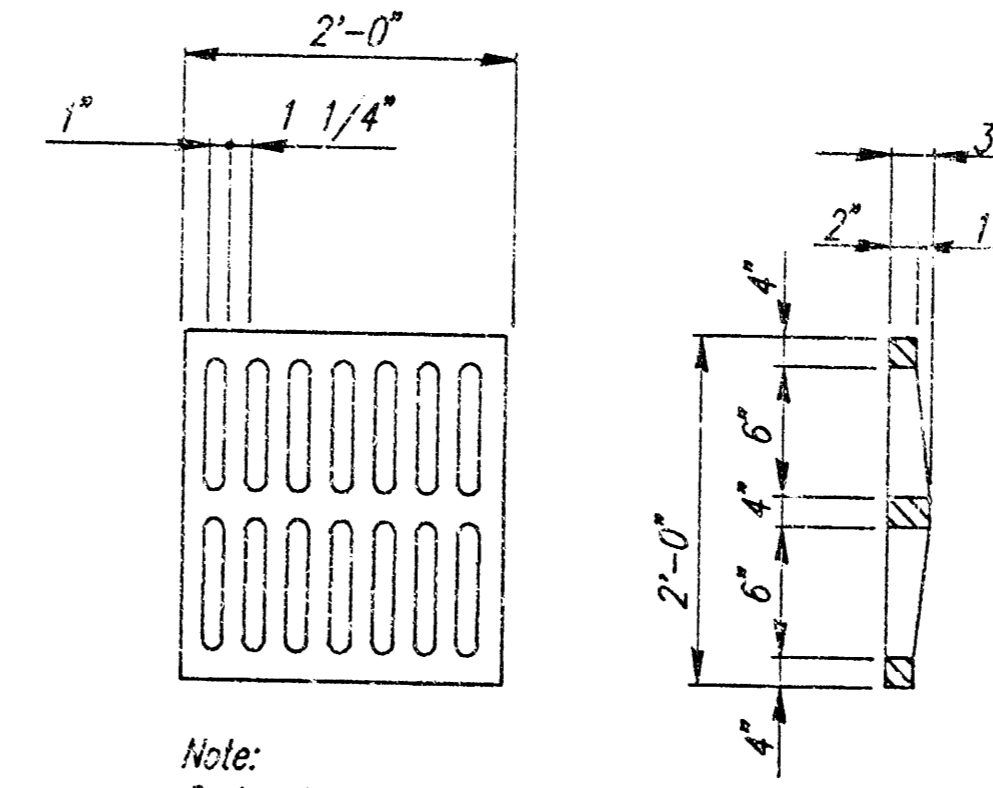
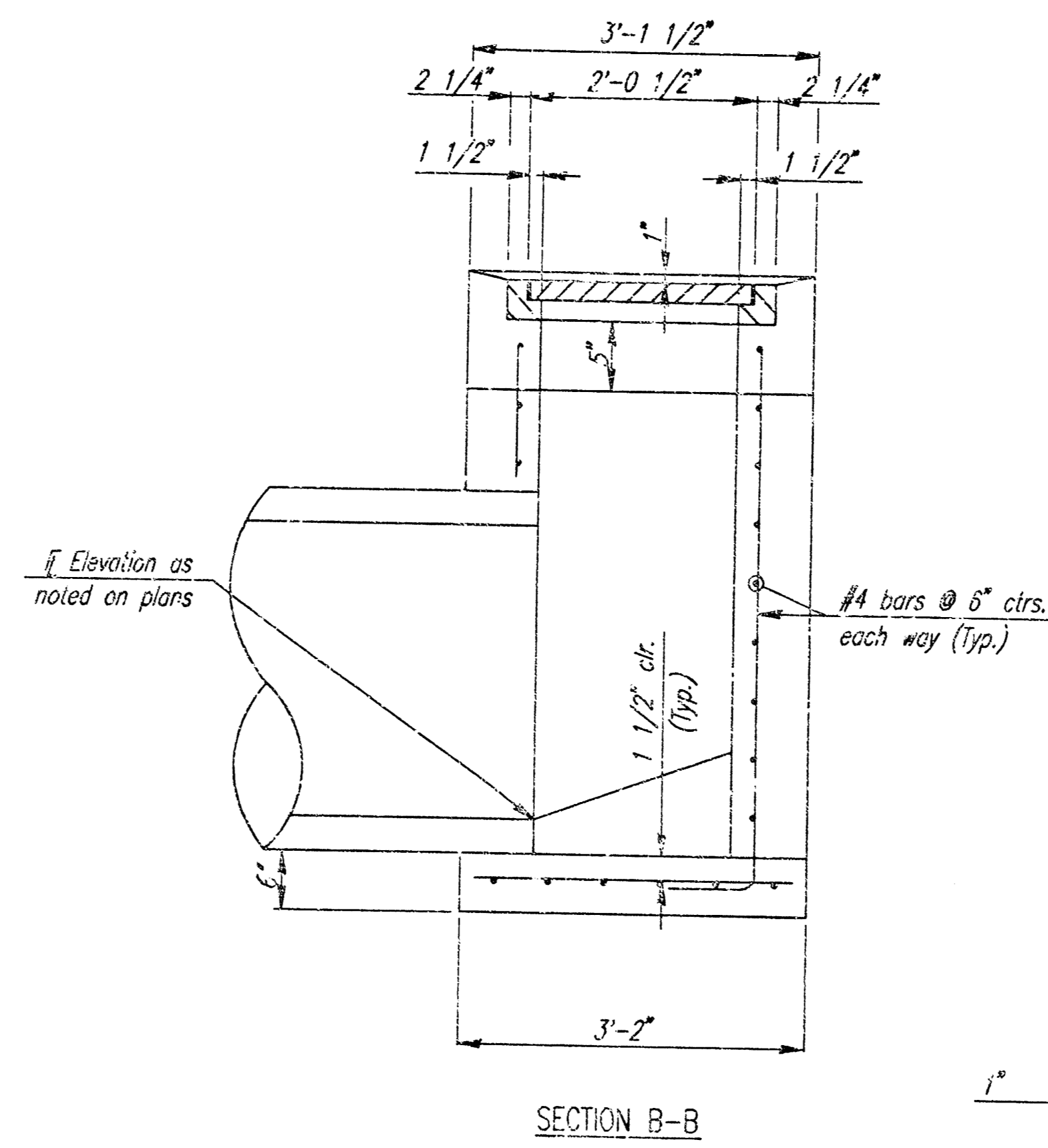
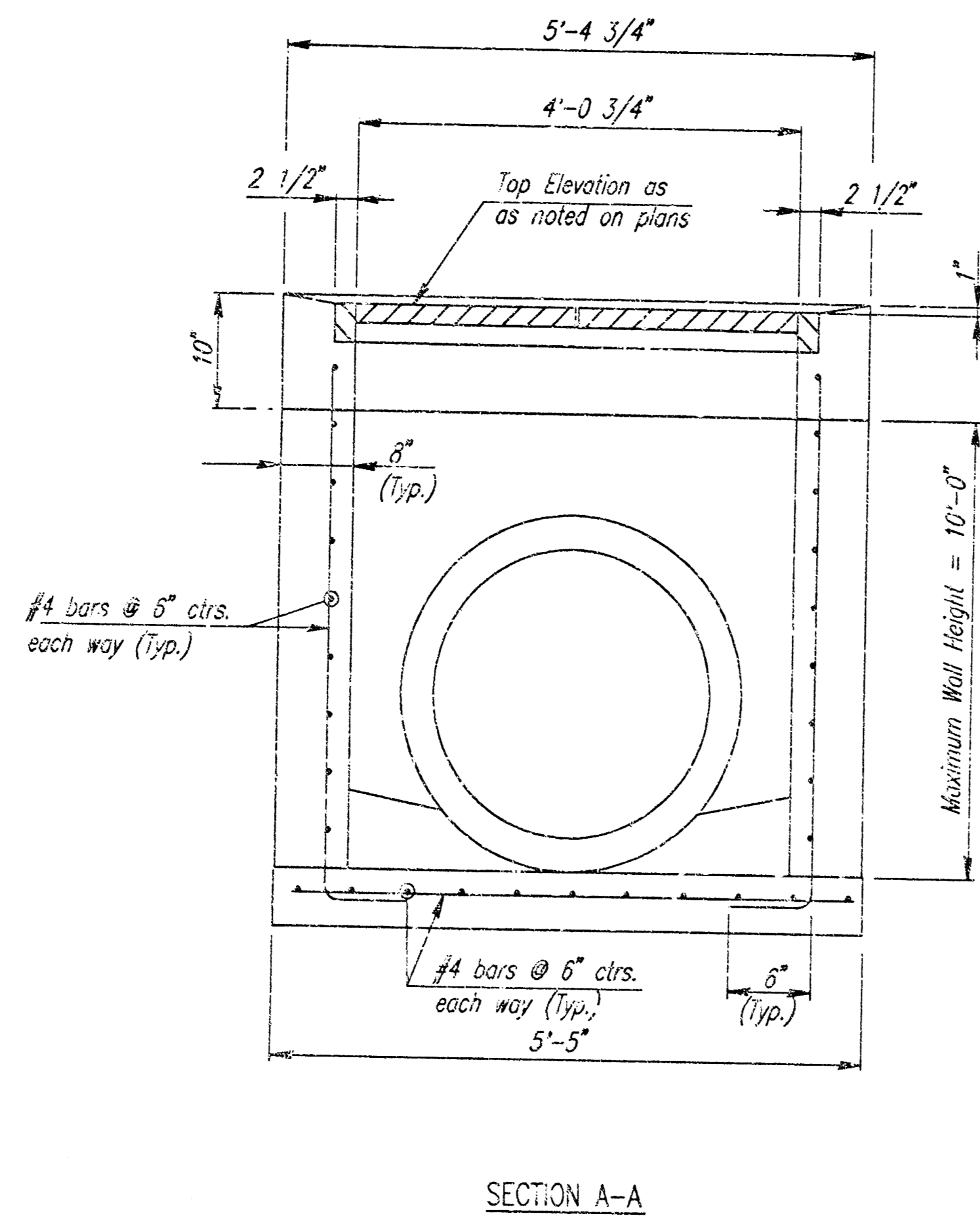
THE CITY OF WICHITA

STANDARD TYPE 1 CURB INLET
 OPENING = 6" x 10"

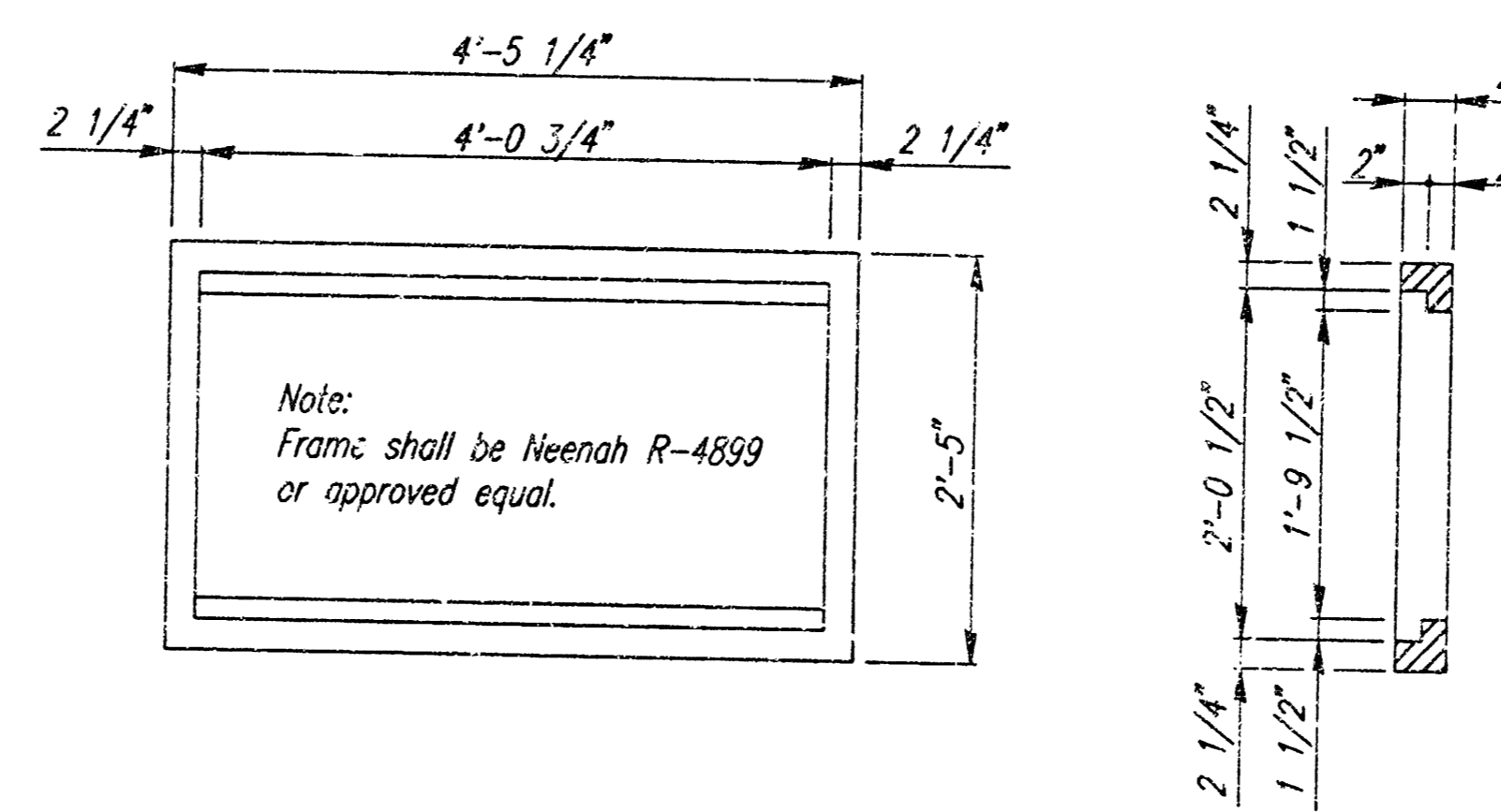
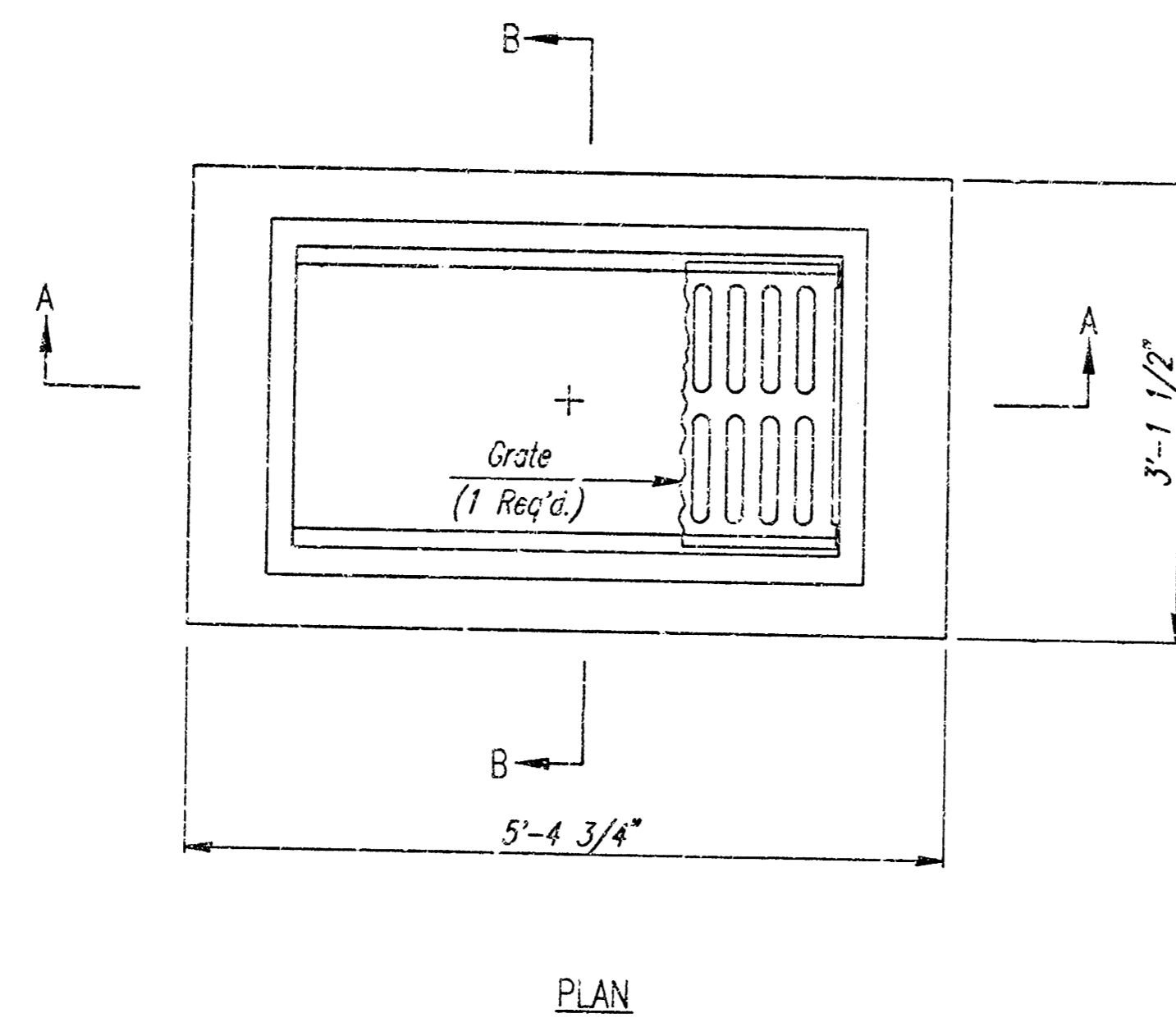
M. E. LINDEBAK P.E. - CITY ENGR.

CITY ENGINEER'S OFFICE
 455 NORTH MAIN STREET
 WICHITA, KANSAS 67202
 (316) 266-1111 FAX

PROJECT NUMBER: 1125PPS(607861) OCA XXX
 DATE: MAR 96 SHEET 7



GRATE DETAIL
(Wt.=190 lbs.)
(2 Required)



FRAME DETAIL
(Wt.=440 lbs.)
Note:
Frame to mate with 2 Neenah R-4826 Grates
or approved equal.

STANDARD AREA INLET (2'X4')

GENERAL NOTES-
AREA INLETS

CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI.
ALL PIPES SHALL BE FLUSH OUT PRIOR TO BEING CAST INTO WALLS.

REINFORCING STEEL SHALL BE GRADE 60, 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 DUCTILE IRON CONFORMING TO ASTM A538-80 GRADE 65-45-12.
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.

INLET FLOOR SHALL BE SHIPPED WITH UNREINFORCED CONCRETE (3 SAND 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.

PIPES ENTERING EXISTING STRUCTURE SHALL BE CENTERED ON INSIDE FACE OF WALL.

ALL EXPOSED STRUCTURAL STEEL SHALL BE PAINTED WITH A COAT OF INORGANIC ZINC PRIMER AND THEN WITH A TOP COAT OF OR A FIELD COAT OF ORGANIC ZINC. EACH COAT TO BE 3 TO 4 MILS. STRUCTURAL STEEL USED TO FABRICATE THE SPECIAL AREA INLET FRAME SHALL COMPLY WITH A.S.T.M. A36. WELDING SHALL CONFORM TO THE STRUCTURAL WELDING CODE A.W.S. D1.1-88.

AREA INLETS MAY BE PRECAST AT THE CONTRACTOR'S OPTION, WITH APPROVAL OF THE ENGINEER.

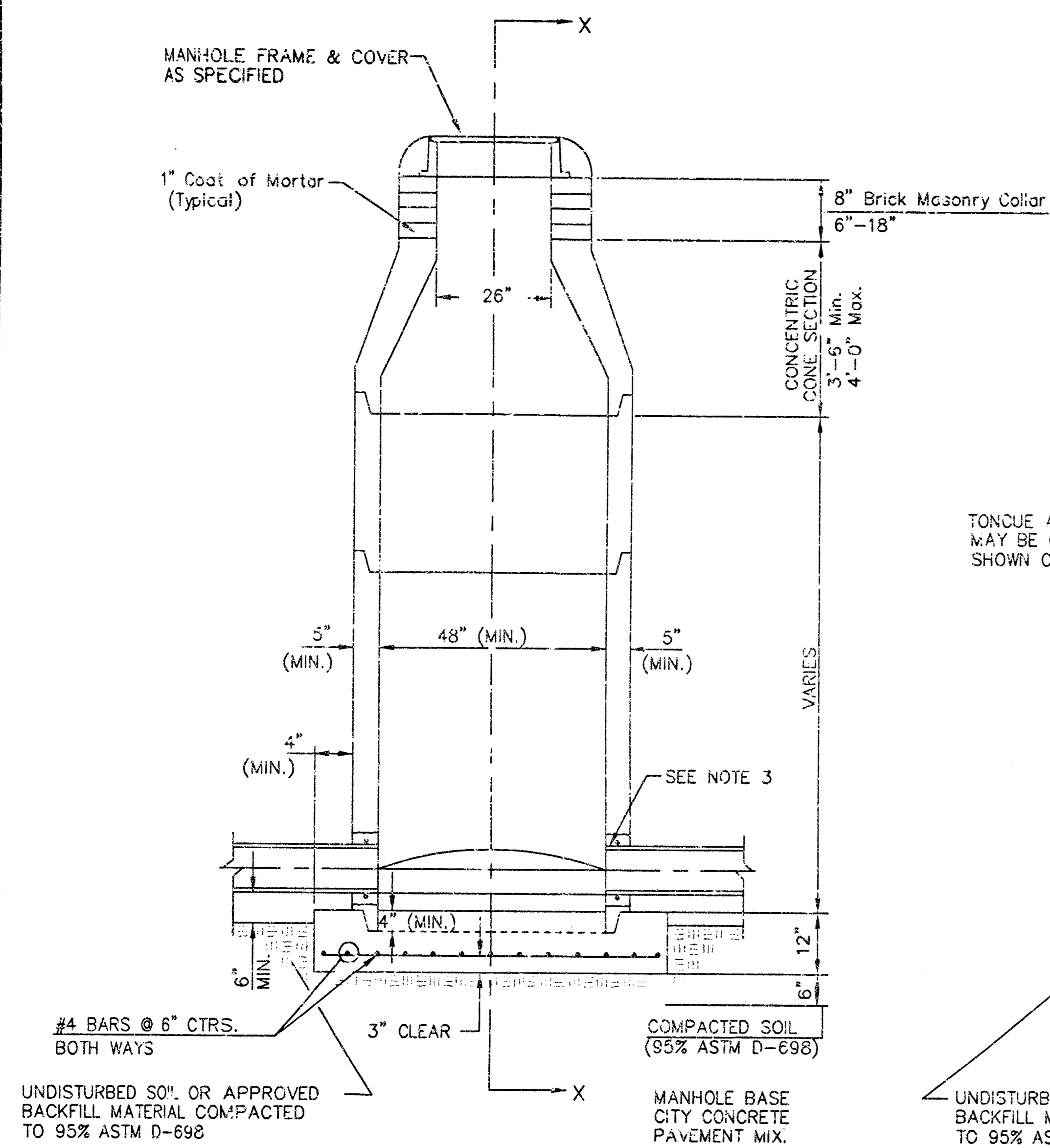
WHISPERING BROOK COMMERCIAL 2ND ADDITION

STANDARD AREA INLETS (2'X4')

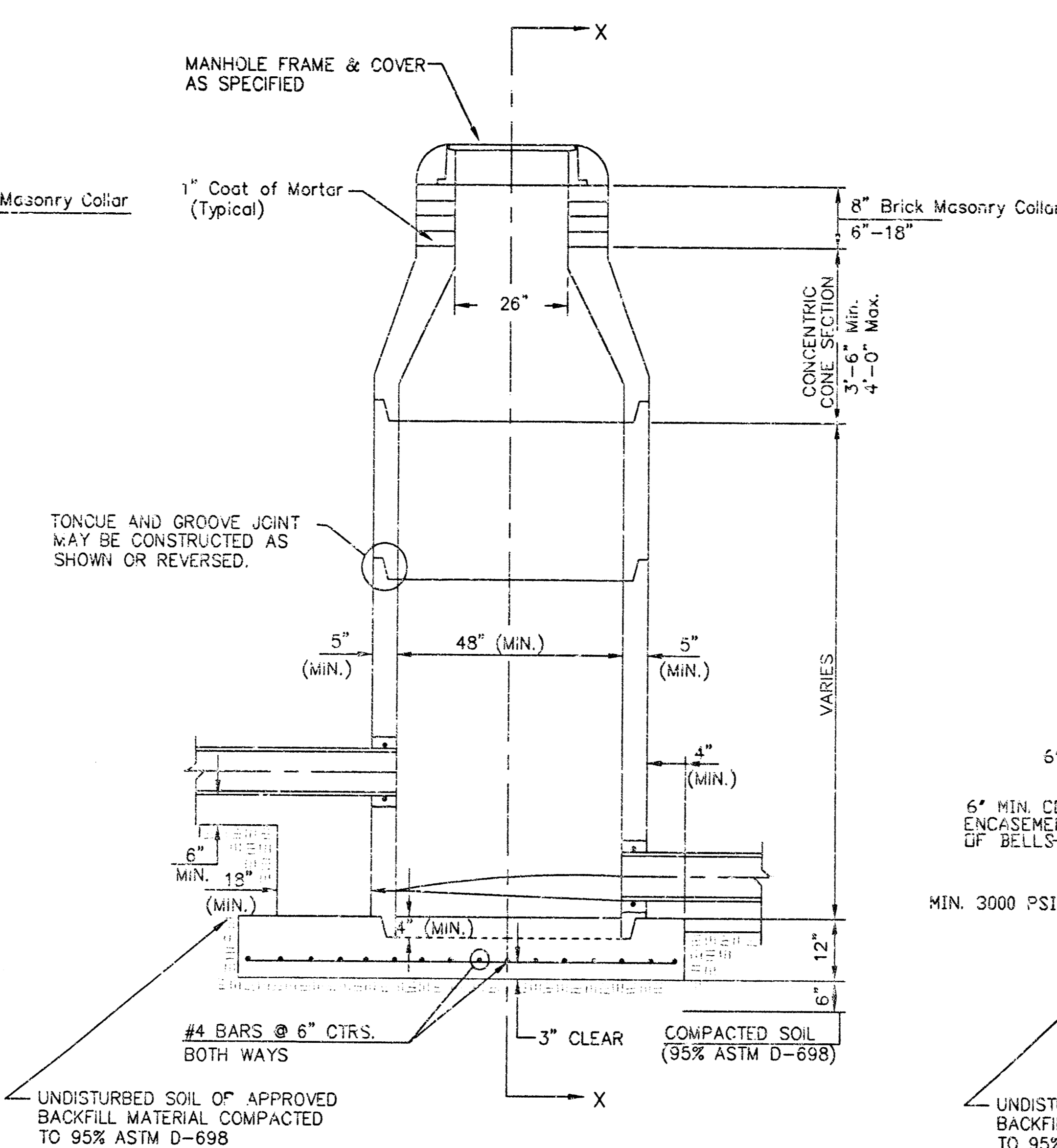
Professional Engineering Consultants, P.C.
303 S. TOPEKA • WICHITA, KANSAS 67202
316-262-2691 • 316-262-3003

Designed by	URC	Checked by	
Drawn by	SAD	Date	MAY 2001
		Job No.	(5)

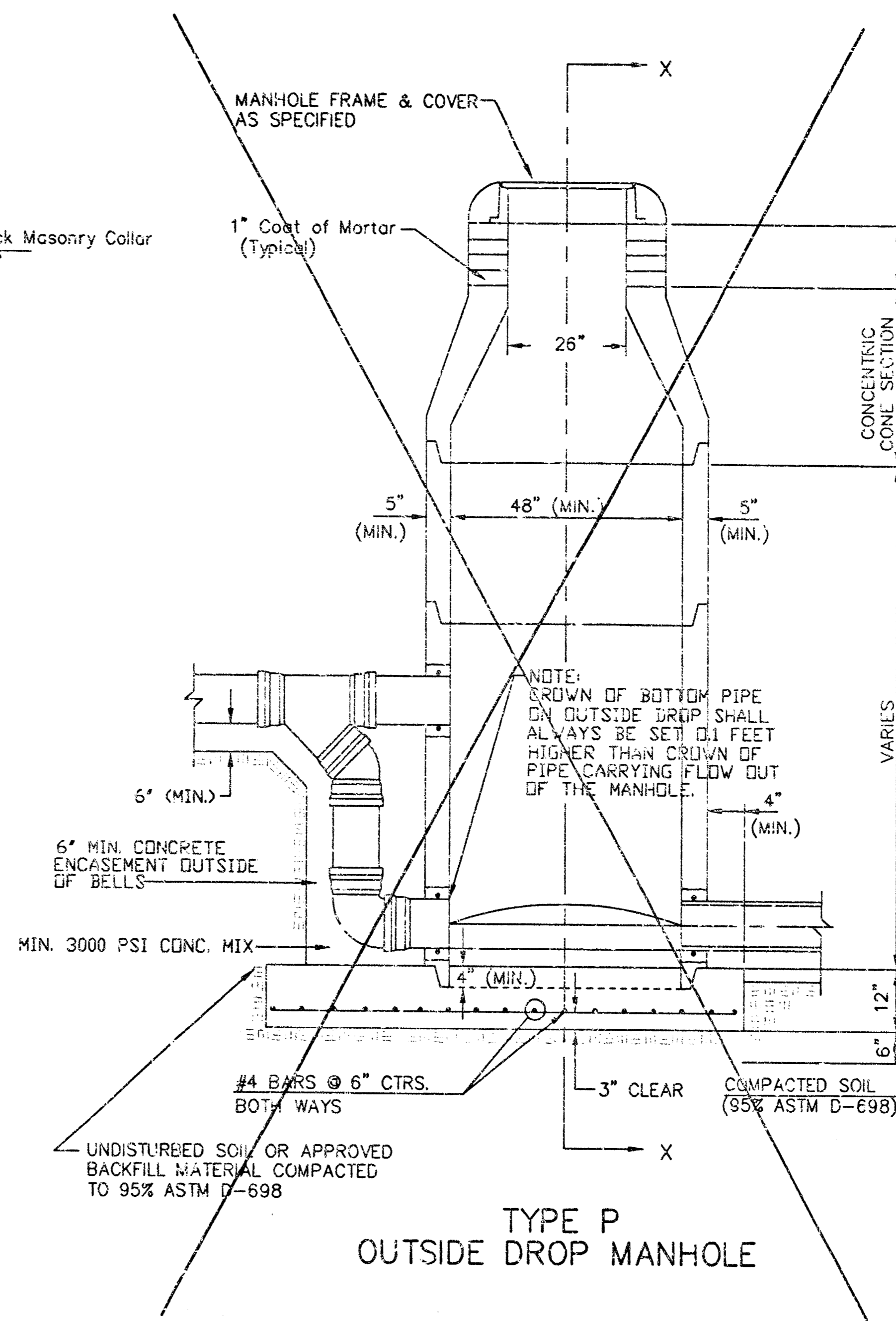
SEWER APPURTENANCES DETAILS



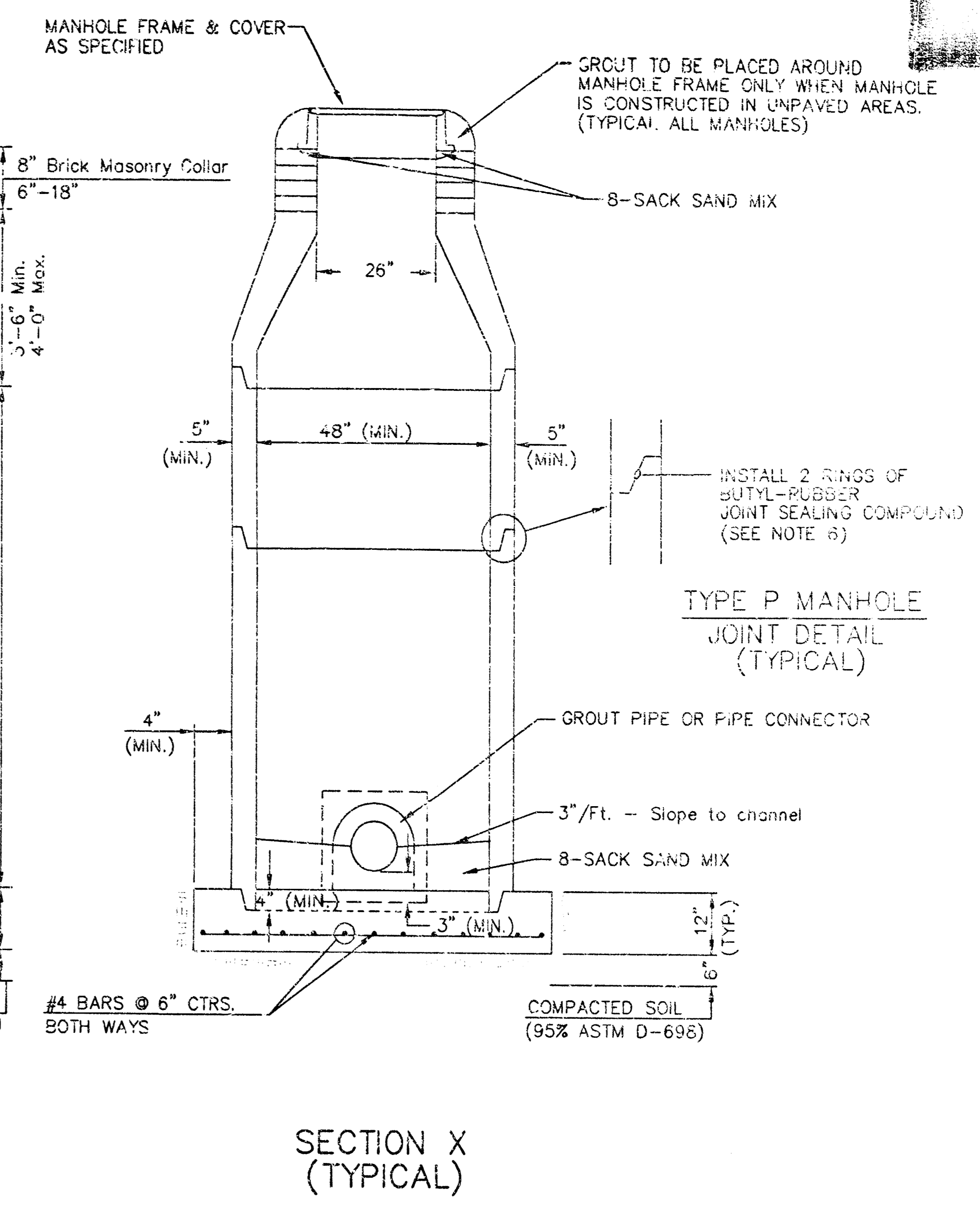
**TYPE P
STANDARD MANHOLE**



**TYPE P
INSIDE DROP MANHOLE**



**TYPE P
OUTSIDE DROP MANHOLE**

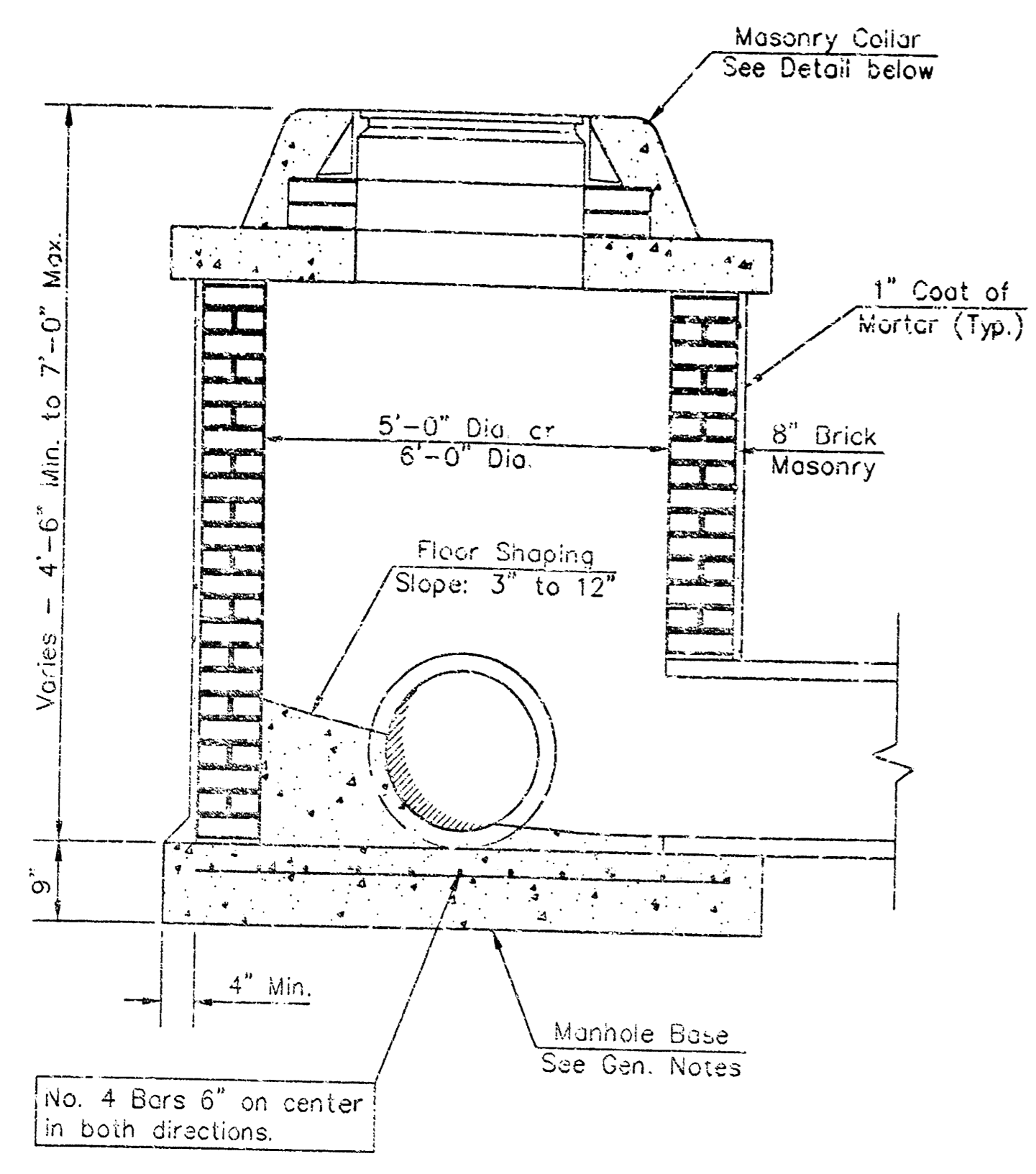


**SECTION X
(TYPICAL)**

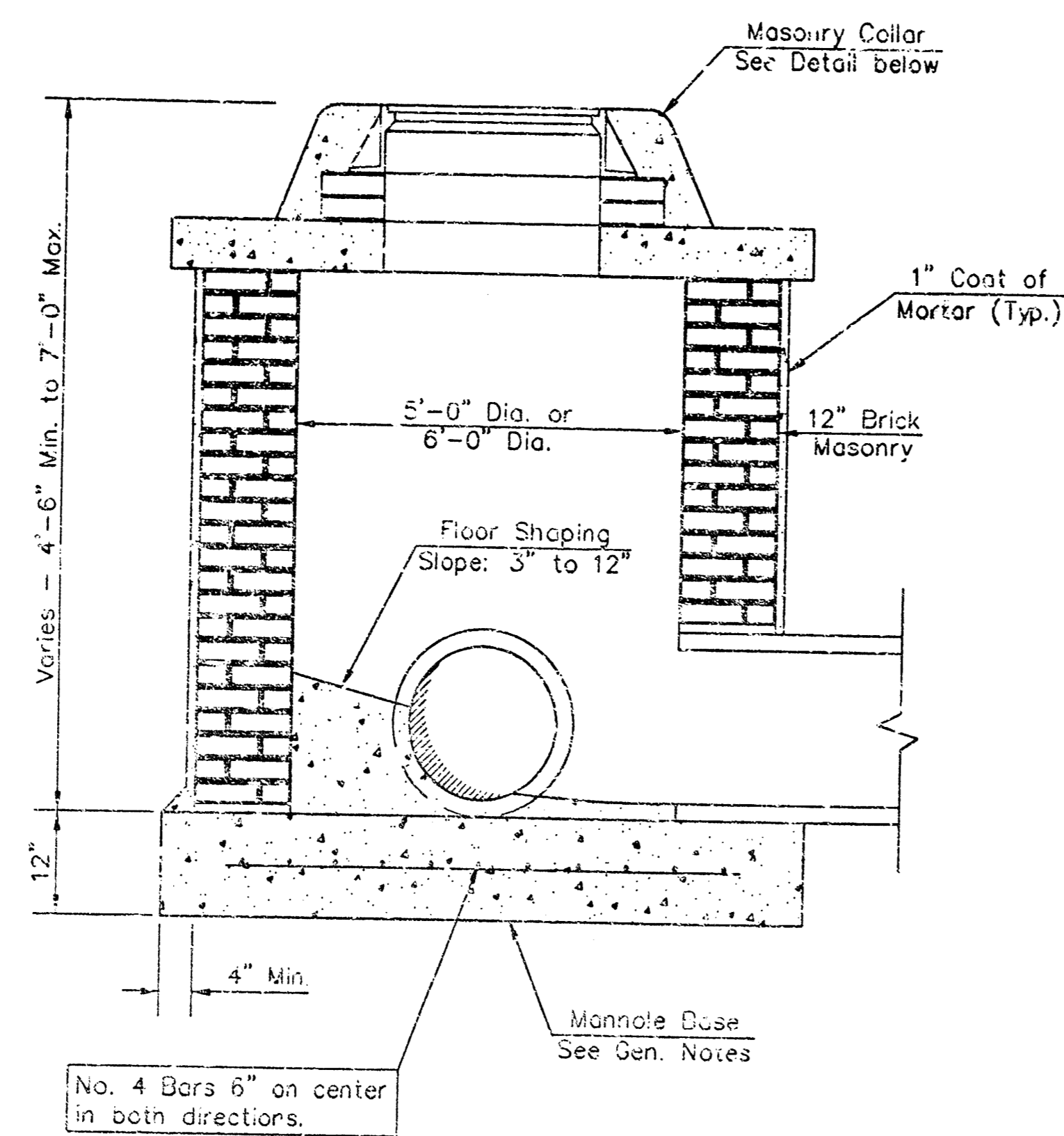
**GENERAL NOTES
PRECAST MANHOLE NOTES**

1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
2. NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
3. APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN A.B.S. COMPOSITE PIPE OR P.V.C. PIPE IS USED. FOR OTHER TYPES OF PIPE THE SEWER SHALL BE GROUDED IN PLACE WITH NON-SHRINK GROUT. THE SEWER PIPE SHALL BE SUPPORTED WITH CONCRETE ENCASEMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL AND TO THE FIRST JOINT FOR V.C.P. SUCH THAT THE JOINT REMAINS FLEXIBLE.
4. ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS TNEEG-SERIES 66 TH-BUILD EPOXYLINE DRY THICKNESS OF 8 MILS (MIN.)
5. EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MODULARMA-633 BITUMINOUS COATING.
6. JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUIV.
7. PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE.
8. TOP OF MANHOLE FLOOR SLAB SHALL BE AT LEAST 3 INCHES BELOW THE FLOW LINE OF THE OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS OF SHAPED INVERT.
9. LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
10. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS 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 PAVEMENT 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. 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.
11. 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 AT LEAST 3" 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.
12. OPENINGS SHALL BE CUT INTO THE MANHOLE WALL WHEN OUTSIDE DROPS ARE CONSTRUCTED ON EXISTING MANHOLES. SUCH OPENINGS CUT INTO EXISTING MANHOLES SHALL BE AS SMALL AS PRACTICAL TO FACILITATE INSTALLING AND GROUING THE NEW PIPE IN PLACE. WATERSTOP GASKETS SHALL BE USED WITH P.V.C. AND A.B.S. COMPOSITE PIPE. THE NEW PIPE SHALL BE GROUDED INTO THE OPENING USING AN APPROVED NONSHRINK GROUT FOR THE FULL MANHOLE WALL THICKNESS. THE EXTERIOR OF THE COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT. FLOOR OF MANHOLE SHALL BE MODIFIED TO FORM NEW FLOW CHANNEL FOR THE NEW CONNECTION AS INDICATED BY THE DRAWING. THIS WORK, INCLUDING MODIFICATION OF MANHOLE FLOOR, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR OUTSIDE DROP STACK CONSTRUCTED ON EXISTING MANHOLE.
13. 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 BY THE DRAWINGS EXCEPT FOR INSIDE DROP MANHOLES. FLOW CHANNELS FOR INSIDE DROP MANHOLES SHALL BE CONSTRUCTED AS INDICATED BY THE DRAWING. 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.
14. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. WHEN CLAY PIPE IS USED, THE CRADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MANHOLE. THE CRADLE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. COST OF CRADLE WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
15. 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 DRAWING.
16. THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 2' FOR INFLOWING PIPES SIZED 12" OR SMALLER AND 2' FOR INFLOWING PIPES LARGER THAN 12". THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
17. STANDARD MANHOLES AND STANDARD INSIDE DROP MANHOLES SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.
18. A BRICK MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE CONCENTRIC CONE. THE COLLAR WILL HAVE 8" WALLS AND A VERTICAL HEIGHT OF 6" MINIMUM AND 18" MAXIMUM. A 1" COAT OF MORTAR WILL BE PLASTERED ON THE OUTSIDE OF THE COLLAR. THE USE OF PRE-CAST CONCRETE SPACERS FOR MANHOLE TOP ADJUSTMENT IS ALSO ALLOWED.

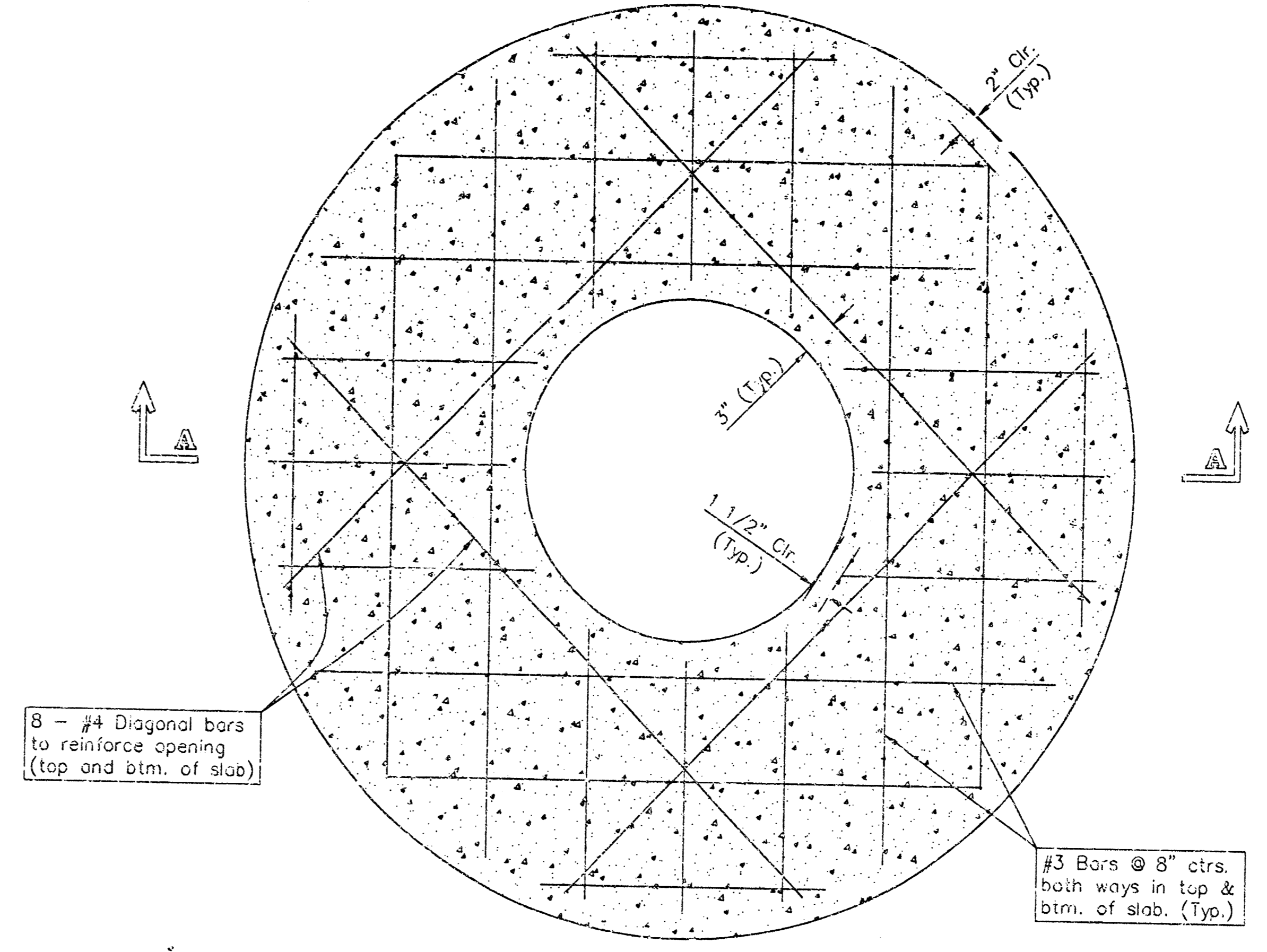
<p>THE CITY OF WICHITA</p> <p>CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 425 NORTH MAIN STREET WICHITA, KANSAS 67202 (316) 268-4001 (316) 268-4114 FAX</p>	STANDARD TYPE 'P' MANHOLES	
	M. E. LINDEBAK P.E. - CITY	
	PROJECT NUMBER	3
	1125PPS(607861)	X
DATE	MAR 96	
	SHEET 9	



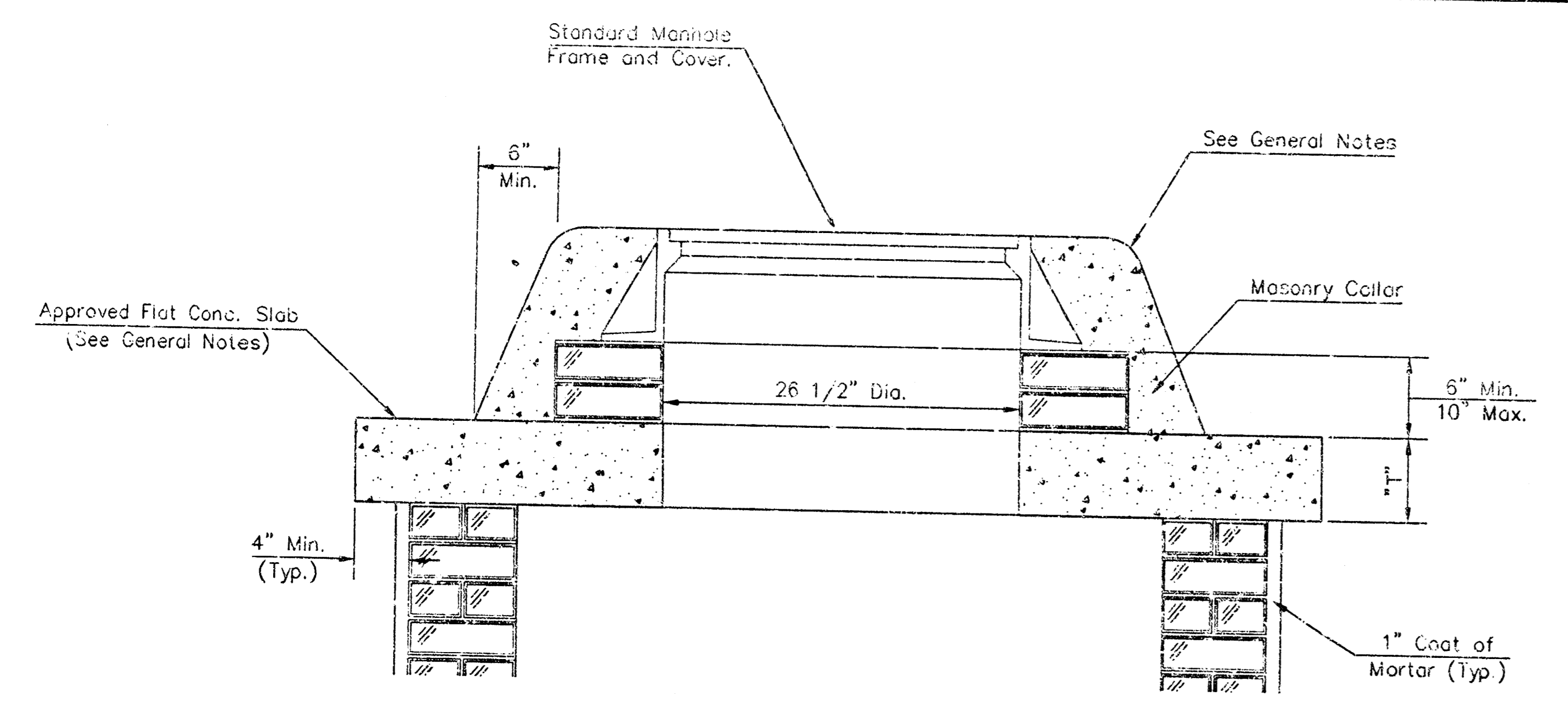
SHALLOW TYPE "A" MANHOLE



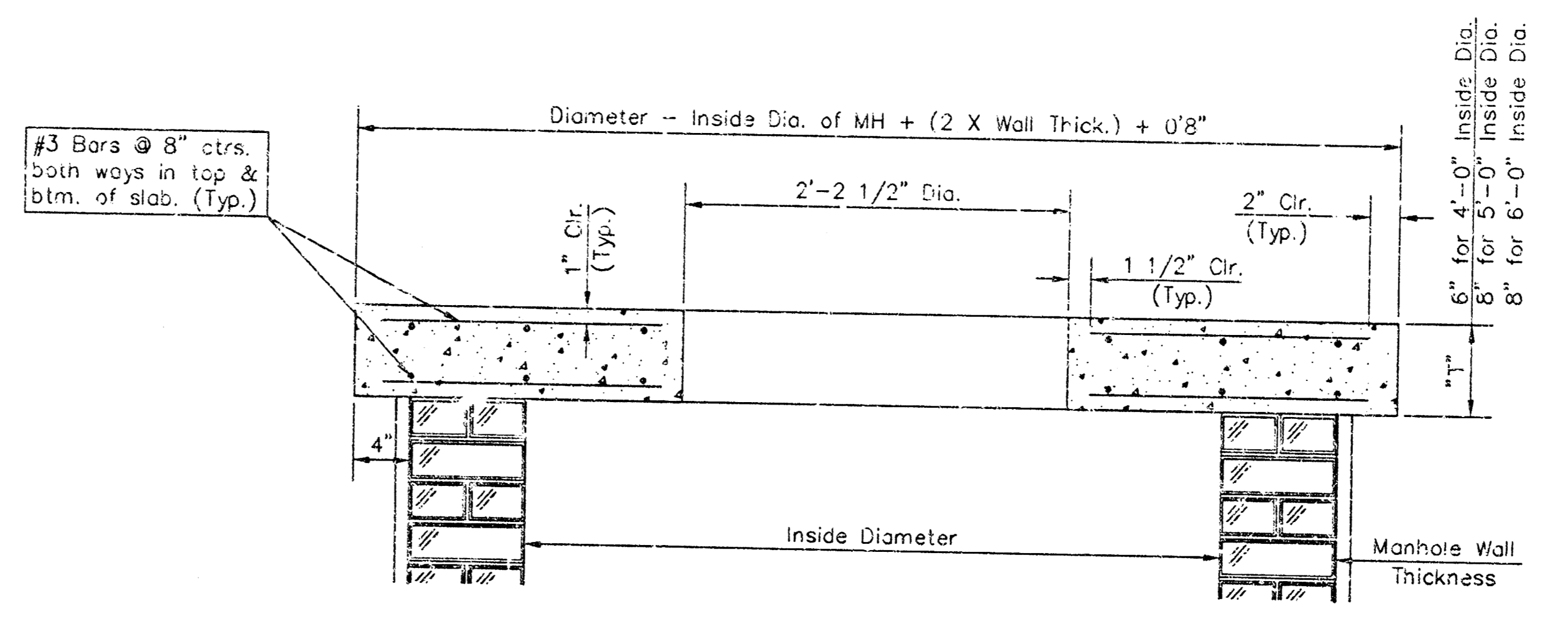
SHALLOW TYPE "B" MANHOLE



PLAN

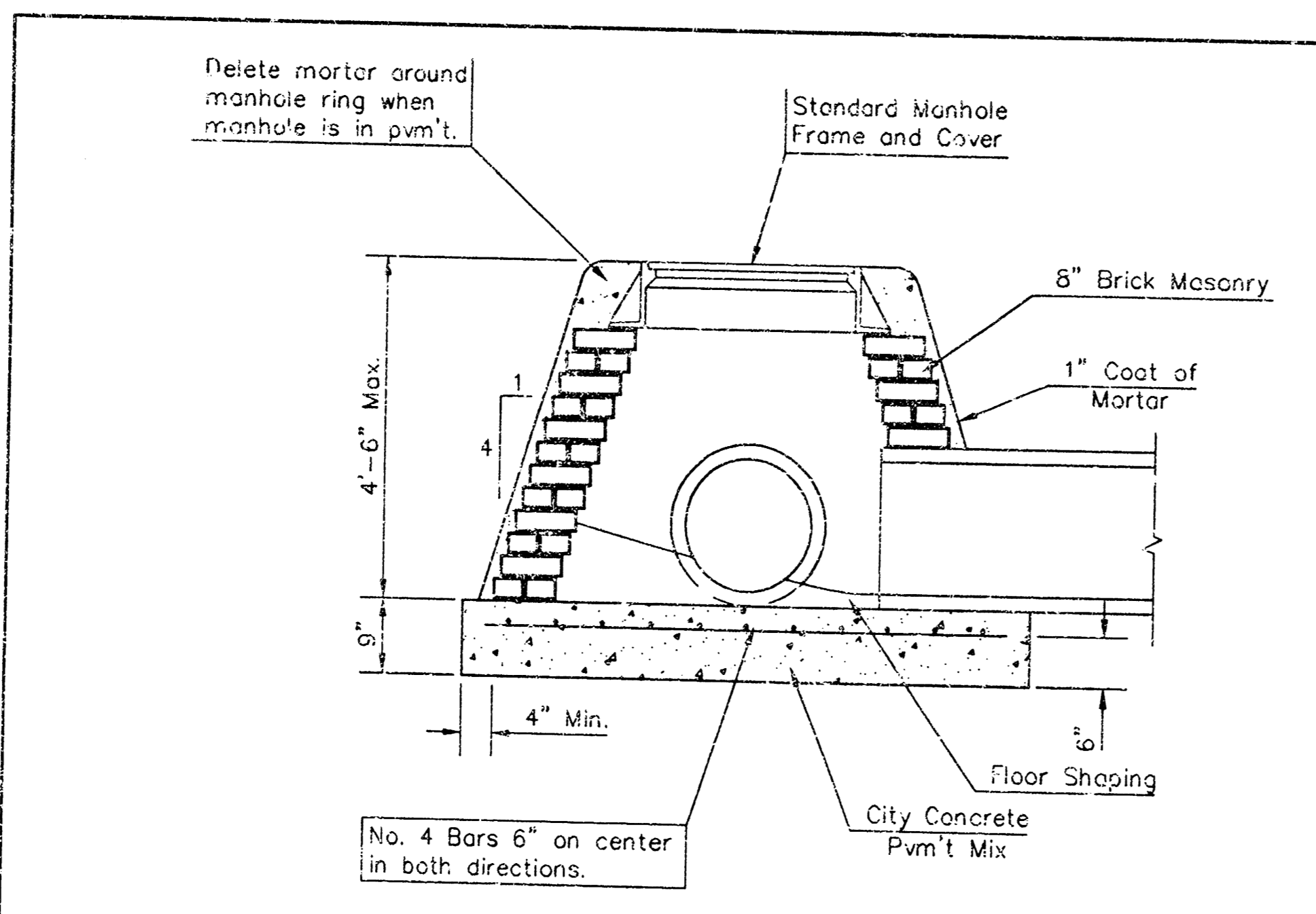


MASONRY COLLAR DETAIL

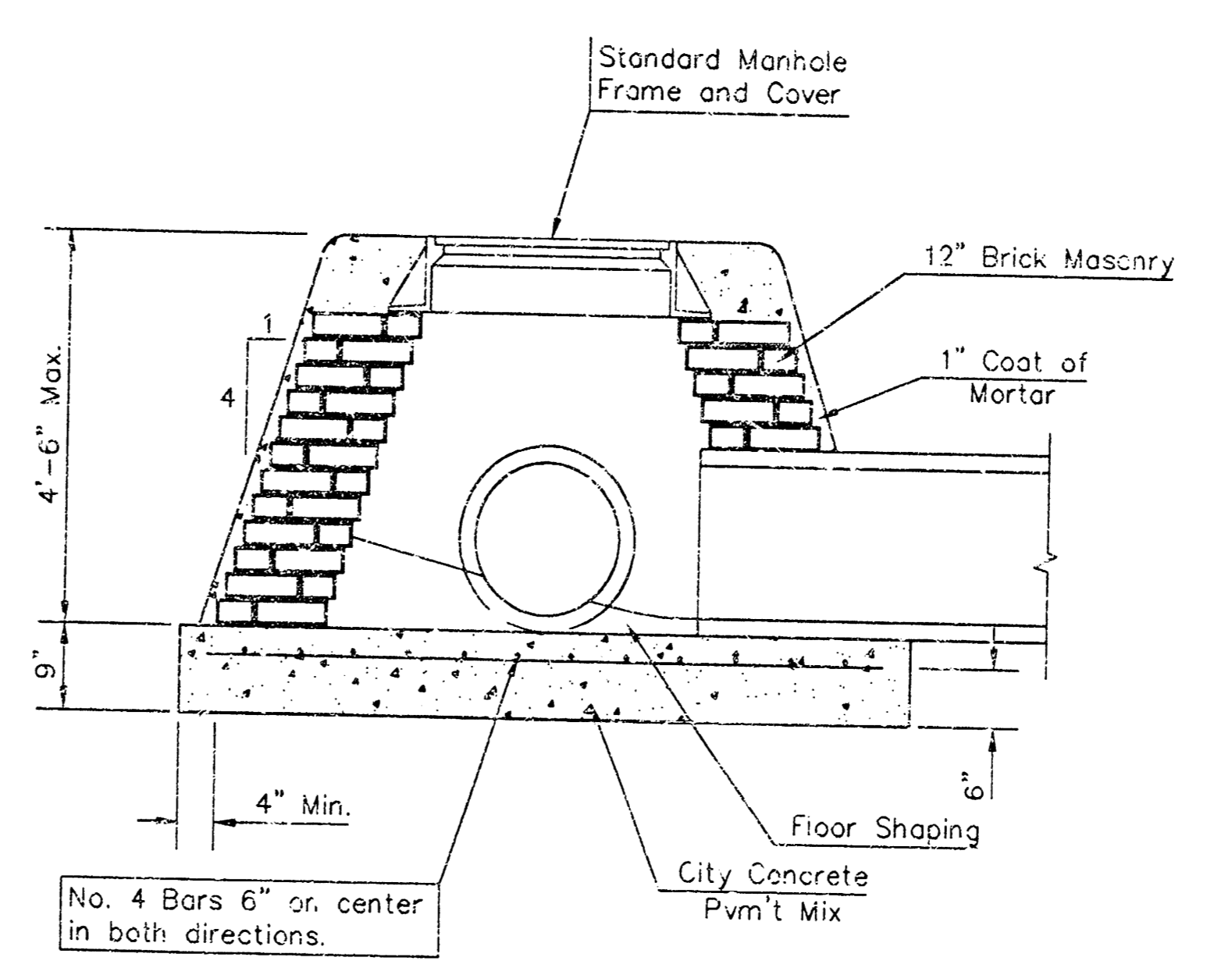


SECTION A--A

FLAT CONCRETE SLAB DETAILS



SPECIAL SHALLOW TYPE "A" MANHOLE



SPECIAL SHALLOW TYPE "B" MANHOLE

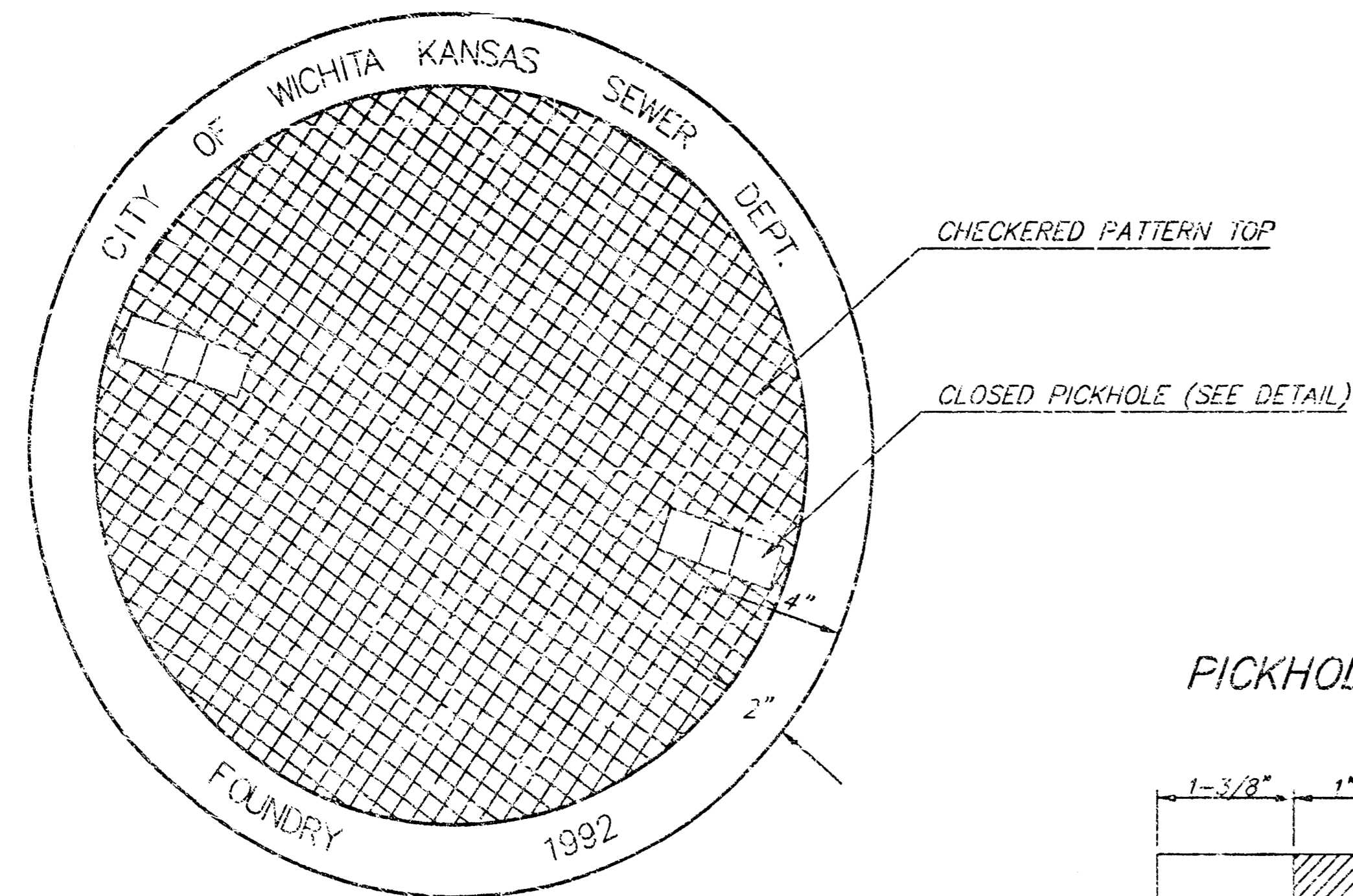
GENERAL NOTES

- Mortar used in masonry construction shall contain 3 sacks 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 greater shall have an inside diameter of 6". Completed manhole shall be without leaks and water tight inside diameter is noted on plans.
- 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. Reinforcing steel shall be installed in the manhole base and shall be placed 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 by 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 cradled with concrete to the limits of the manhole excavation. When clay pipe is used, the cradle shall extend to the first joint outside the manhole. The cradle shall be terminated at the clay pipe joint in a manner which will maintain the flexibility of the joint. Cost of cradling within manhole excavation or to clay pipe joints outside the 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 crowns 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.
- All brick used in manhole construction shall meet Grade SW of ASTM C652 or C62-87.

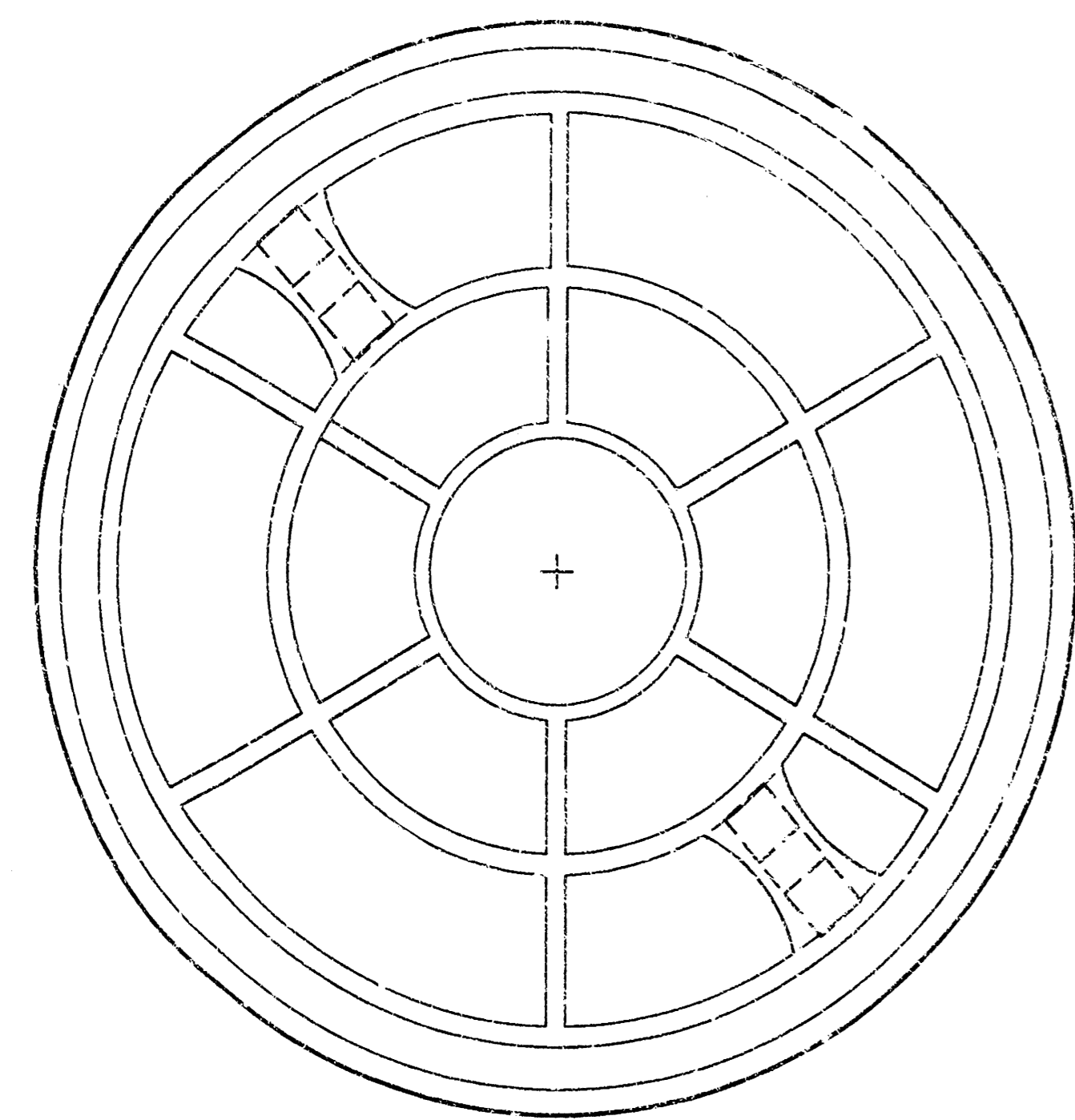
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<p>THE CITY OF WICHITA</p>	STANDARD/SPECIAL SHALLOW MANHOLES TYPE 'A' & 'B'	
	M. E. LINDEBAK P.E. - CITY ENGINEER	
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202 (316) 268-4500 (316) 268-4114 FAX	PROJECT NUMBER 1125PPS(607861)	CCA NO. XXXXXX
	DATE MAR 96	SHEET 10 OF 12

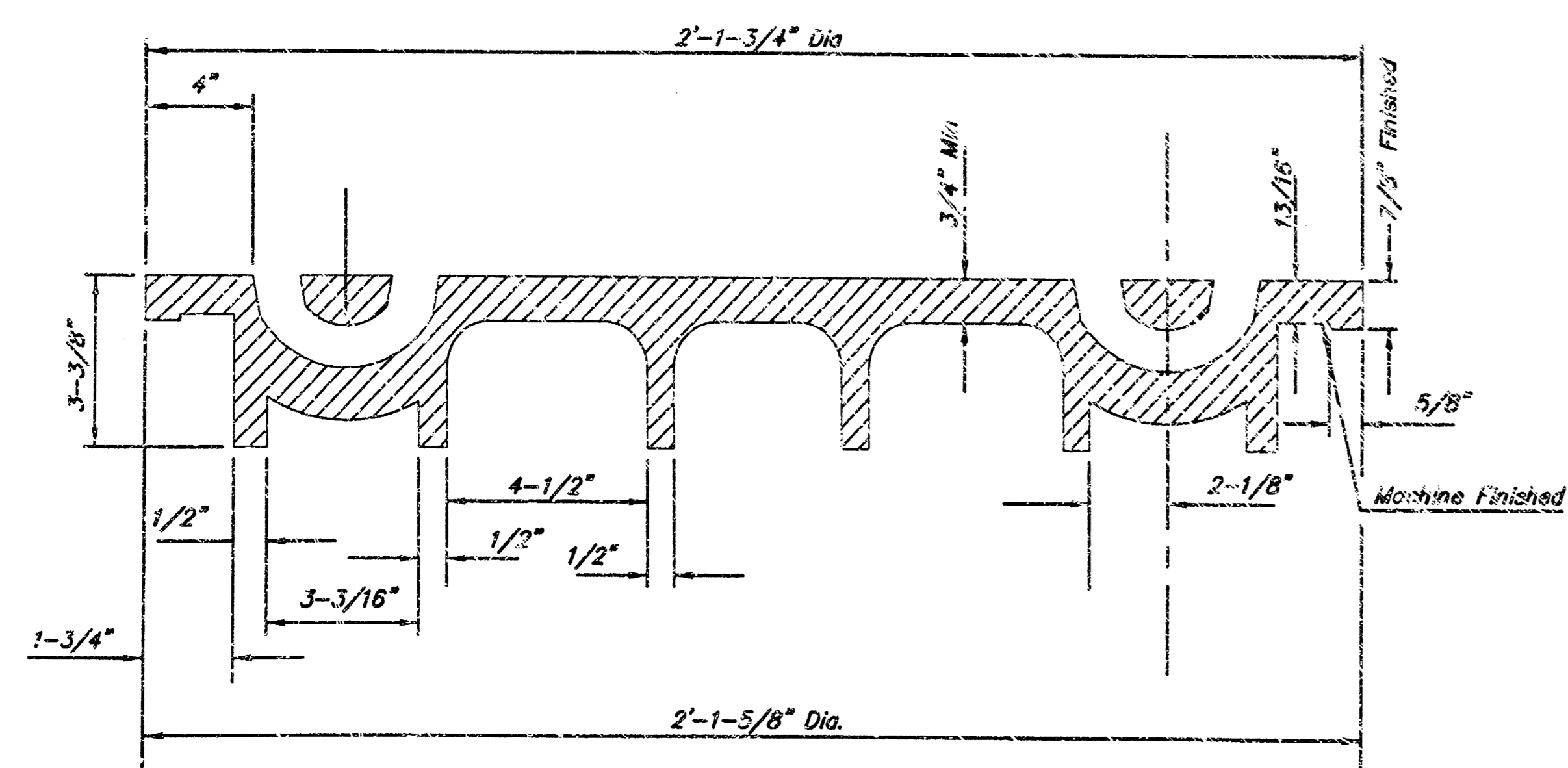
MANHOLE COVER
Weight = 180 Lbs.



TOP VIEW



BOTTOM VIEW



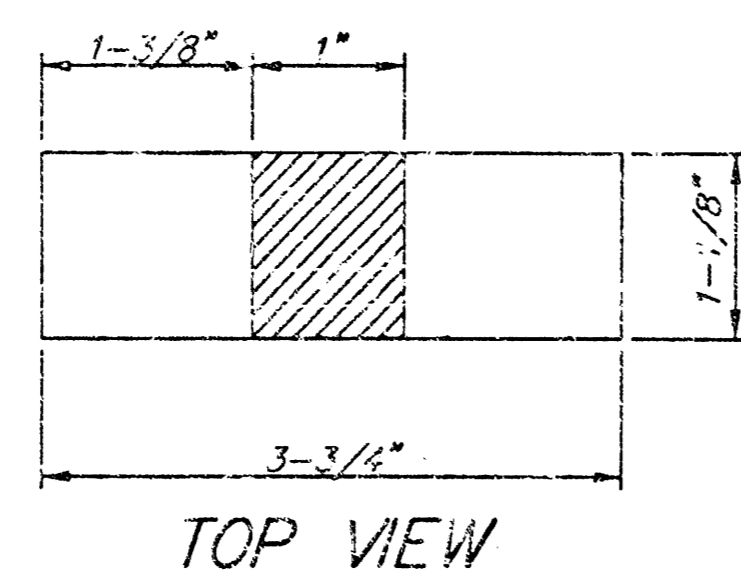
SECTION VIEW

MANHOLE FRAME AND COVER DETAIL

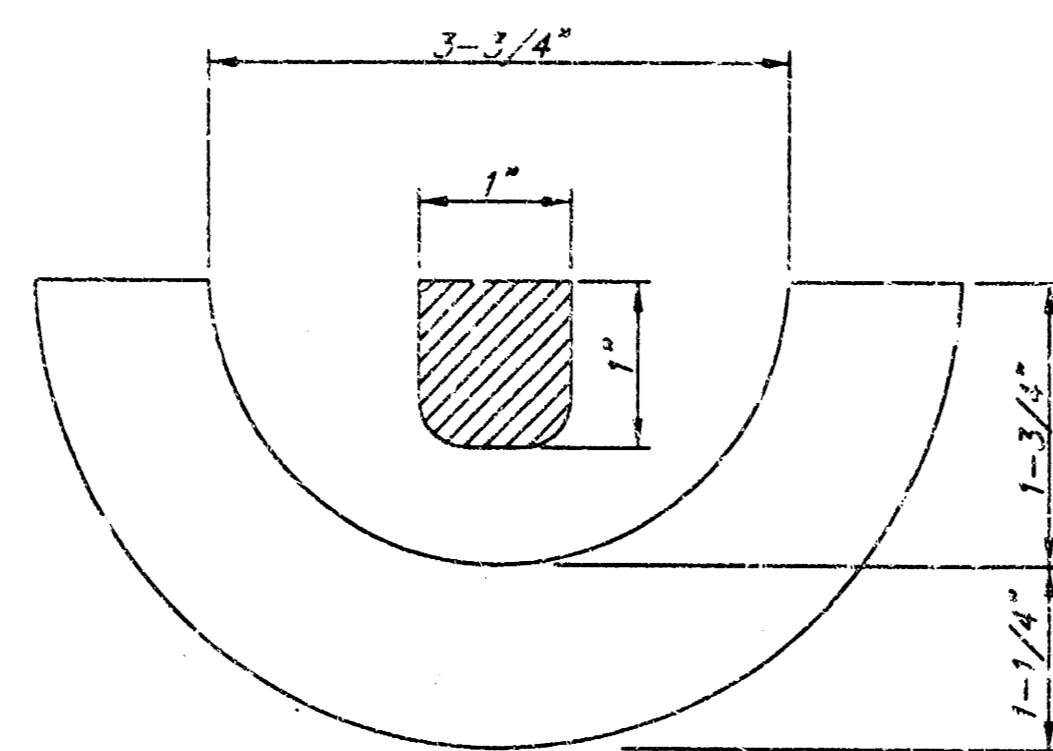
ADOPTED AS STANDARD DESIGN BY
CITY OF WICHITA, KANSAS

MANHOLE FRAME
Weight = 240 Lbs.

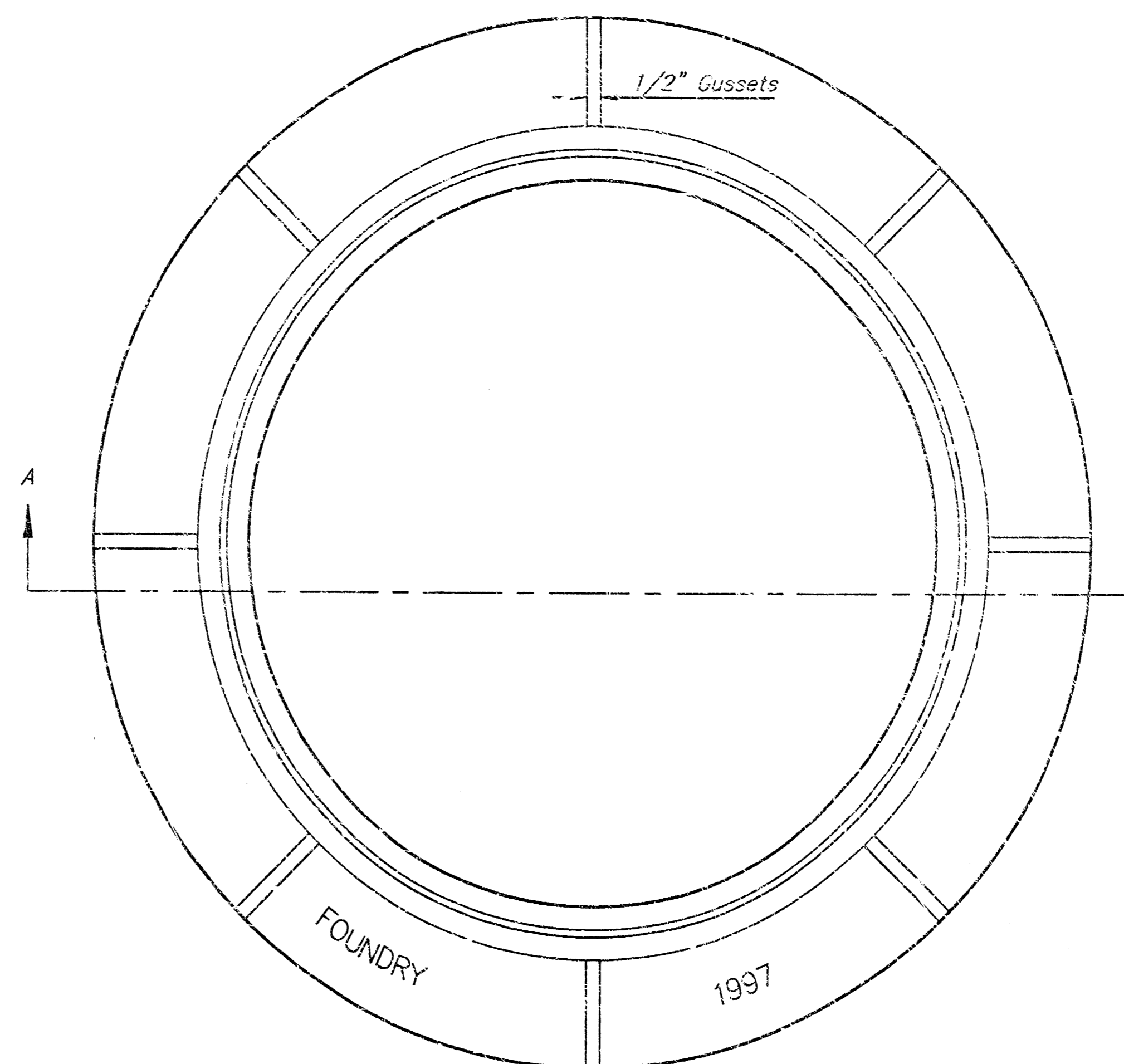
PICKHOLE DETAIL



TOP VIEW



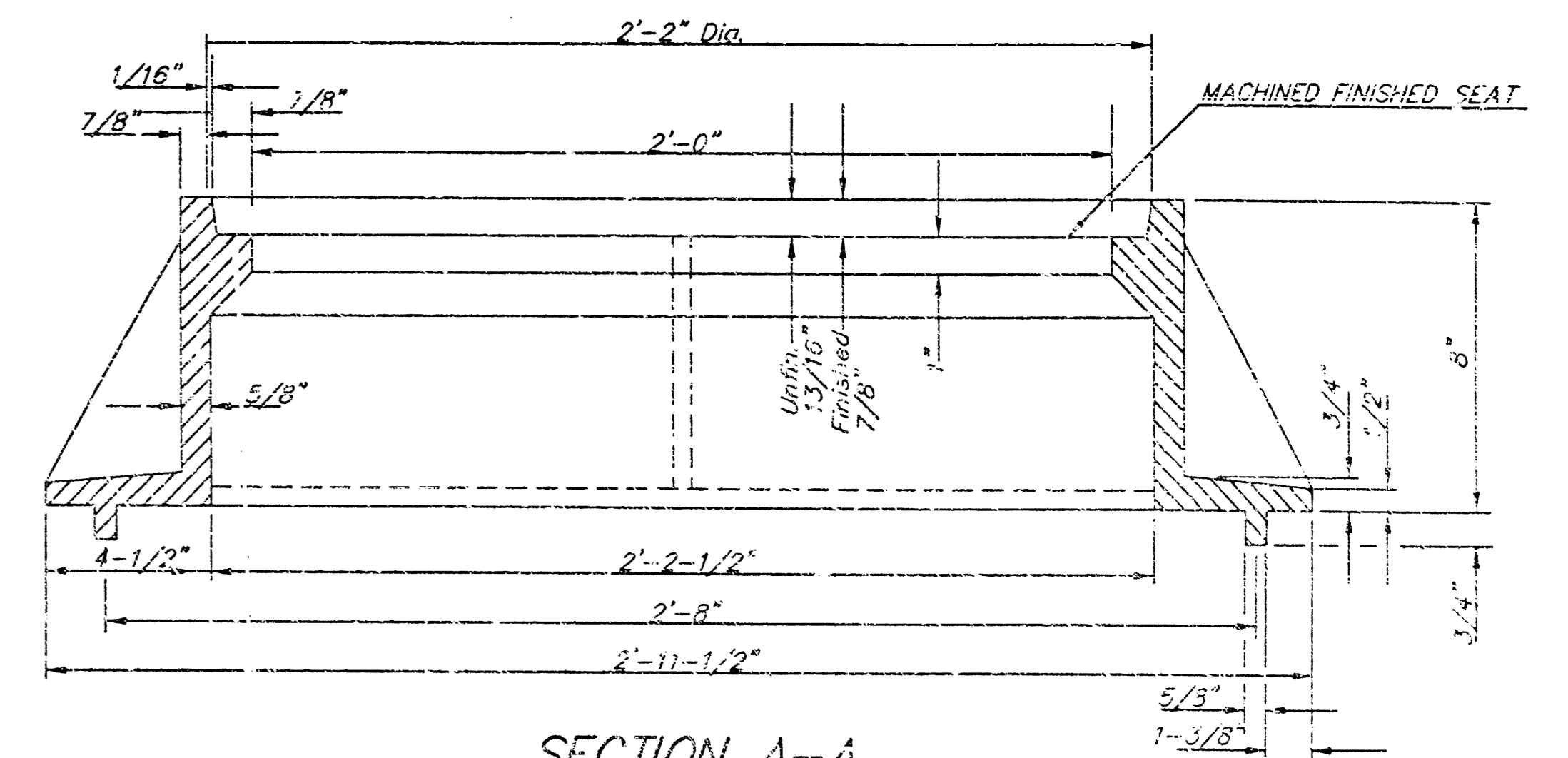
SECTION VIEW



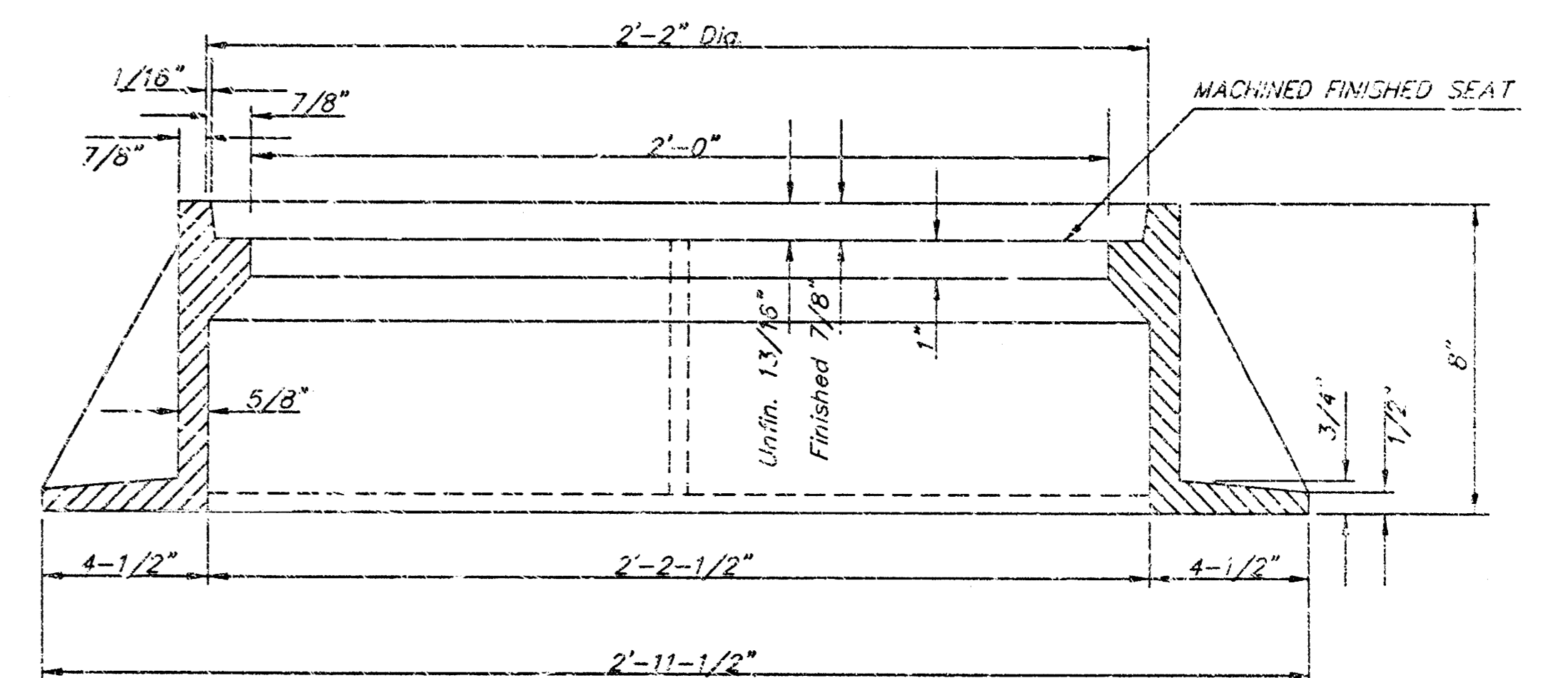
TOP VIEW

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 WEIGH A MINIMUM OF 180 POUNDS ON THE SOLID COVER AND 240 POUNDS ON THE MANHOLE RING. THIS IS A TOTAL OF 420 POUNDS ON A RING AND COVER SET. CASTINGS WEIGHING LESS THAN THE MINIMUM SPECIFICATIONS WILL NOT BE ACCEPTED.
3. 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.
4. 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 SURFACES BETWEEN THE COVER AND FRAME SHALL BE MACHINED SUCH THAT THESE SEATING SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUMFERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.
5. 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 INCH 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 BLOCKOUTS 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.

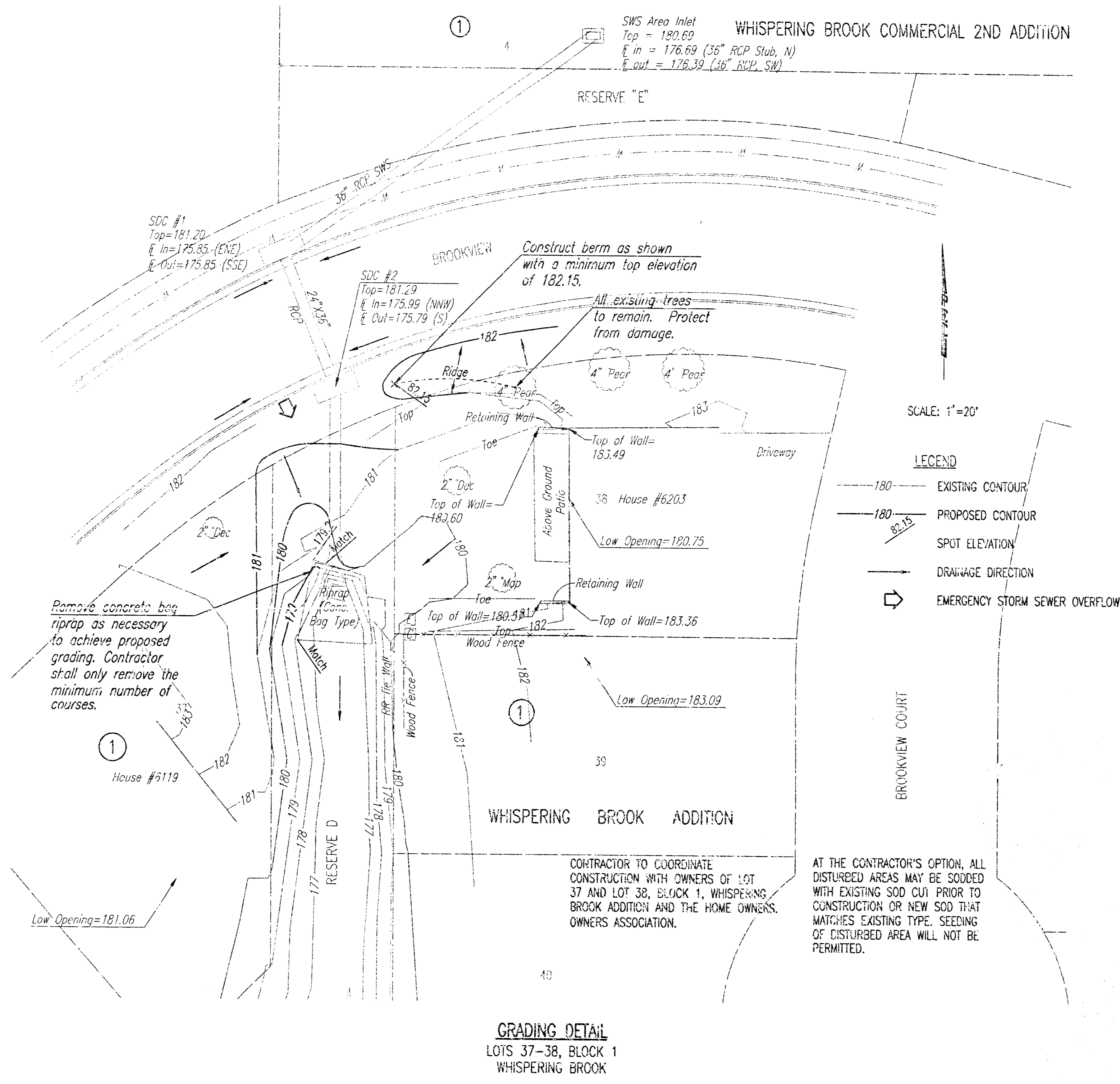


SECTION A-A
MUD RING



SECTION A-A

<p>THE CITY OF WICHITA</p> <p>CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 405 NORTH MAIN STREET WICHITA, KANSAS 67202 (316) 268-4401 (316) 268-1114 FAX</p>	<p>MANHOLE FRAME AND COVER</p>	
	<p>M. E. LINDEBAK P.E. - CITY ENGINEER</p>	
<p>PROJECT NUMBER 1125PPS(607851)</p>	<p>DATE MAR 96</p>	<p>QCA NO. XXXXXX</p>
<p>SHEET 11 OF 12</p>		



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WHISPERING BROOK COMMERCIAL 2ND ADDITION

OFF-SITE GRADING

Professional Engineering Consultants
 303 S. TORREKA • WICHITA, KANSAS 67202
 316-242-7691 • FAX 316-262-3003

Designed by	KER	Checked by	GRC
Drawn by	KER	Date	JUNE 2001
		Job No.	

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