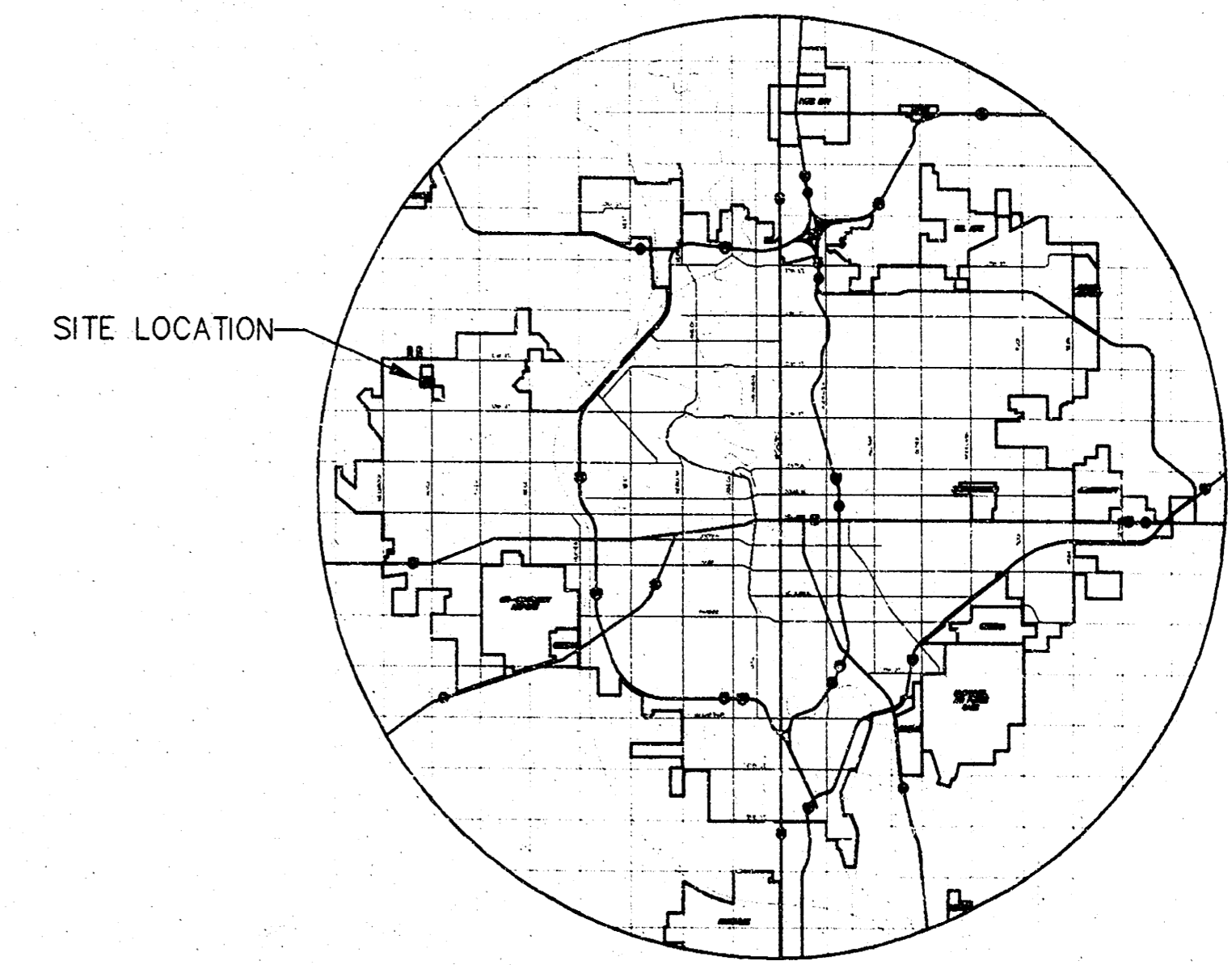


STORM WATER SEWER PLANS FOR
STORM WATER SEWER #468
 IN
WINDWOOD

AN ADDITION TO THE CITY OF WICHITA
 SEDGWICK COUNTY, KANSAS
 PROJECT NO. 468-82524
 MICHAEL E. LINDEBAK, CITY ENGINEER
 INDEX CODE 750760



LOCATION MAP

GENERAL NOTES

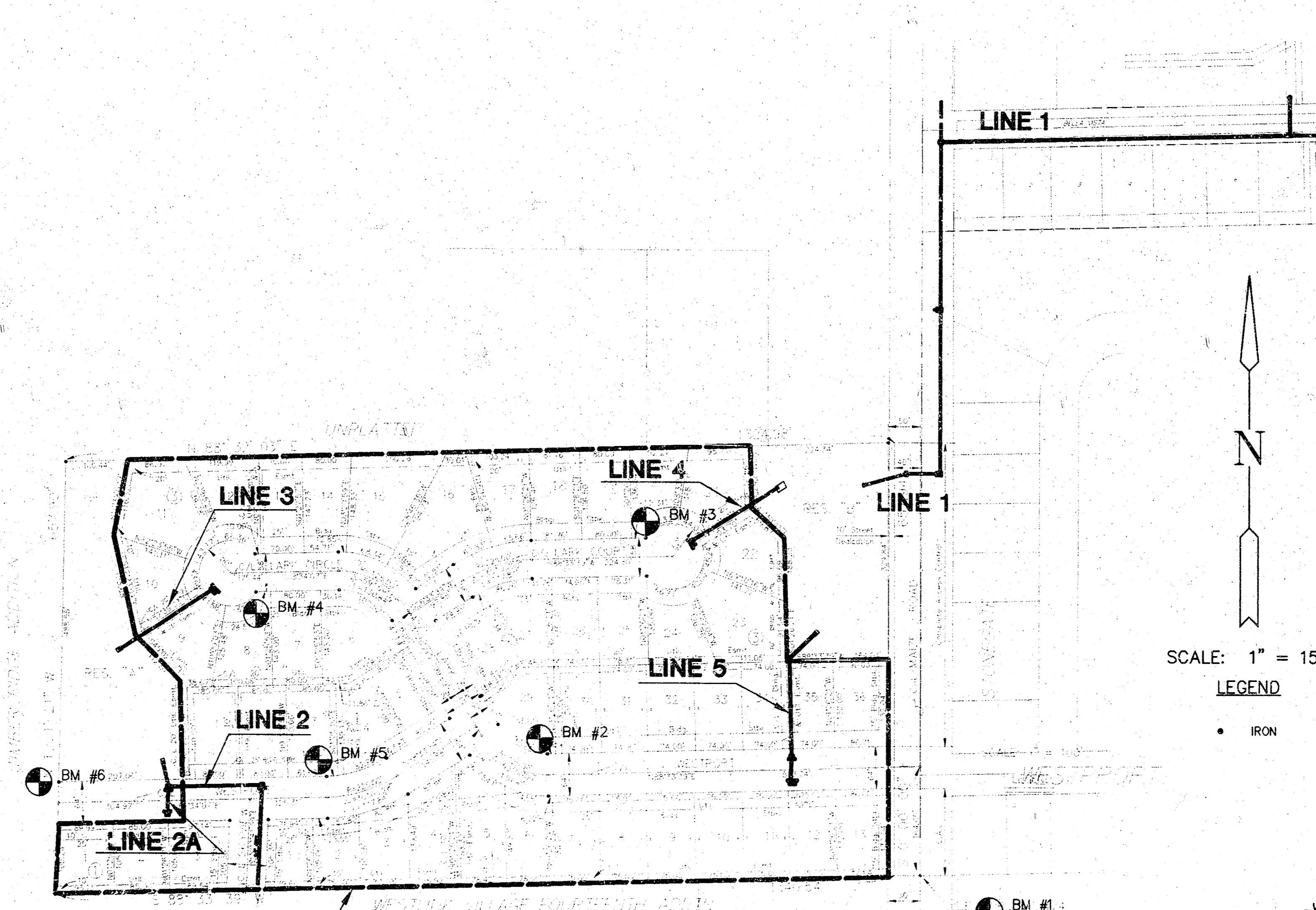
- THE TOPS OF INLETS AND MANHOLES AS NOTED ON THE PLANS MAY VARY SO AS TO MEET PROPOSED TOP OF CURB ELEVATIONS OR PAVEMENT ELEVATIONS. THE FIELD ENGINEER SHALL LOCATE INLETS AND MANHOLES WITH REFERENCE TO PROPOSED PAVING PLANS OF THE PERTINENT STREETS.
- ALL CONCRETE SHALL BE STANDARD PAVING MIX UNLESS OTHERWISE NOTED.
- 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 IN ACCORDANCE WITH STATE LAWS.
- TREES TO BE REMOVED ARE MARKED \times . ALL TREES WHICH IN THE OPINION OF THE FIELD ENGINEER CAN BE SAVED, SHALL BE SAVED.
- CONTRACTOR SHALL NOTIFY UTILITY COMPANIES OF CONSTRUCTION SCHEDULING.
- 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 COMPANIES AND IS EITHER FROM COMPANY UTILITY DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE PLAN LOCATIONS SHOWN ARE NOT GUARANTEED. ADDITIONAL EXISTING UTILITIES MAY ALSO BE ENCOUNTERED.
- CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF FORTY-EIGHT (48) HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:
 KANSAS ONE-CALL 1-800-344-7233
 OR 687-2470 (LOCAL WICHITA)
 THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF AN EMERGENCY:
 SOUTHWESTERN BELL TELEPHONE COMPANY 1-800-734-7290
 CABLEVISION 262-0861
 KANSAS GAS & ELECTRIC 383-8600
 CITY OF WICHITA WATER DEPARTMENT 268-4908
 ARKLA GAS COMPANY 942-8350 OR 263-8161
 CITY OF WICHITA SEWER MAINTENANCE 268-4908
- RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR. THESE SITES SHALL 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 WOULD 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 WOULD REQUIRE ADDITIONAL ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.
- CONTRACTOR SHALL RESEED AND MULCH ALL DISTURBED AREAS. COST SHALL BE CONSIDERED SUBSIDIARY TO SITE RESTORATION.

INDEX TO DRAWINGS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2-3	LINE 1
4	LINE 1 & LINE 2
5	LINE 3 & LINE 4
6-11	DETAILS
12	FINAL PLAT

BENCHMARKS

- BM #1 COW BENCH MARK DISC, 11' SOUTH & 43' EAST OF S.E. COR. N.E. 1/4 SEC. 7-T27S-R1W ELEV. = 161.045
- BM #2 "T" POST 5' NORTH OF P.C. SOUTH SIDE LOT 29 BLOCK 3 (13' WEST & 5' NORTH OF S.E. COR. LOT 29 BLOCK 3) ELEV. = 163.28
- BM #3 "T" POST 5' NORTH OF CUL-DE-SAC P.C., SOUTH SIDE LOT 20 BLOCK 3 (22' EAST & 5' NORTH OF S.W. COR. LOT 20 BLOCK 3) ELEV. = 163.295
- BM #4 "T" POST 5' SOUTH OF CUL-DE-SAC P.C., NORTH SIDE LOT 8 BLOCK 3 (24' WEST & 5' SOUTH OF N.E. COR. LOT 8 BLOCK 3) ELEV. = 162.825
- BM #5 "T" POST 5' NORTH OF P.C. SOUTH SIDE LOT 3 BLOCK 3 (23' WEST & 5' NORTH OF S.E. COR. LOT 3 BLOCK 3) ELEV. = 162.585
- BM #6 "□" CUT ON TOP OF NORTH CURB ON WESTPORT 22' WEST OF EAST END EXISTING CURB (22'± WEST OF WEST PL. WIND WOOD ADDITION) ELEV. = 164.13



BENEFIT DISTRICT BOUNDARY

WINDWOOD ADDITION
 PROJECT NAME

STORM WATER SEWER PLANS
 SHEET TITLE

MID-KANSAS ENGINEERING CONSULTANTS, INC.
 411 N. WEBB ROAD
 WICHITA, KS. 67206
 316-684-9659

DESIGN BY: GJA
 DRAWN BY: KKL
 CHECKED BY: GJA

DATE: FEBRUARY 1996
 JOB NO.: 95101-DT
 SHEET OF: 1 / 12

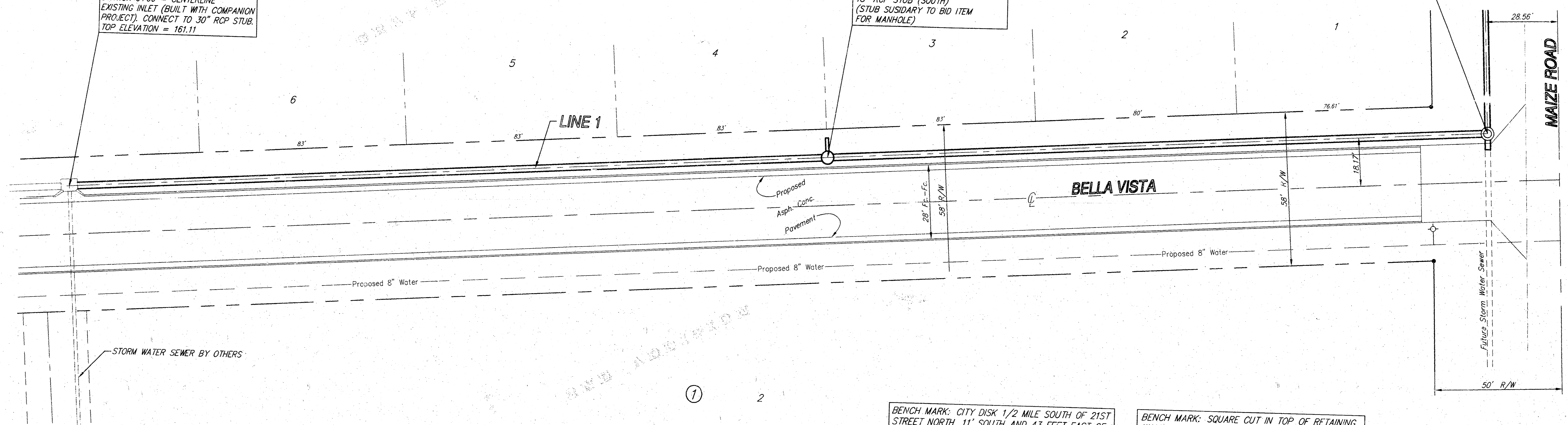
SCALE:
1"=20' PLAN
1"=5' PROFILE (V.)



STATION 0+00 = CENTERLINE
EXISTING INLET (BUILT WITH COMPANION
PROJECT). CONNECT TO 30" RCP STUB.
TOP ELEVATION = 161.11

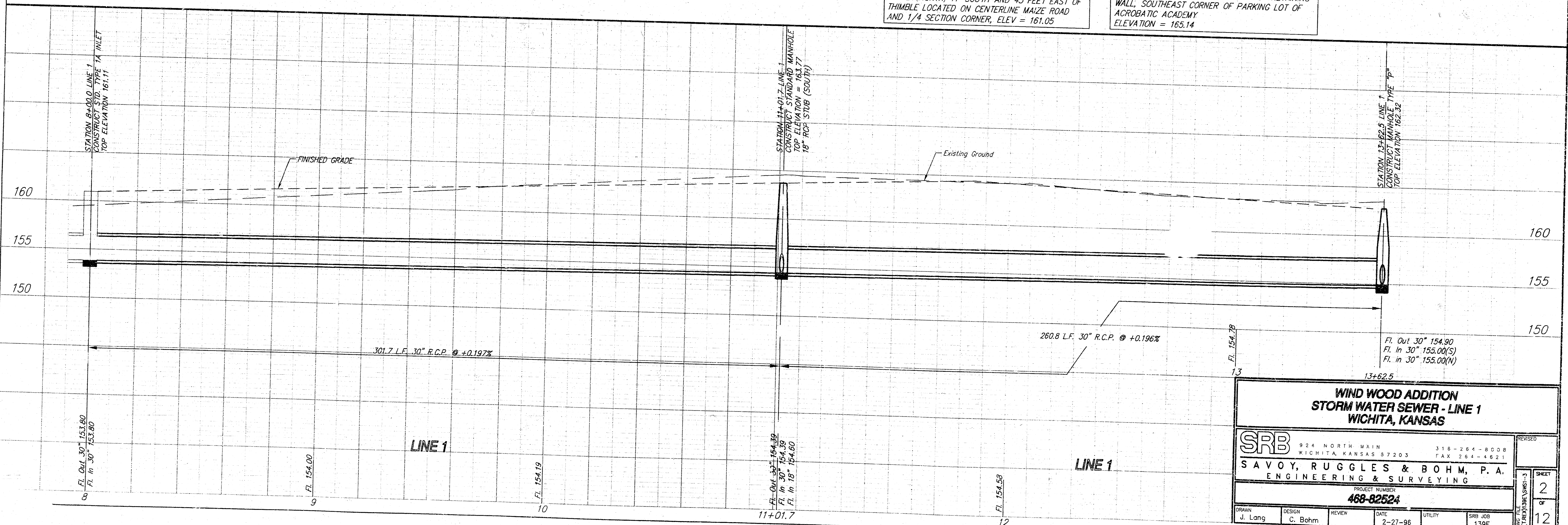
STATION 11+01.7 LINE 1
CONST. TYPE B MANHOLE, DIA = 5.0'
TOP ELEVATION = 163.77
18" RCP STUB (SOUTH)
(STUB SUSIDIARY TO BID ITEM
FOR MANHOLE)

STATION 13+62.5 LINE 1
CONSTRUCT TYPE B MANHOLE
DIAMETER = 5.0'
24" RCP STUB NORTH
TOP ELEVATION = 162.32
(STUB SUBSIDIARY TO BID ITEM
FOR MANHOLE)

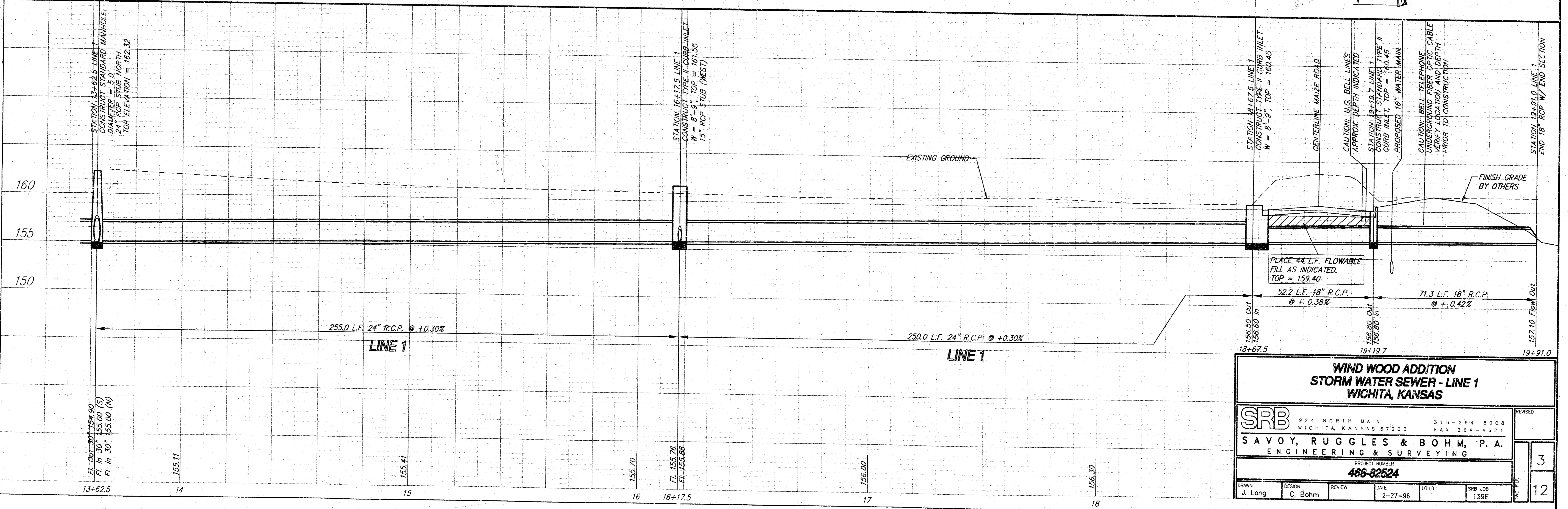
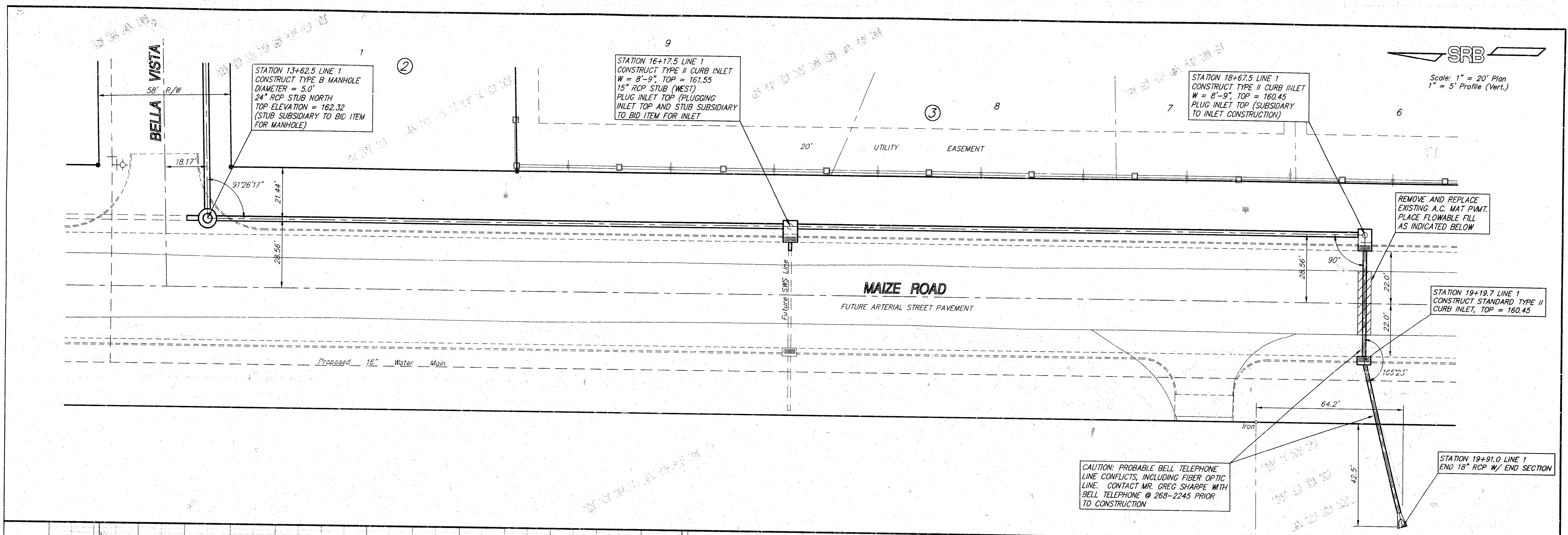


BENCH MARK: CITY DISK 1/2 MILE SOUTH OF 21ST
STREET NORTH, 11" SOUTH AND 43 FEET EAST OF
THIMBLE LOCATED ON CENTERLINE MAIZE ROAD
AND 1/4 SECTION CORNER, ELEV = 161.05

BENCH MARK: SQUARE CUT IN TOP OF RETAINING
WALL, SOUTHEAST CORNER OF PARKING LOT OF
ACROBATIC ACADEMY
ELEVATION = 165.14



WIND WOOD ADDITION STORM WATER SEWER - LINE 1 WICHITA, KANSAS					
SRB		924 NORTH MAIN WICHITA, KANSAS 67203		316-264-8008 FAX 264-4621	
SAVOY, RUGGLES & BOHM, P. A. ENGINEERING & SURVEYING					
PROJECT NUMBER 468-82524					
DRAWN J. Lang	DESIGN C. Bohm	REVIEW	DATE 2-27-96	UTILITY	SRB JOB 139E
					SHEET 2 OF 12



**WIND WOOD ADDITION
STORM WATER SEWER - LINE 1
WICHITA, KANSAS**

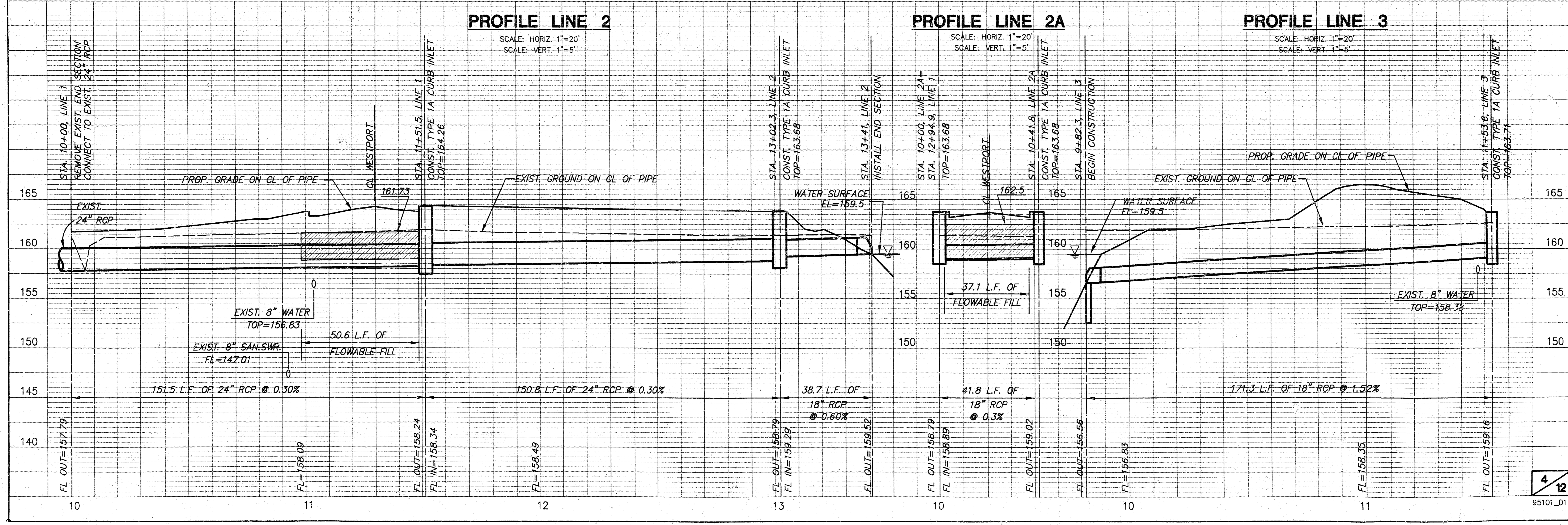
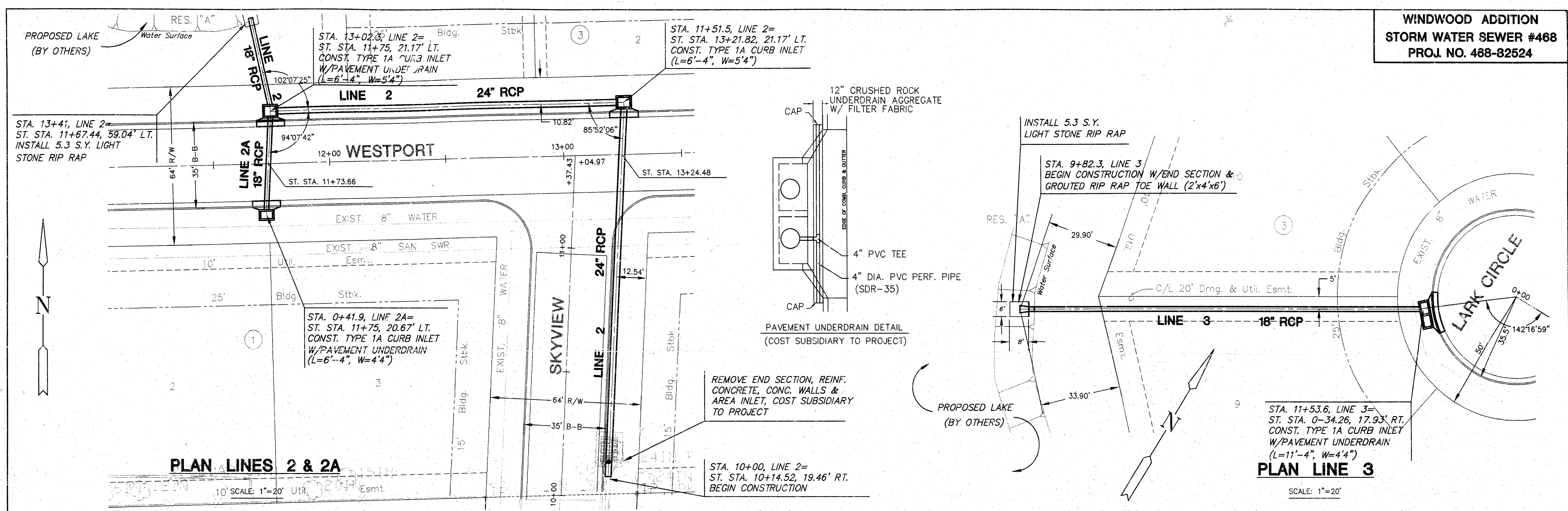
SRB
316 NORTH MAIN WICHITA, KANSAS 67203 316-264-8008 FAX 264-4621

SAVOY, RUGGLES & BOHM, P.A.
ENGINEERING & SURVEYING

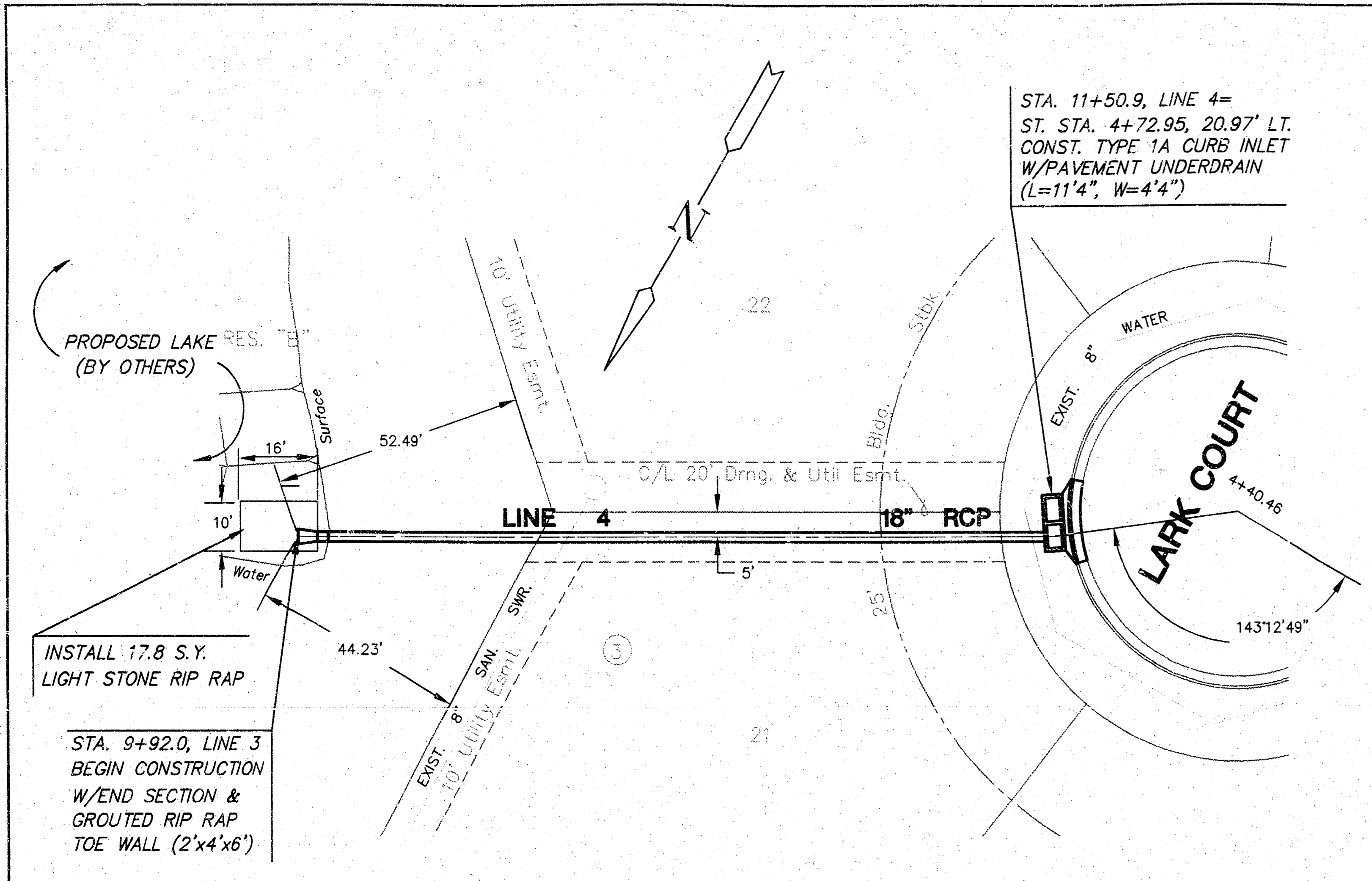
PROJECT NUMBER
468-82524

DRAWN J. Long	DESIGN C. Bohm	REVIEW	DATE 2-27-96	UTILITY	SRB JOB 139E
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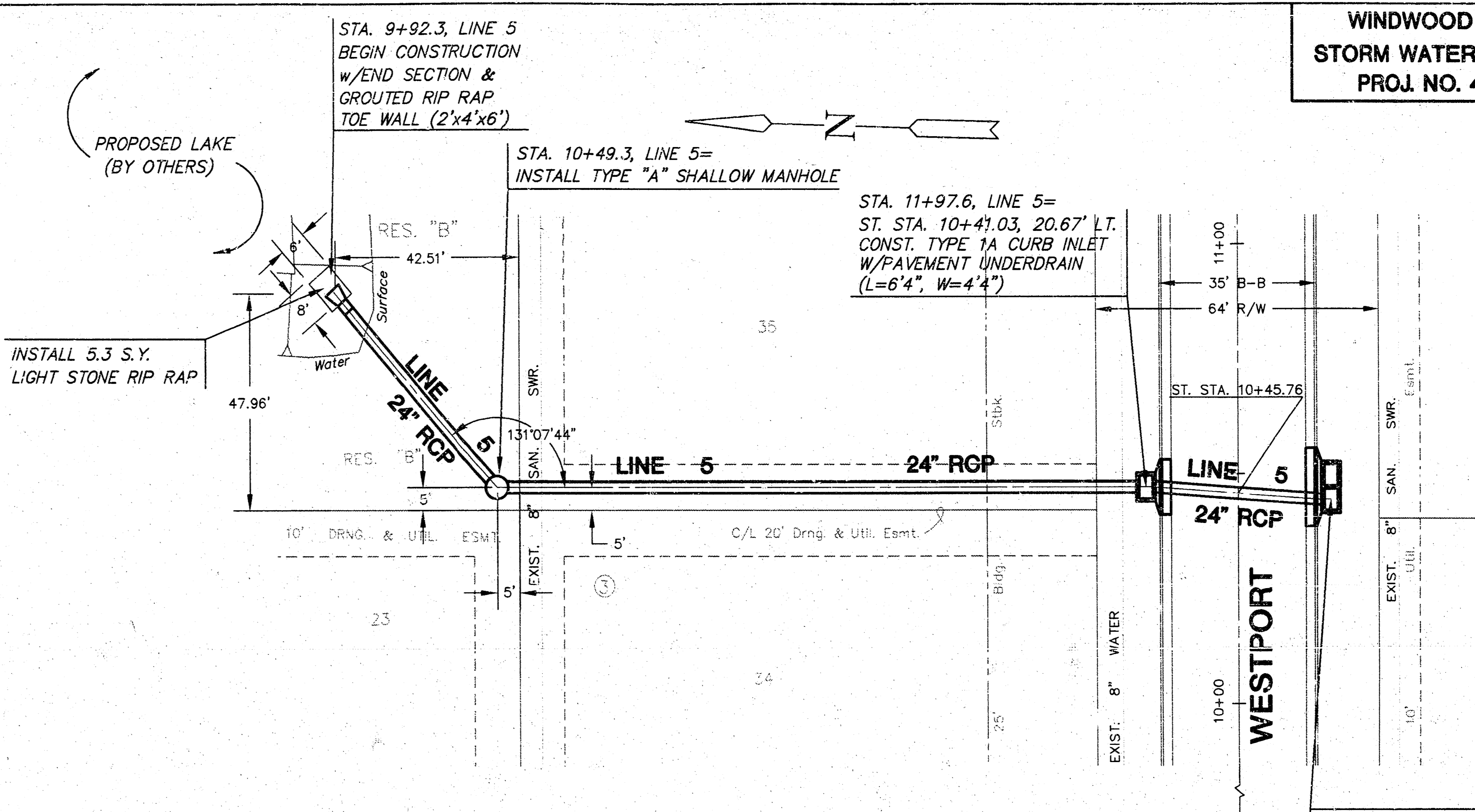
REVISIONS
3
12



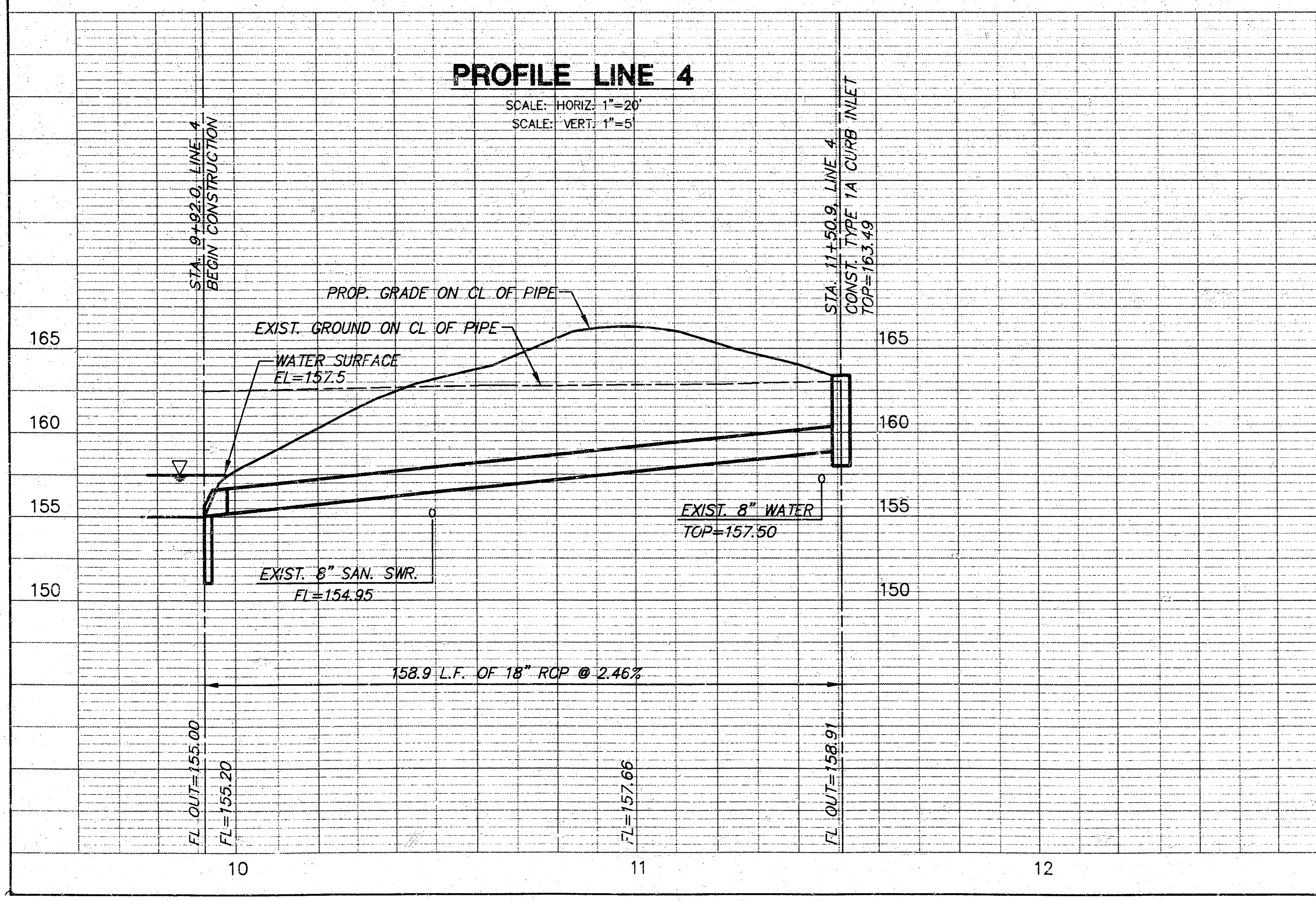
**WINDWOOD ADDITION
STORM WATER SEWER #488
PROJ. NO. 468-82524**



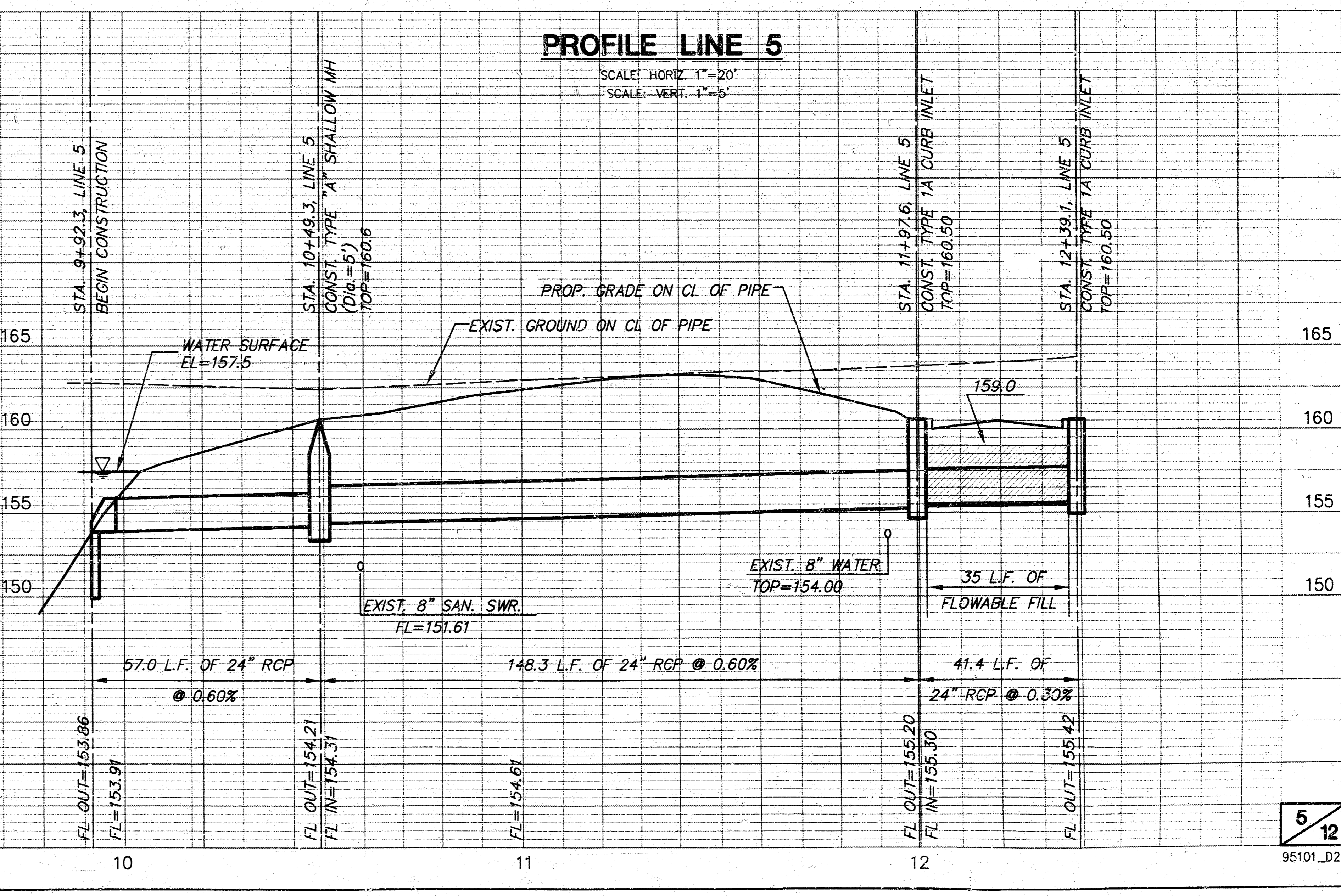
PLAN LINE 4
SCALE: 1"=20'



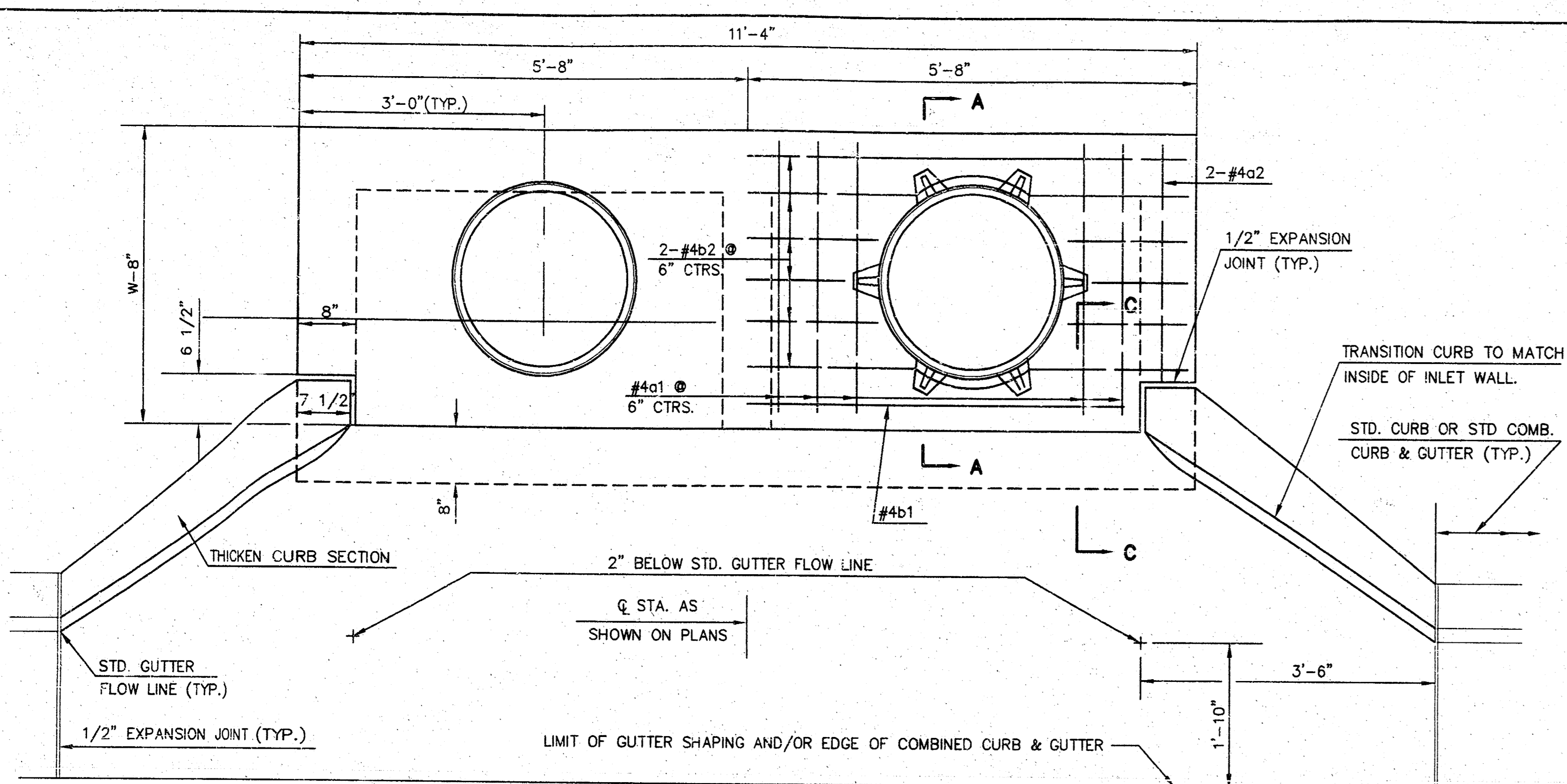
PLAN LINE 5
SCALE: 1"=20'



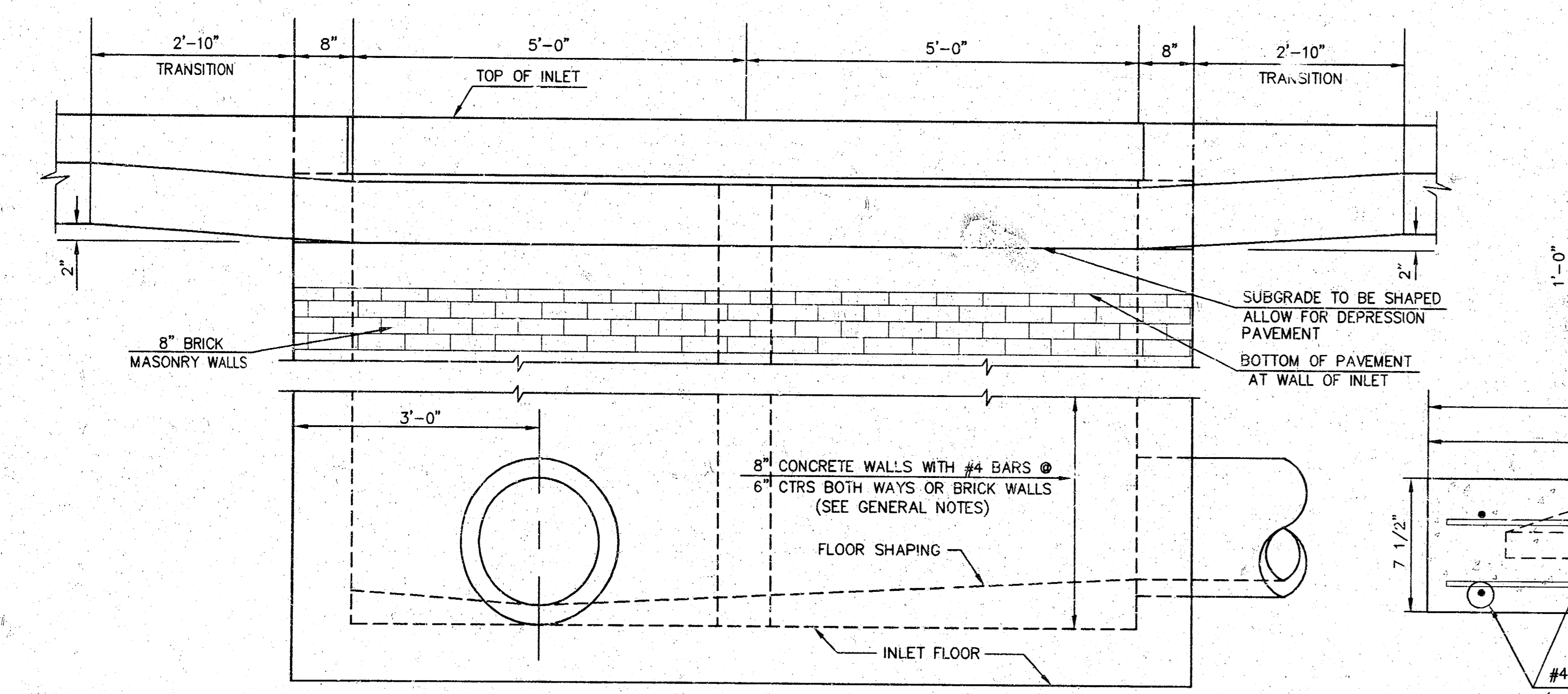
PROFILE LINE 4
SCALE: HORIZ. 1"=20'
SCALE: VERT. 1"=5'



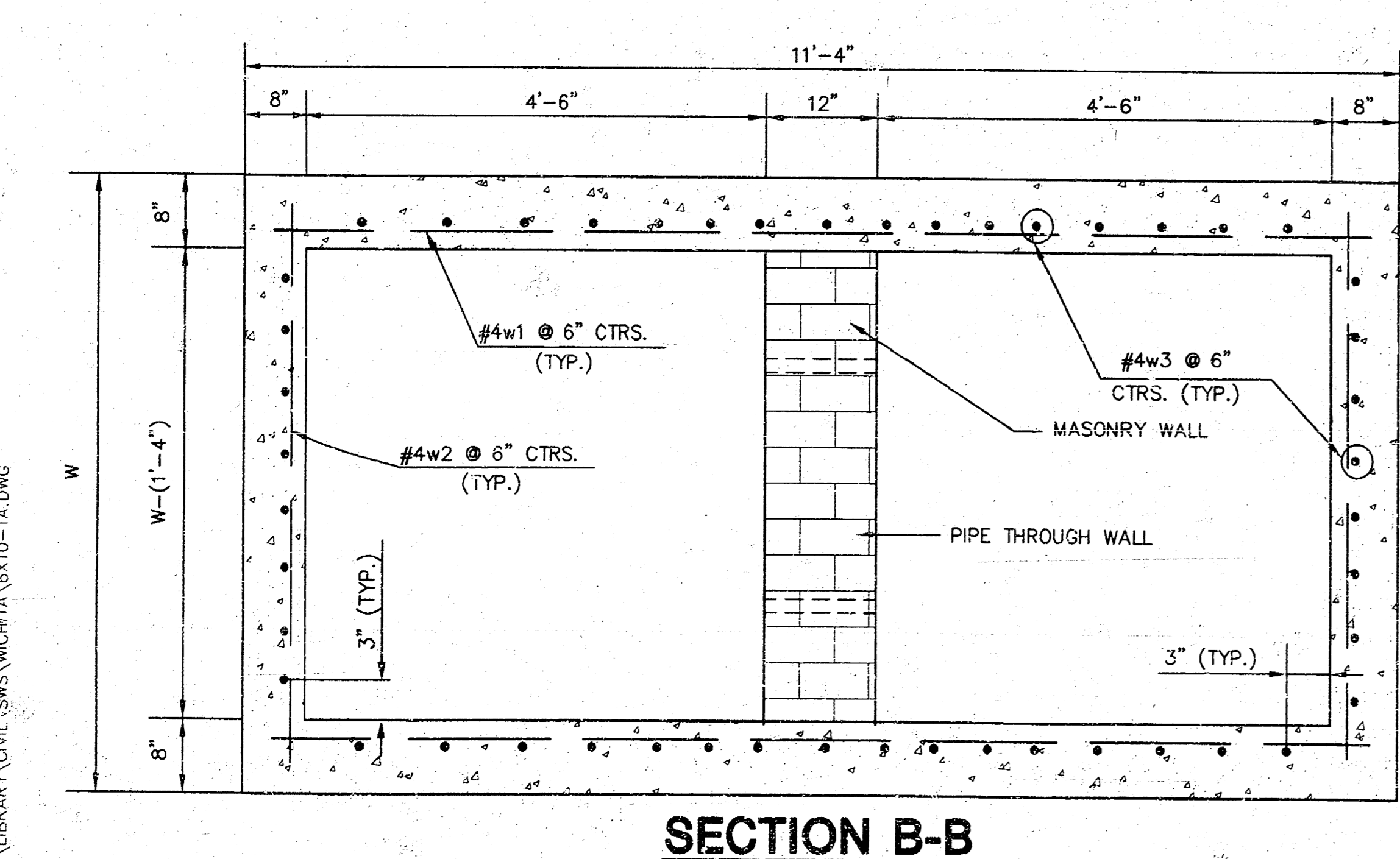
PROFILE LINE 5
SCALE: HORIZ. 1"=20'
SCALE: VERT. 1"=5'



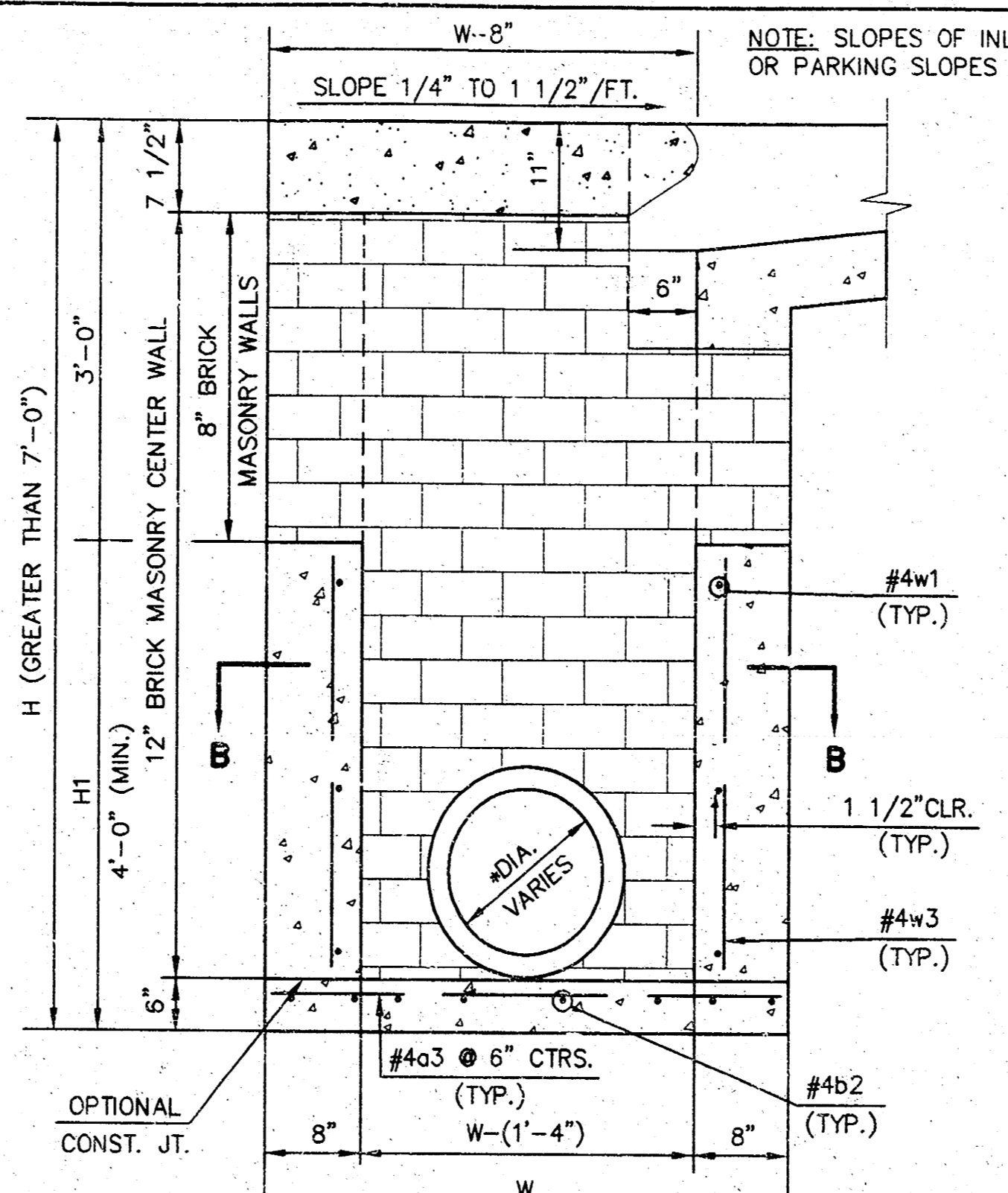
PLAN SHOWING SLAB REINFORCING. NOTE: EXPANSION JOINT ONLY IN CURB AREA WITH CONCRETE PAVEMENT.



ELEVATION

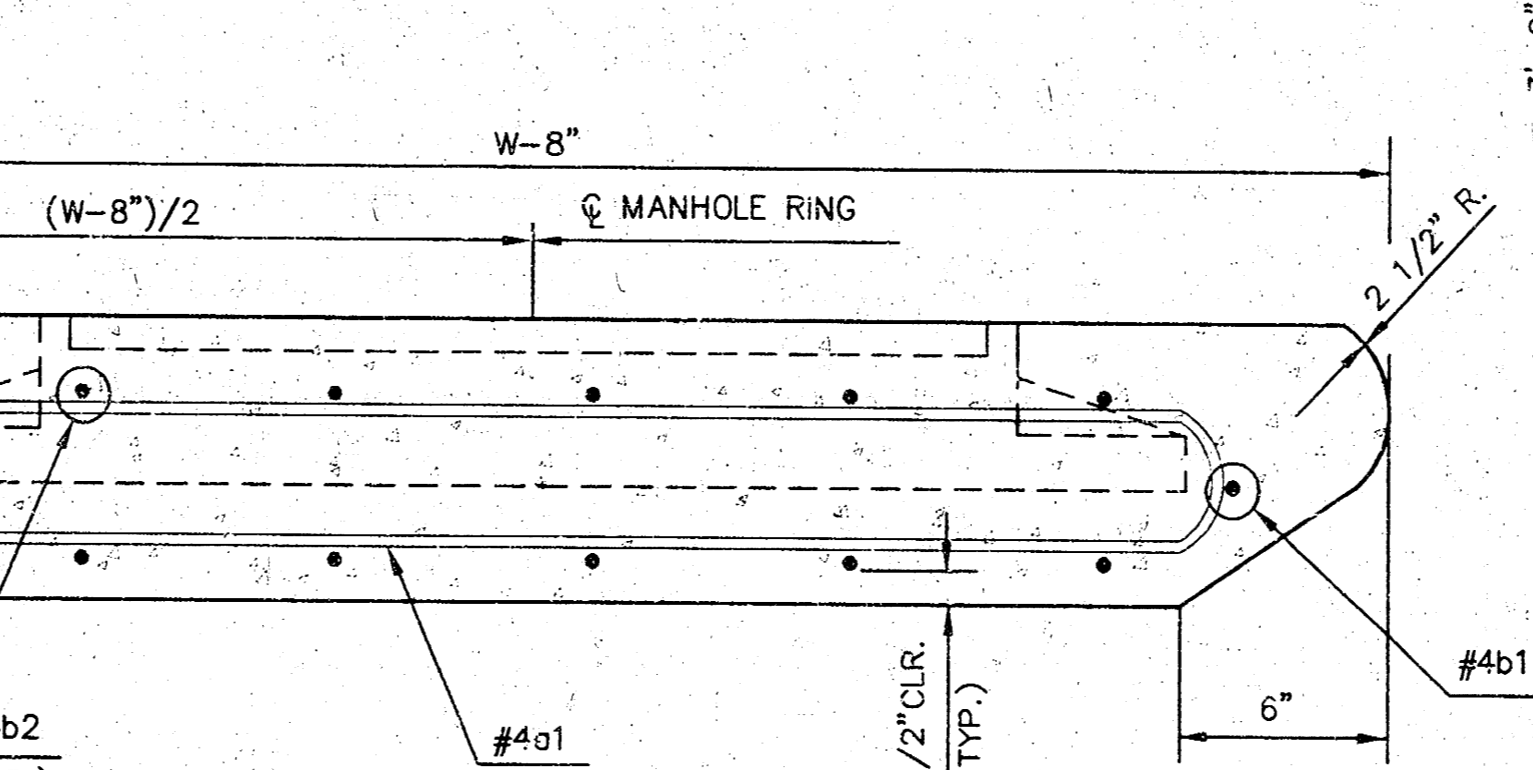
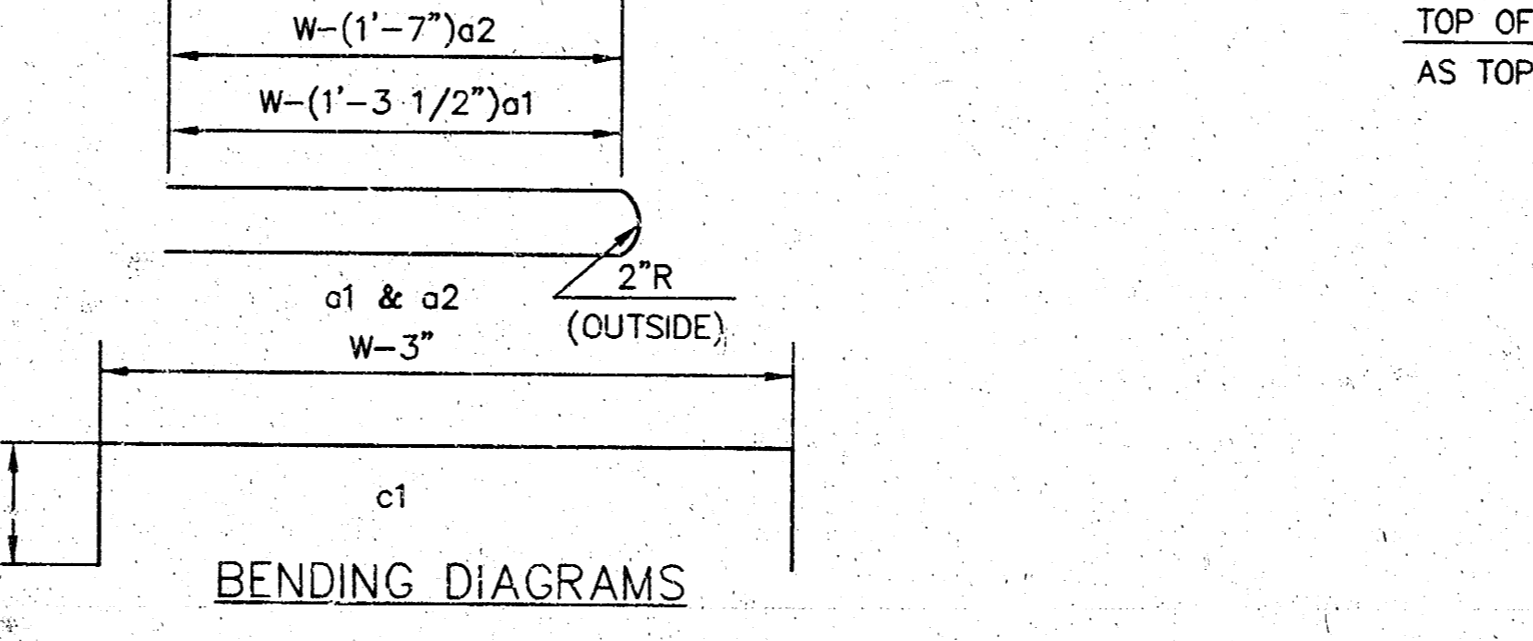


SECTION B-B

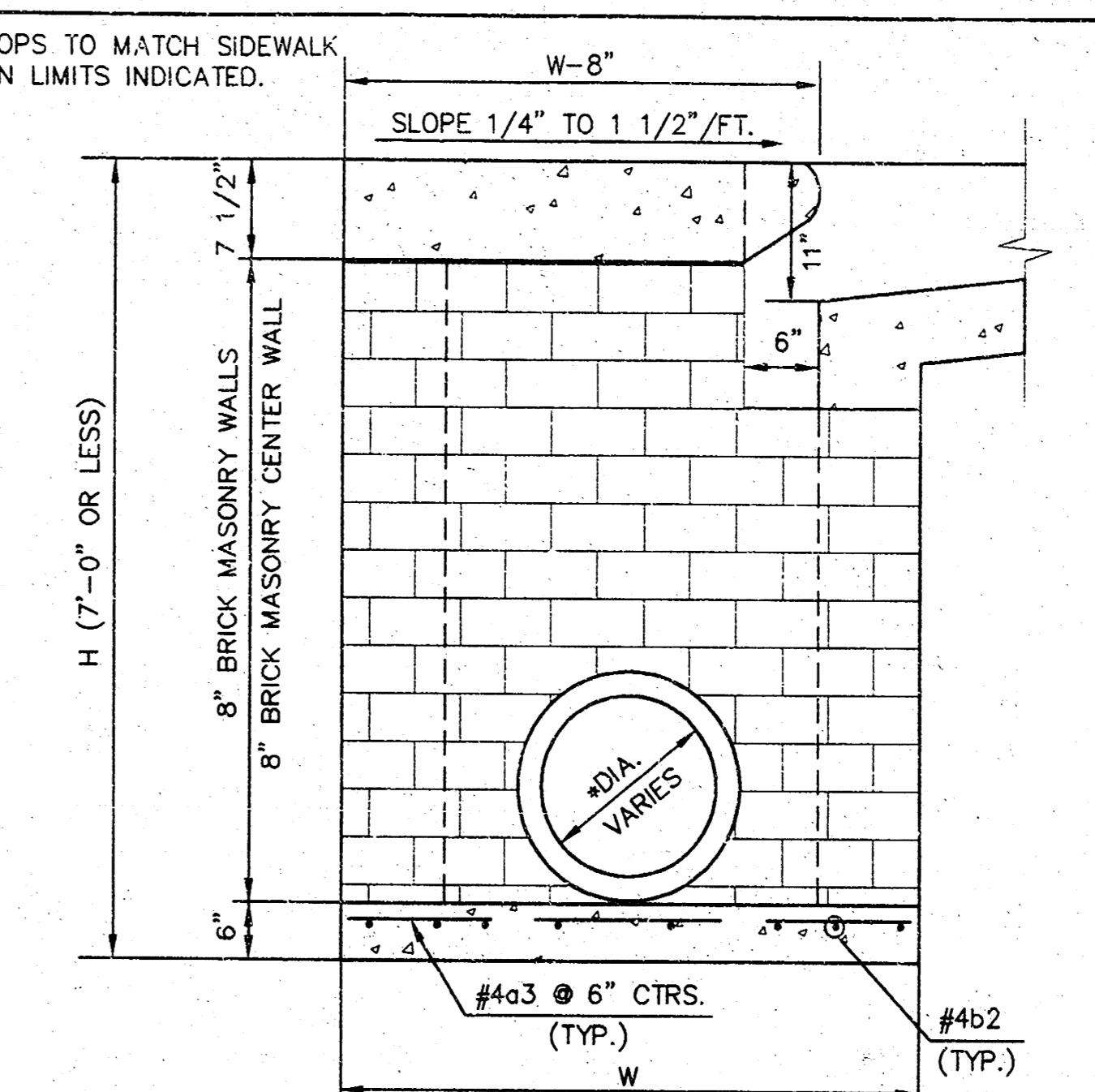


TYPICAL INLET SECTION AT CENTER WALL (MASONRY WALLS)

TYPICAL INLET SECTION AT CENTER WALL (REINFORCED CONCRETE WALLS)

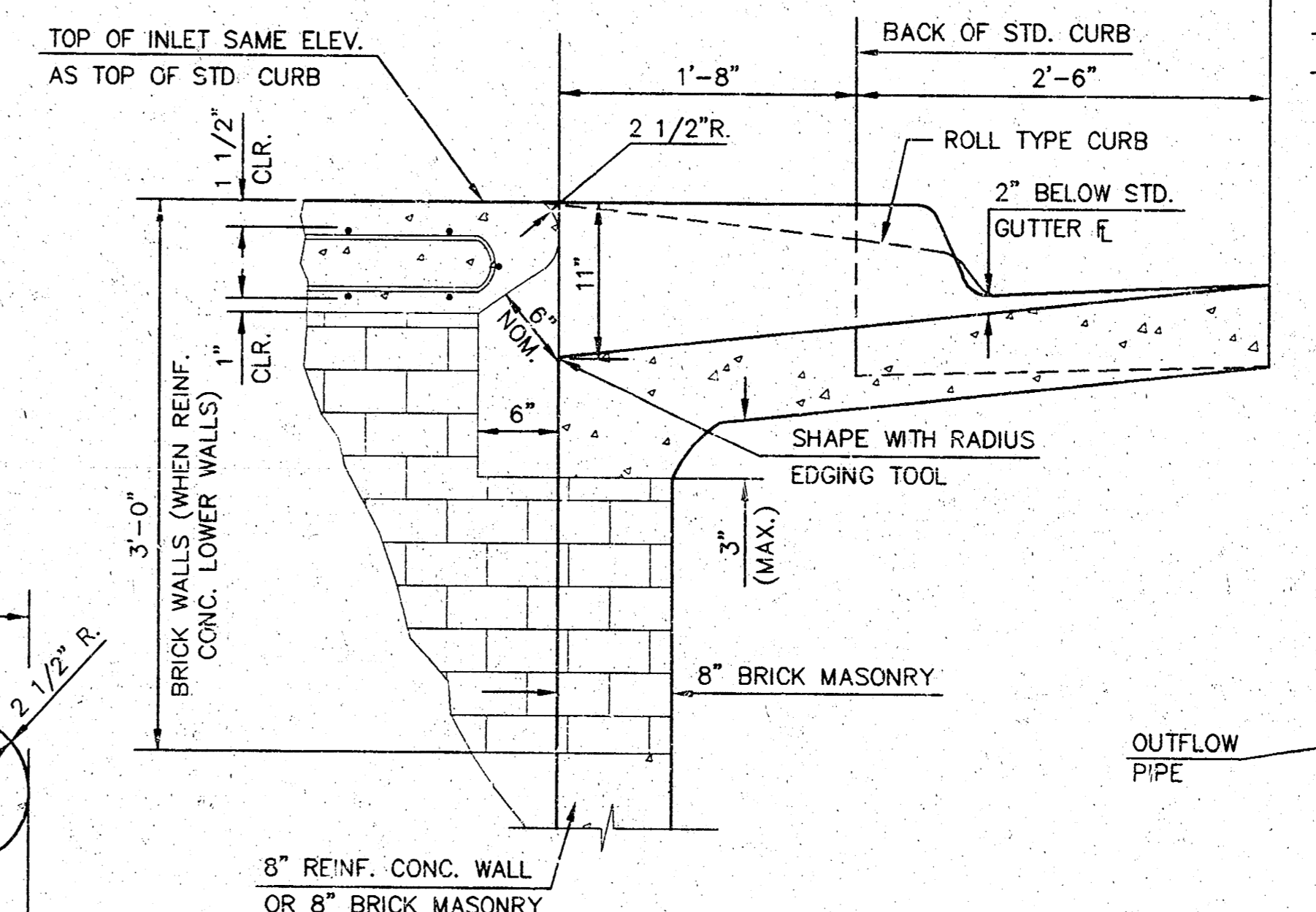


SECTION A-A



TYPICAL INLET SECTION AT CENTER WALL (MASONRY WALLS)

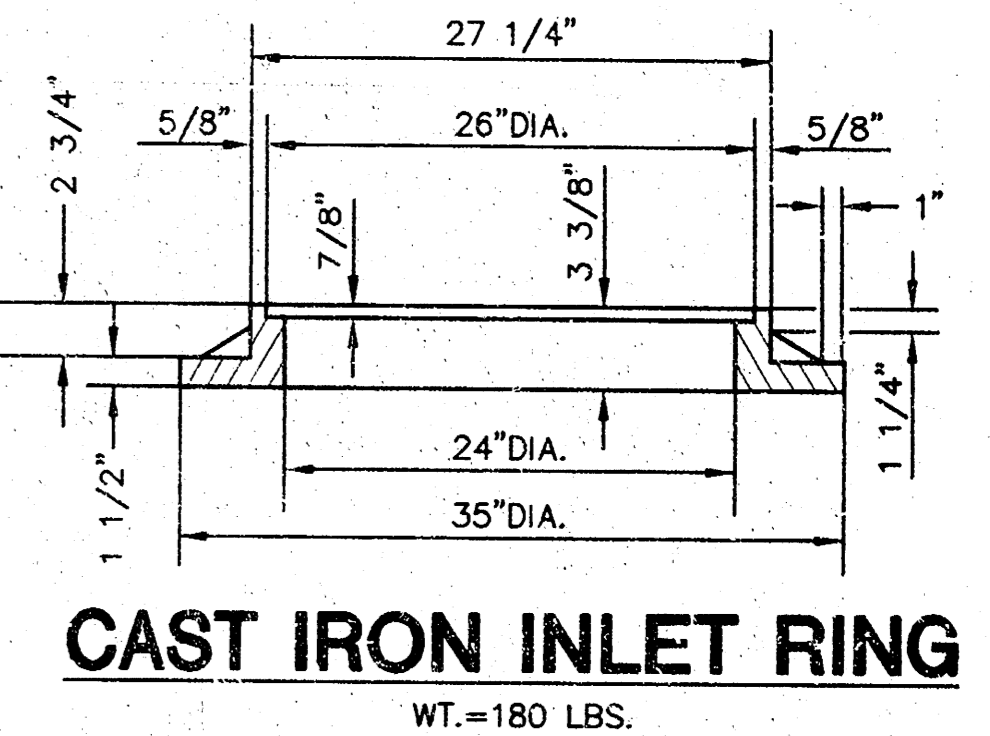
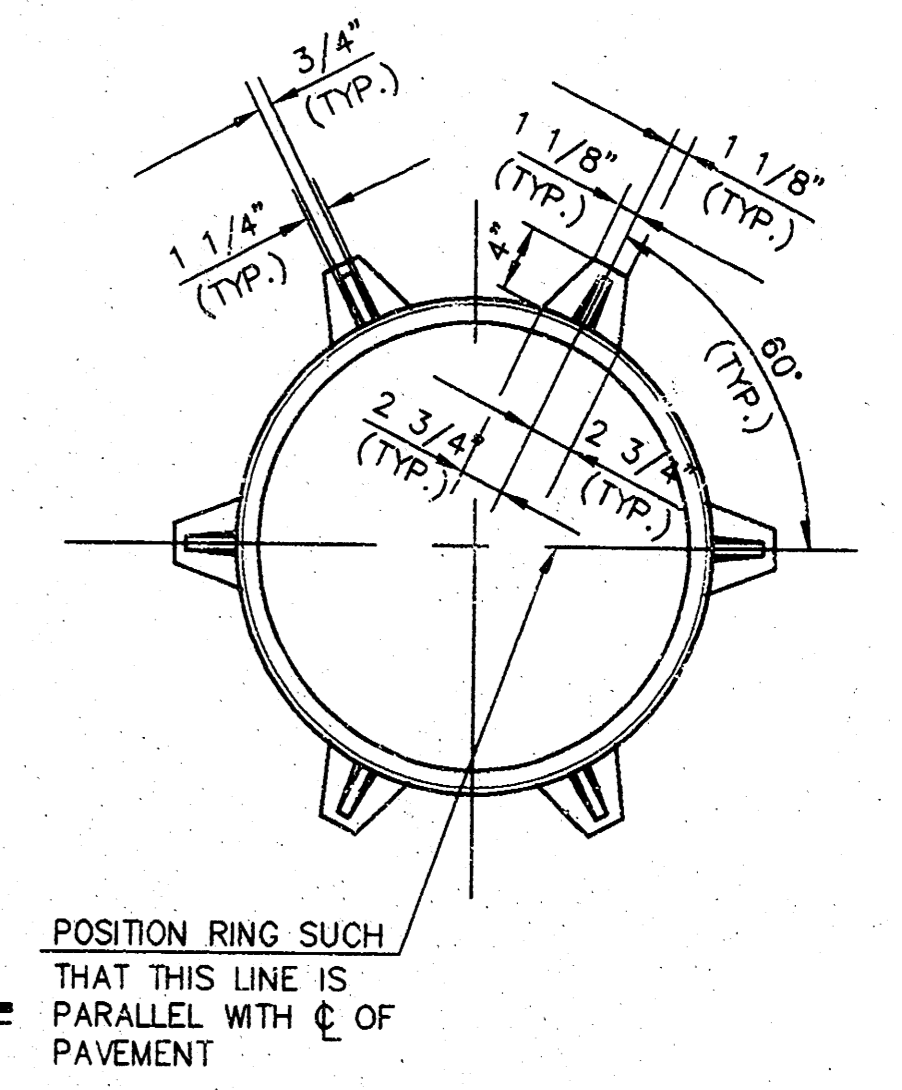
* A CENTER WALL OPENING SHALL BE PROVIDED BY MEANS OF A SECTION OF REINFORCED CONCRETE PIPE. SEE CASE I AND CASE II BELOW.



SECTION C-C GENERAL NOTES

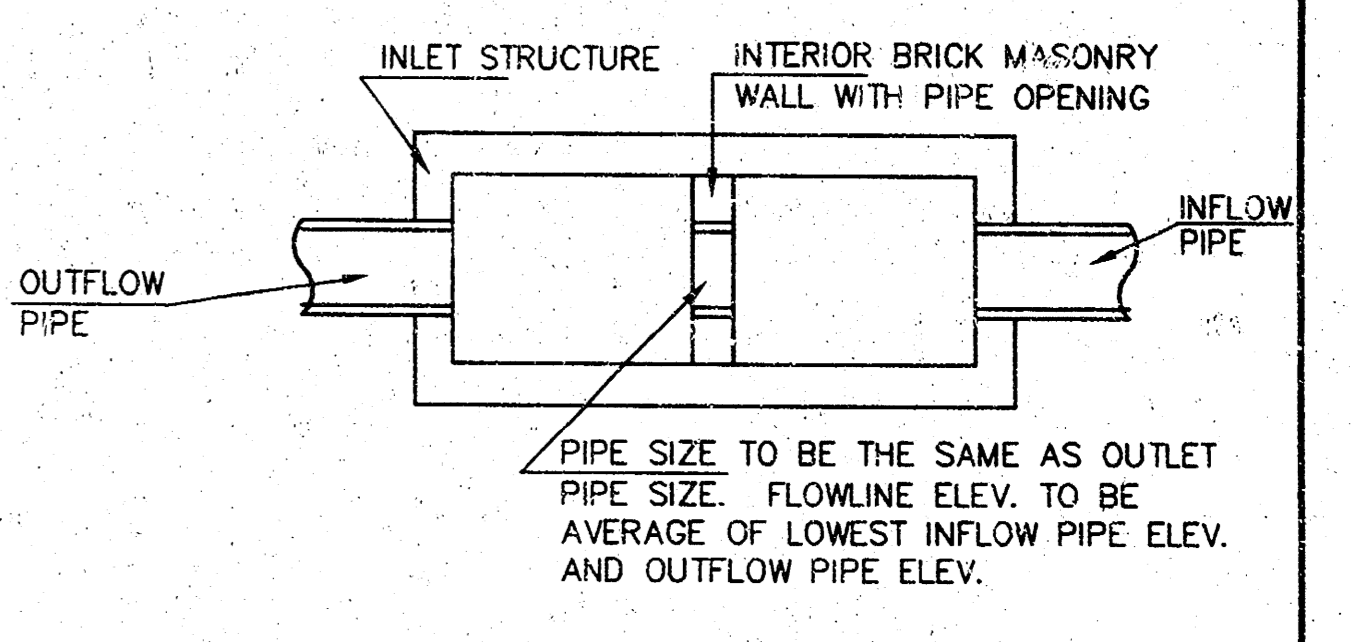
- THE CONTRACTOR SHALL BE REQUIRED TO CONSTRUCT 8" BRICK MASONRY WALLS BETWEEN THE CONCRETE INLET BASE AND TOP ON THIS INLET WHEN W=6'-4" OR LESS AND H=7'-0" OR LESS. WHEN W IS GREATER THAN 6'-4" AND H IS LESS THAN 7'-0", THE OUTSIDE INLET WALLS BELOW THE BRICK STACK SHALL BE REINFORCED CONCRETE CONSTRUCTION AND THE CENTER WALL SHALL BE OF MASONRY CONSTRUCTION AS SHOWN FOR THE MASONRY WALL OPTION.
- INLET INVERT SHALL BE SHAPED WITH 8 BAG 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.
- 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.
- INLET TOP REINFORCING SHALL BE SPACED ON 6" MAX. CENTERS. INLET LIDS SHALL BE NOTCHED OUT AS INDICATED TO FACILITATE CONSTRUCTION OF CURB. BARS IN INLET TOP TO BE FIELD BENT OR CUT TO CLEAR MANHOLE RING.
- THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.

STANDARD CURB INLET PRECAST TOPS			
W	PRE-CAST TOP SIZE	SIDE OR INTERIOR WALL PIPE SIZE	CU. YD. CONC.
4'-4"	3'-8"x11'-4"x7 1/2"	21" & SMALLER	0.83±
5'-4"	4'-8"x11'-4"x7 1/2"	24" & 30"	1.09±
6'-4"	5'-8"x11'-4"x7 1/2"	36" & 42"	1.35±
7'-4"	6'-8"x11'-4"x7 1/2"	48" & 54"	1.61±
8'-4"	7'-8"x11'-4"x7 1/2"	60" & 66"	1.87±

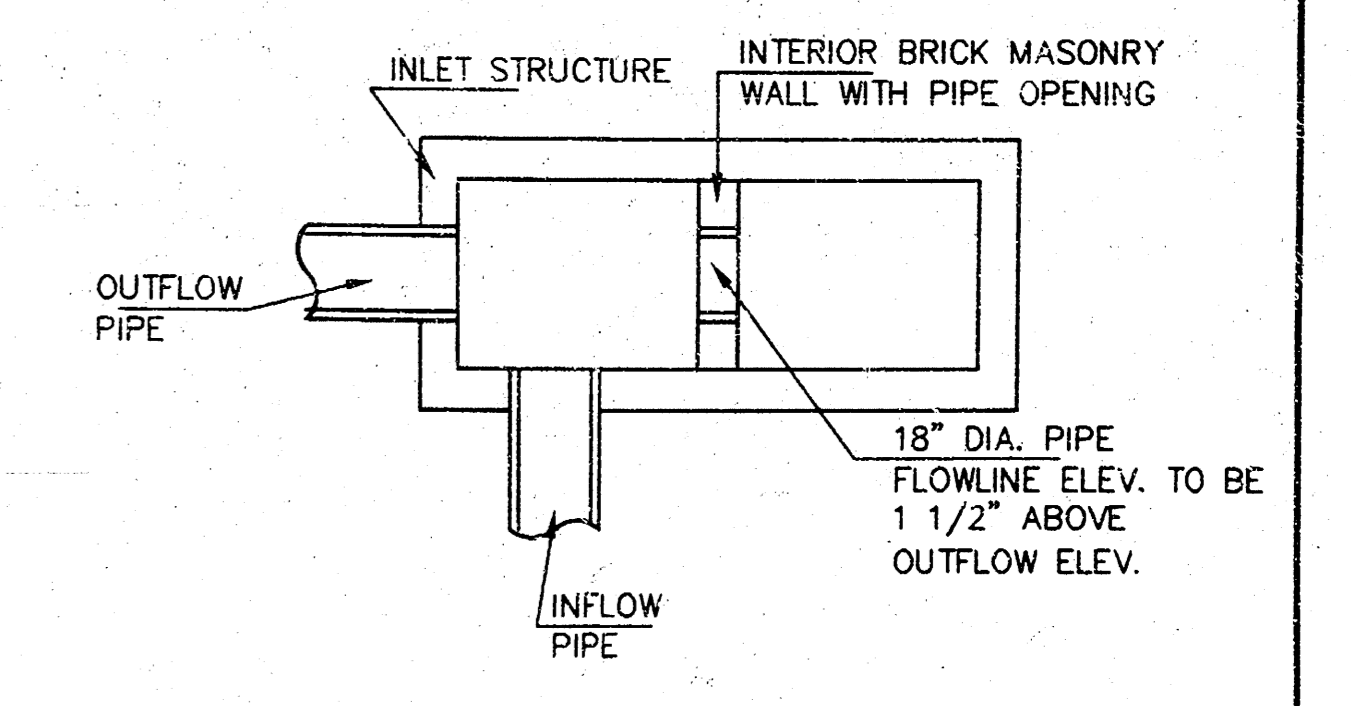


CAST IRON INLET RING
WT.=180 LBS.

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



CASE I



CASE II

NOTE: CENTER WALL PIPE SIZE SHALL BE AS SPECIFIED IN INLET CONSTRUCTION NOTE ON THE PLAN/PROFILE SHEETS FOR THOSE CASES NOT SHOWN HERE.

REVISED: 12-5-88 C.O.W.

STANDARD TYPE 1A CURB INLET
INLET OPENING=6"x10'-0"

NOV. 1984
CITY OF WICHITA, KANSAS

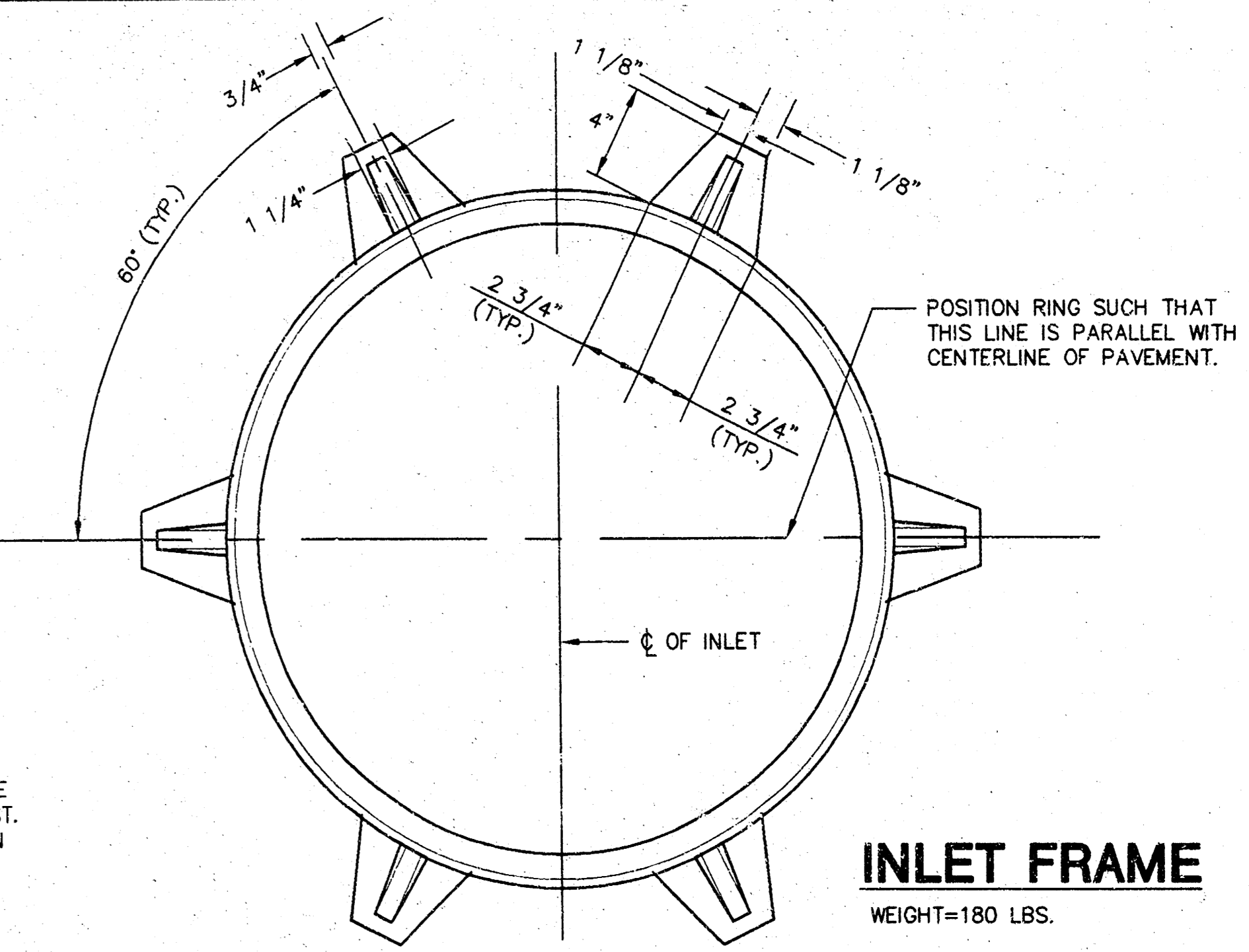
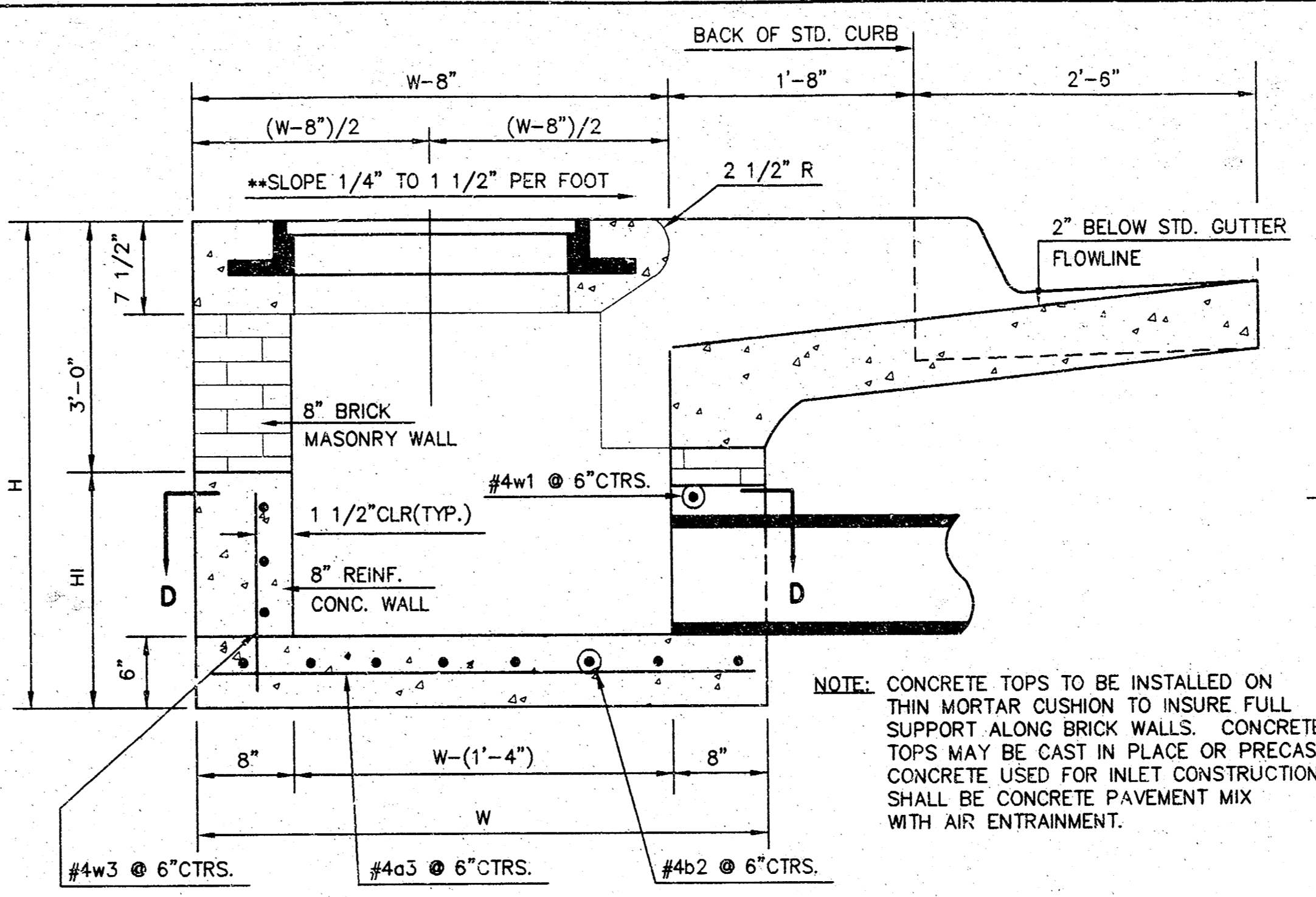
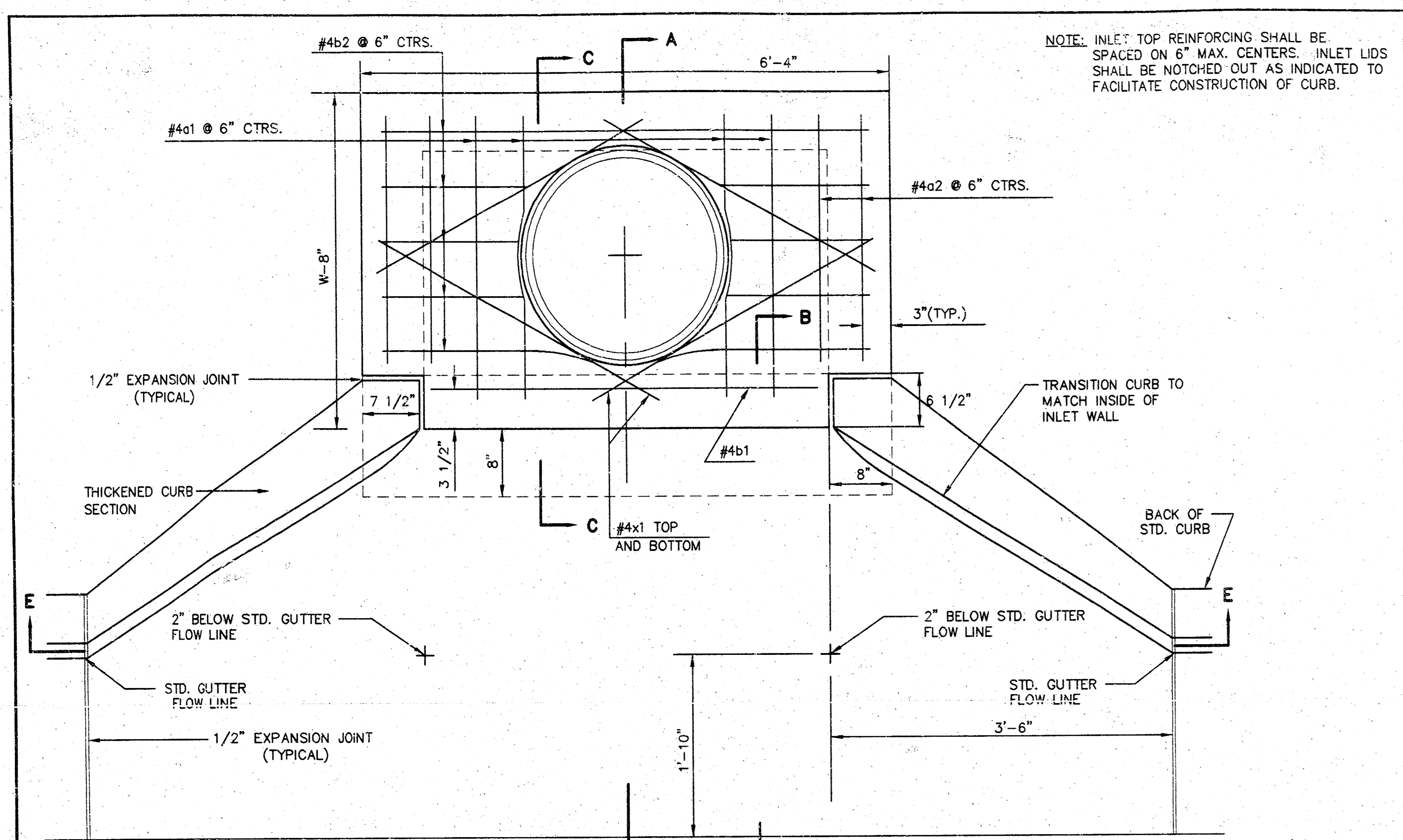
Design: BER	Checked by:	Checked by:
KIS	MWB	
Drawn by:	Date:	Date:
		Job No.:

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	NO.	LENGTH
a1	#4	13	6'-7 1/4"	13	8'-7 1/4"	13	10'-7 1/4"	13	12'-7 1/4"	13	14'-7 1/4"
a2	#4	2	6'-0"	2	8'-0"	2	10'-0"	2	12'-0"	2	14'-0"
a3	#4	20	4'-1"	20	5'-1"	20	6'-1"	20	7'-1"	20	8'-1"
b1	#4	1	9'-8"	1	9'-8"	1	9'-8"	1	9'-8"	1	9'-8"
b2	#4	18	11'-1"	24	11'-1"	30	11'-1"	36	11'-1"	42	11'-1"

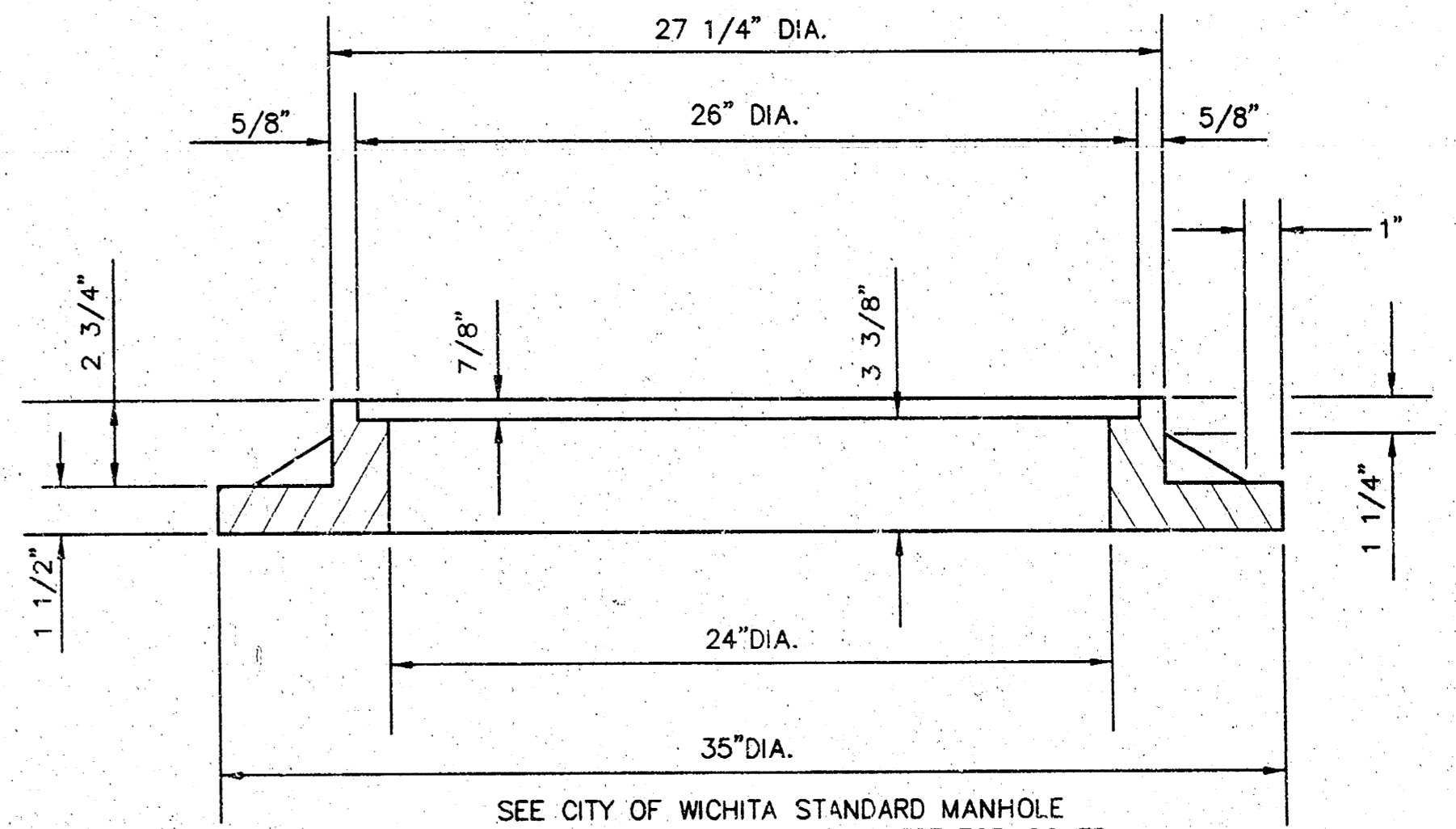
WALL REINFORCING											
		W=4'-4"		W=5'-4"		W=6'-4"		W=7'-4"		W=8'-4"	
MARK	SIZE	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
c1	#6	4	6'-1"	4	7'-1"	4	8'-1"	4	9'-1"	4	10'-1"
w1	#4	①	11'-1"	①	11'-1"	①	11'-1"	①	11'-1"	①	11'-1"
w2	#4	①	4'-1"	①	5'-1"	①	6'-1"	①	7'-1"	①	8'-1"
w3	#4	②	③	②	③	②	③	②	③	②	③

* FIELD BEND OR CUT REINFORCING AS REQUIRED FOR CLEARANCE
① 4(HI-6")+4 (HI-6") ROUNDED DOWN TO NEAREST 0.5"
② 40+4(W-16")
③ H1+(9")

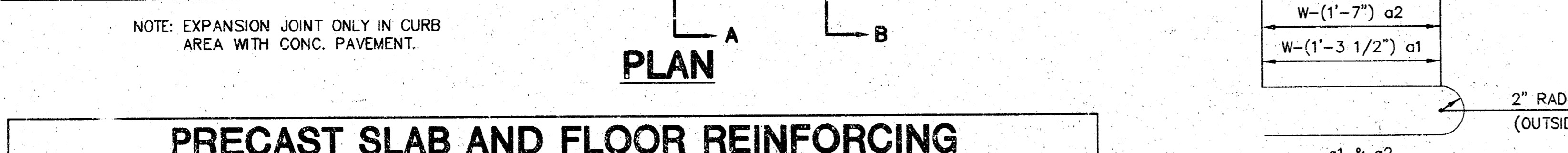
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SECTION A-A



INLET FRAME
WEIGHT=180 LBS.



BENDING DIAGRAM

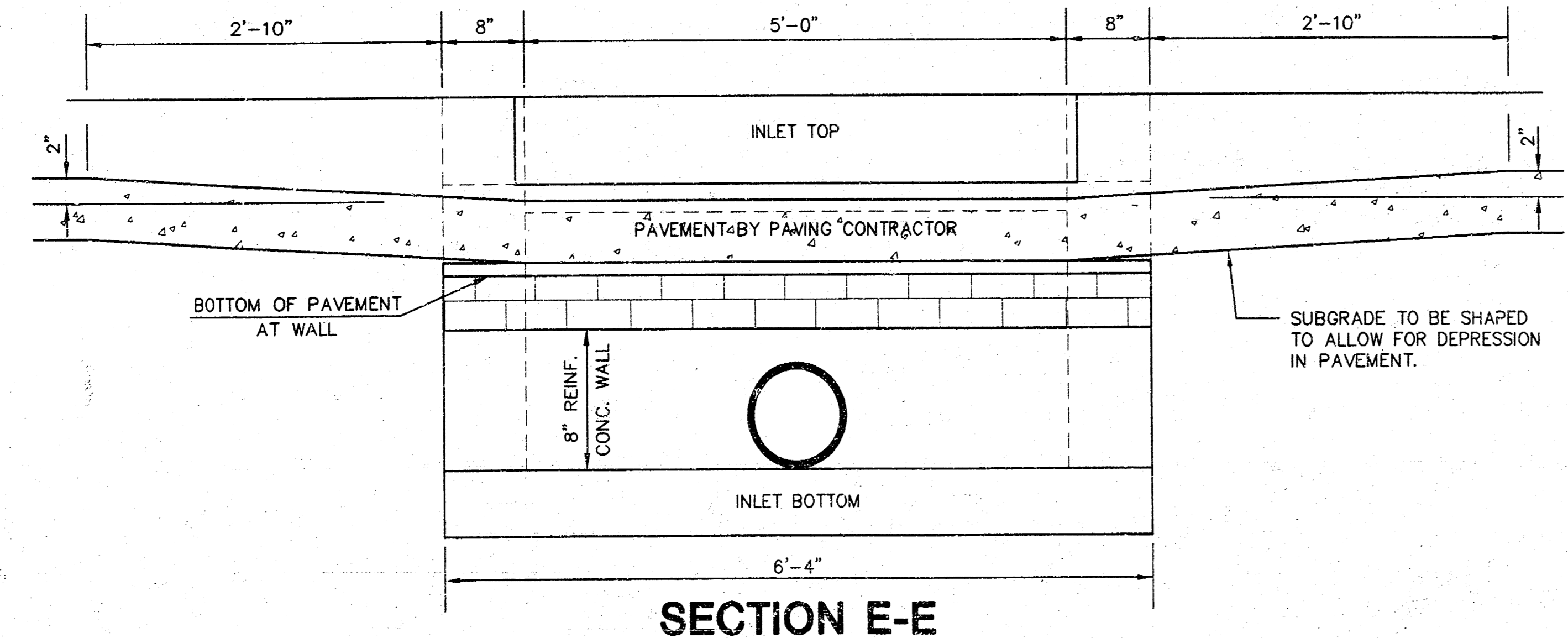
PRECAST SLAB AND FLOOR REINFORCING

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	4	6'-7"	4	8'-7"	6	10'-7"	8	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	6'-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

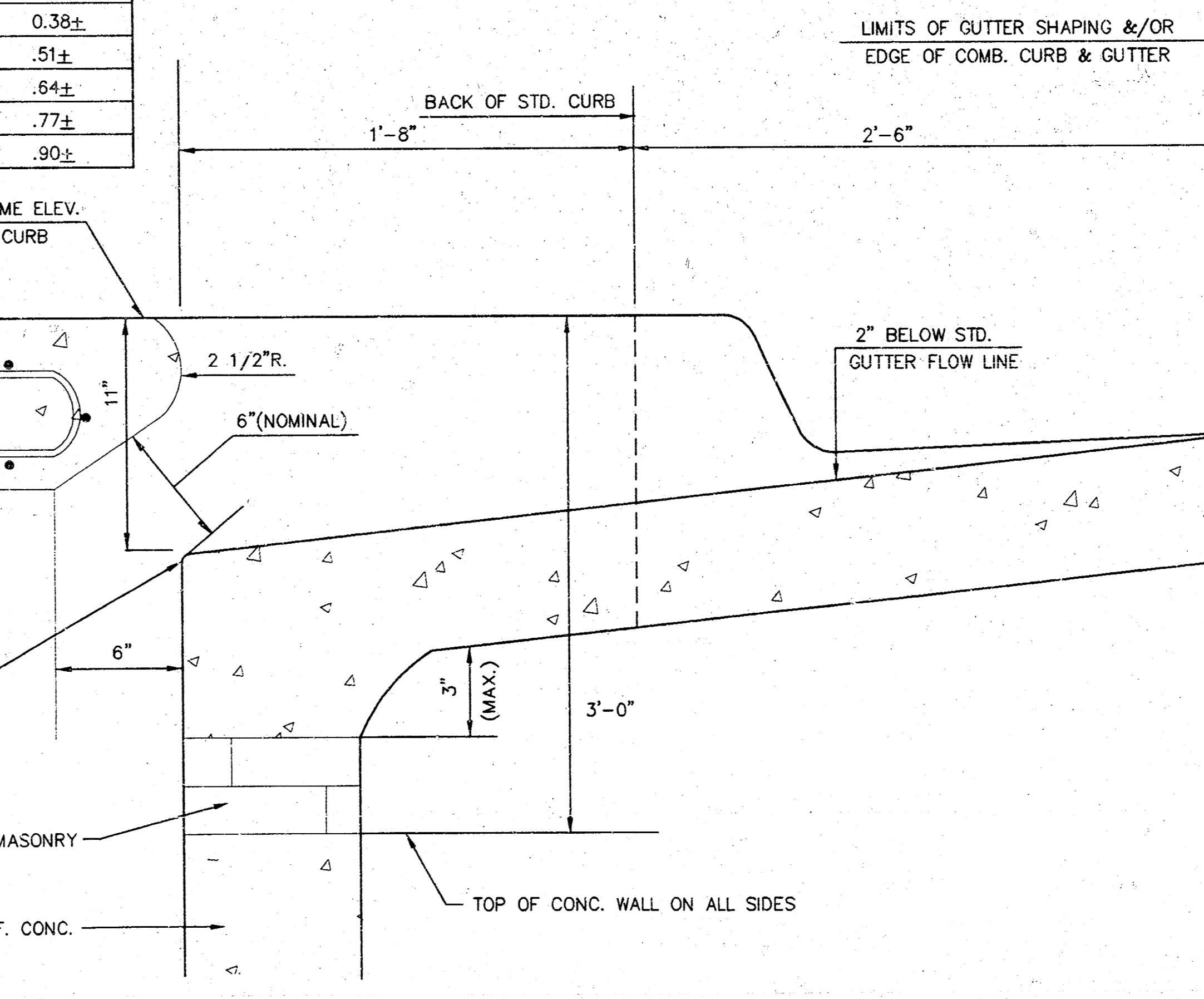
* FIELD BEND OR CUT REINFORCING AS REQUIRED FOR CLEARANCE
 ① 4(HI-12"); (HI-12") ROUND DOWN TO NEAREST 0.5"
 ② HI-3"



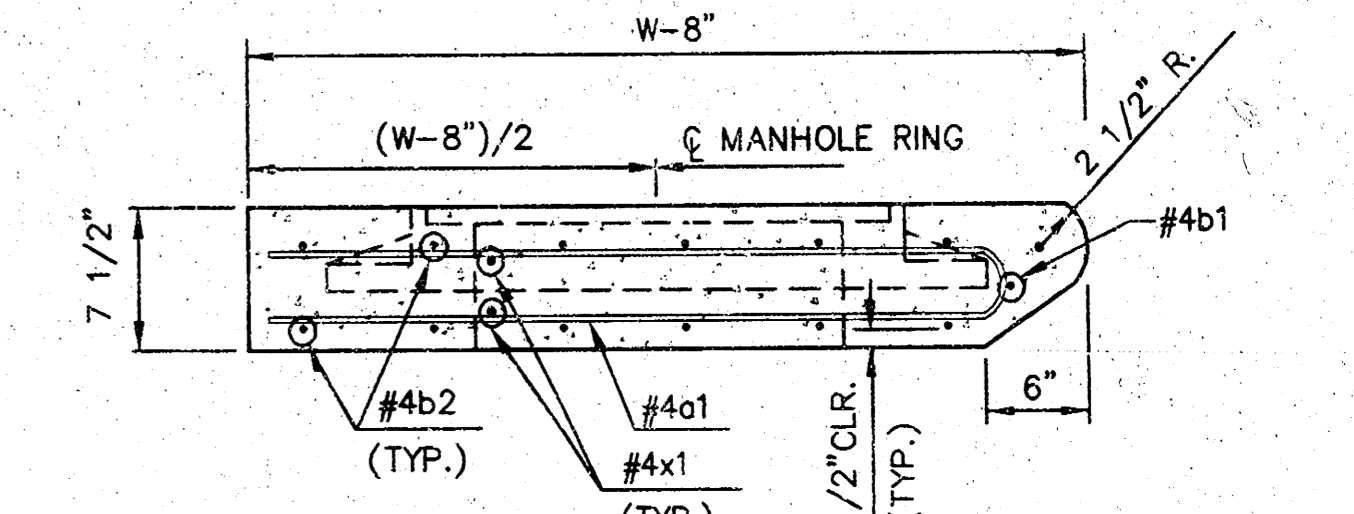
SECTION E-E

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 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.

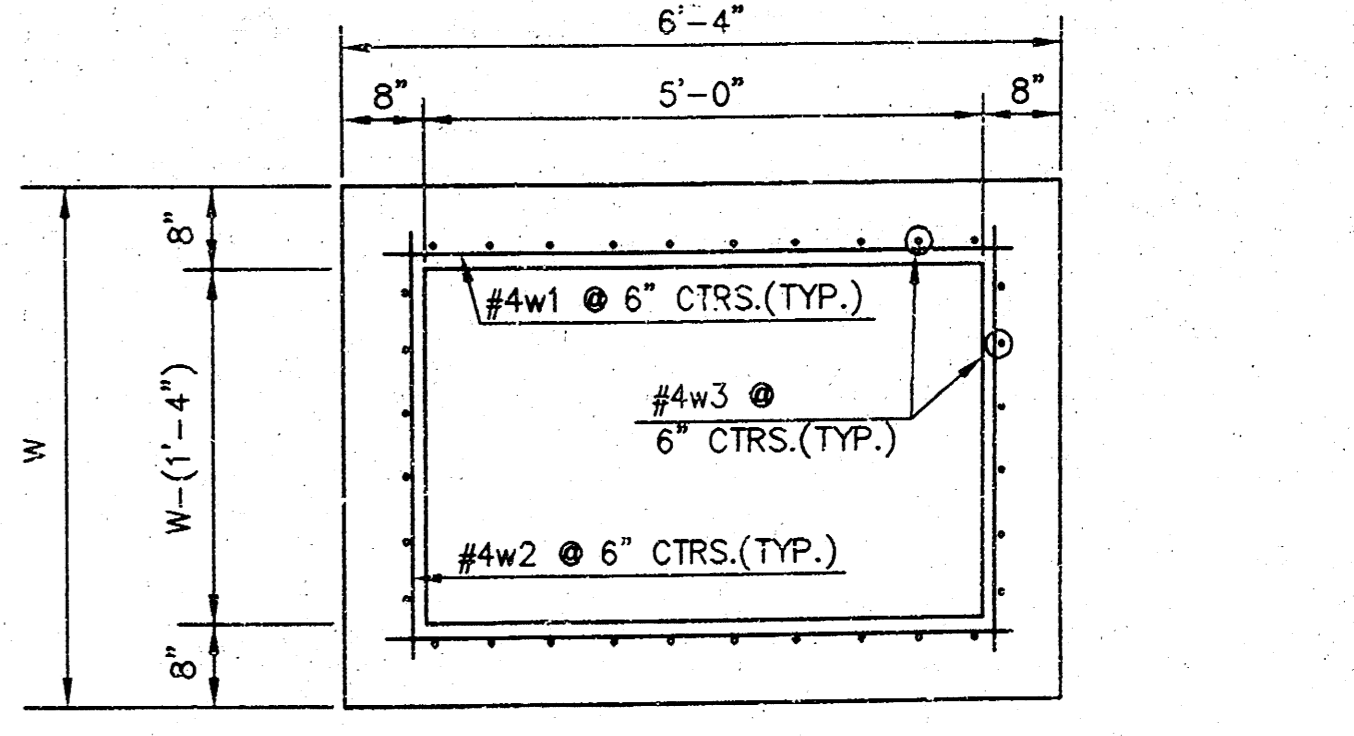
NOTE: SLOPE OF INLET TOPS TO MATCH SIDEWALK OR PARKING SLOPES WITHIN LIMITS INDICATED.



SECTION B-B



SECTION C-C



SECTION D-D

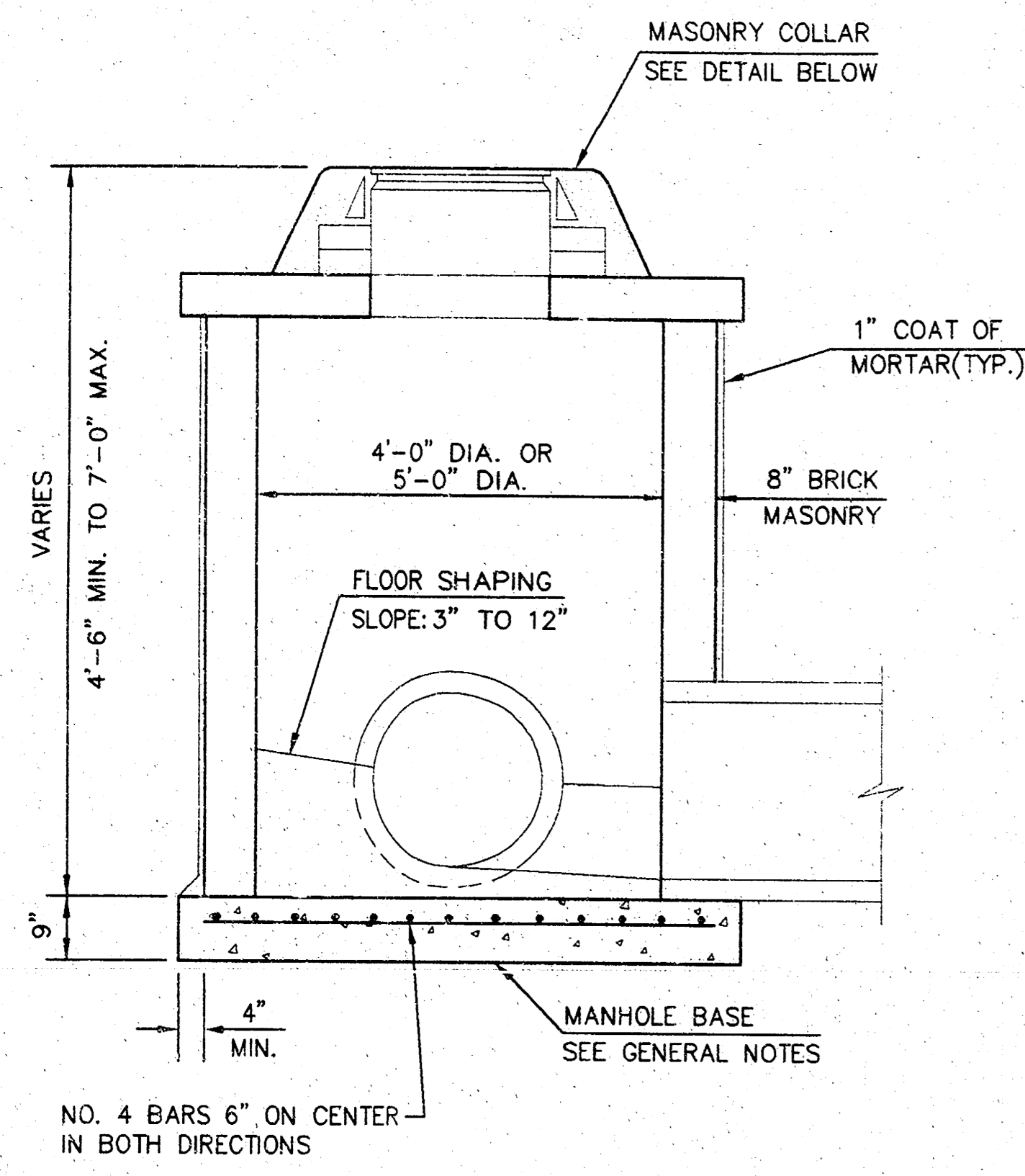
REVISED: 2-16-89 C.O.W.

STANDARD TYPE 1A CURB INLET
 INLET OPENING=6"x5'-0"

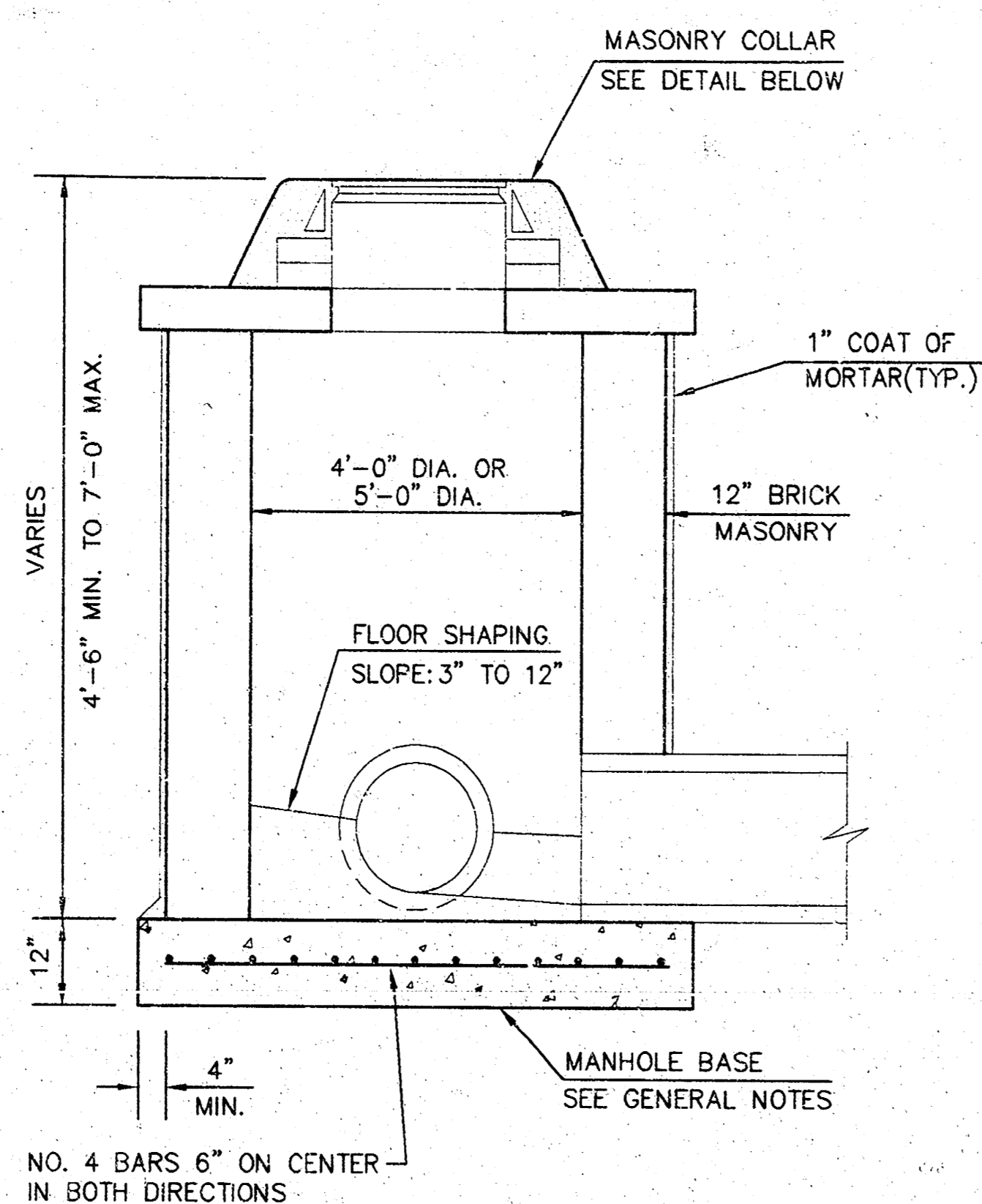
JUNE 1984
 CITY OF WICHITA, KANSAS

Design C.O.W.	Checked by	Checked by	
Drawn by	Date	Date	Job No.

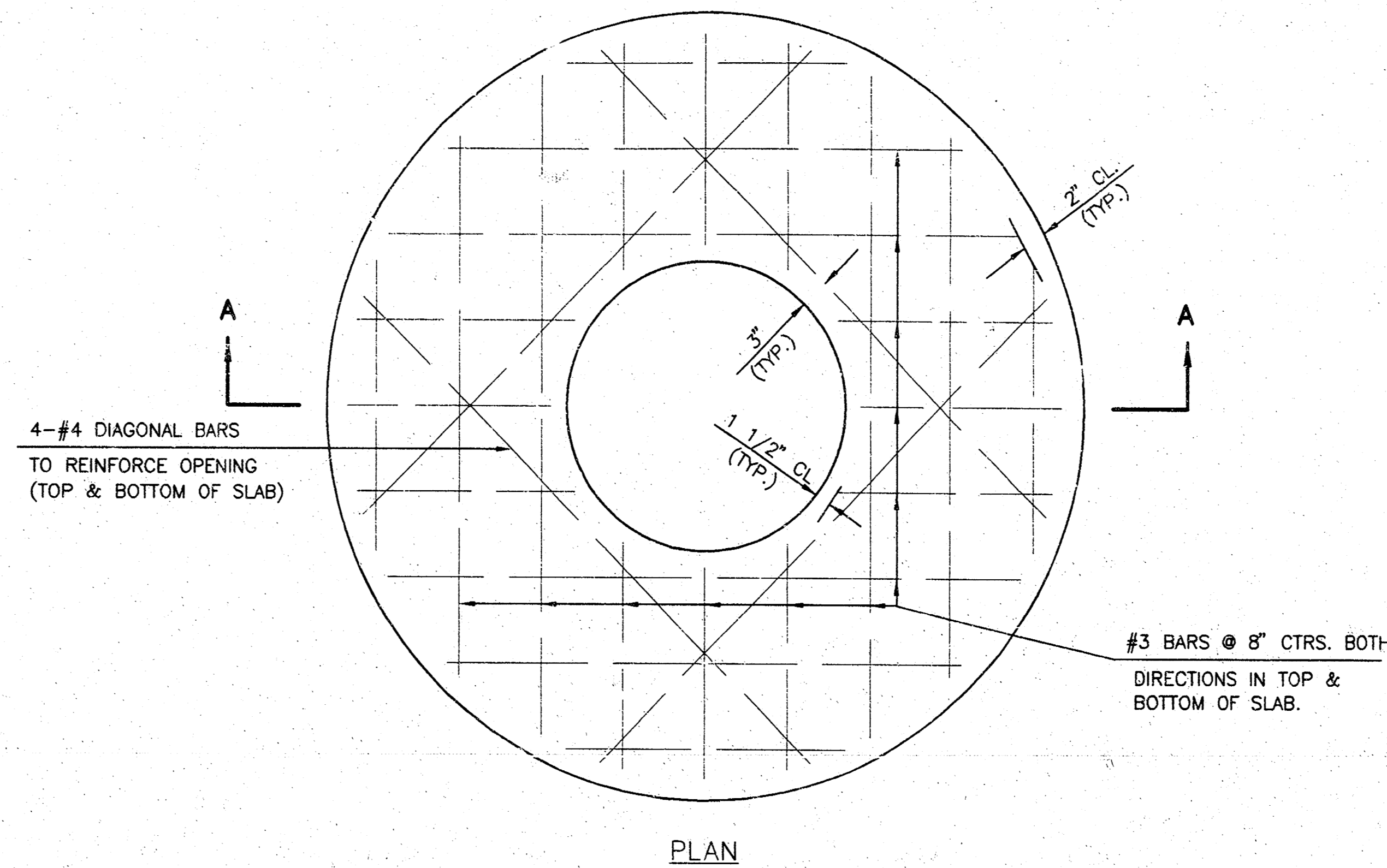
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SHALLOW TYPE "A" MANHOLE



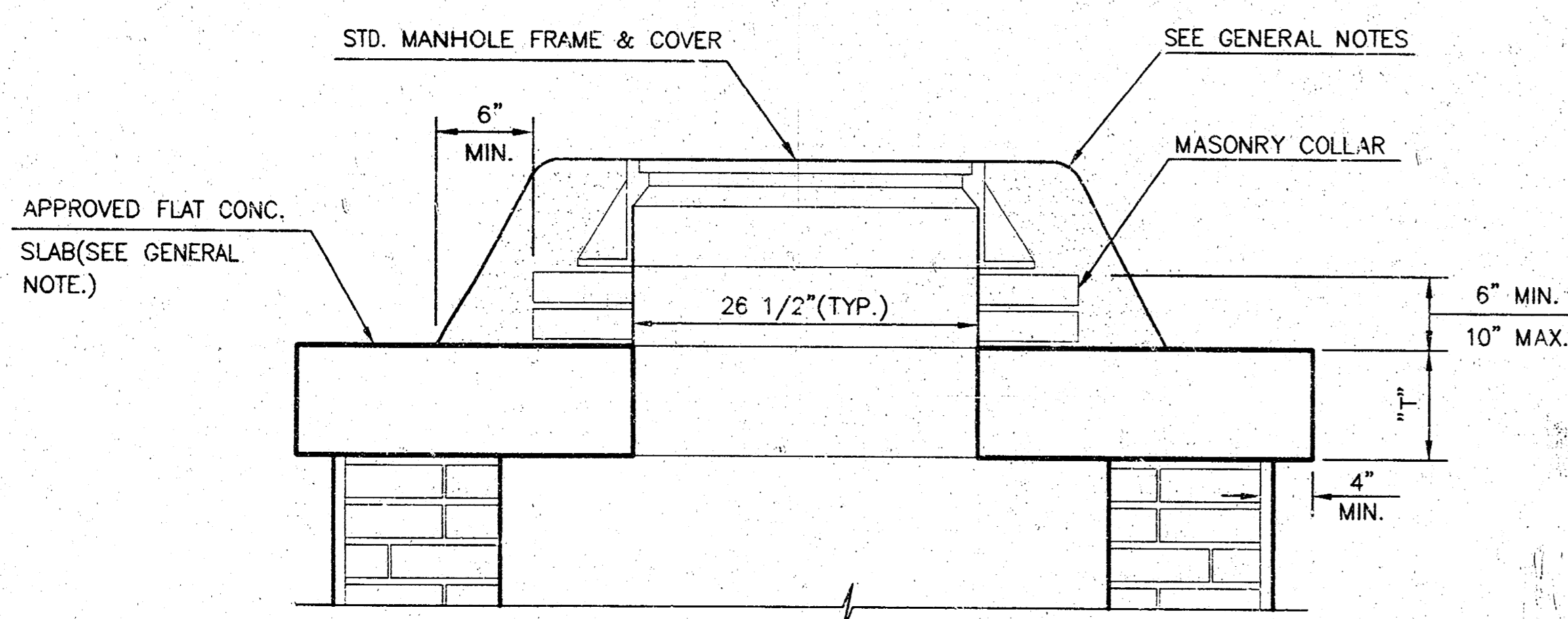
SHALLOW TYPE "B" MANHOLE



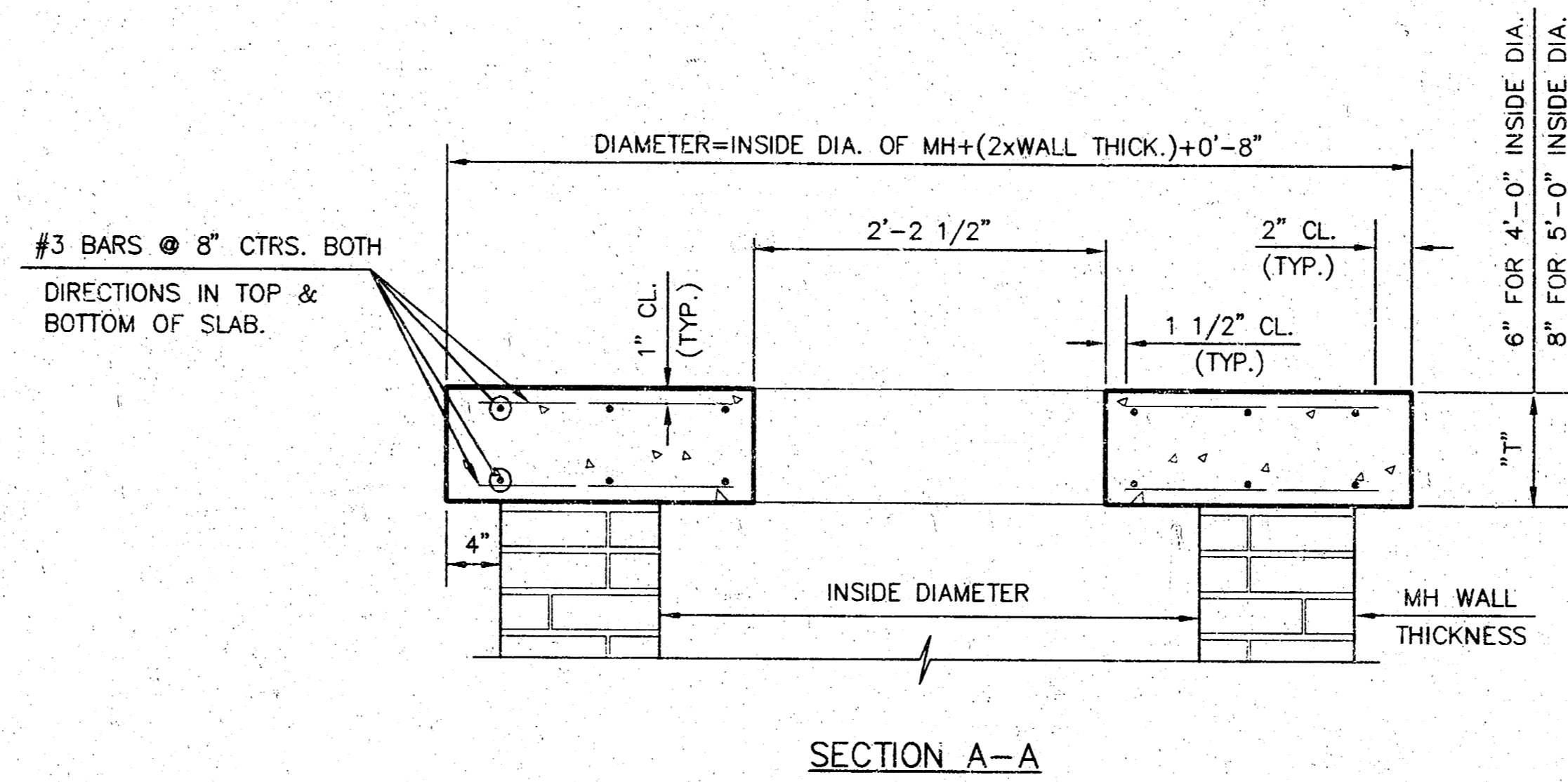
PLAN

GENERAL NOTES

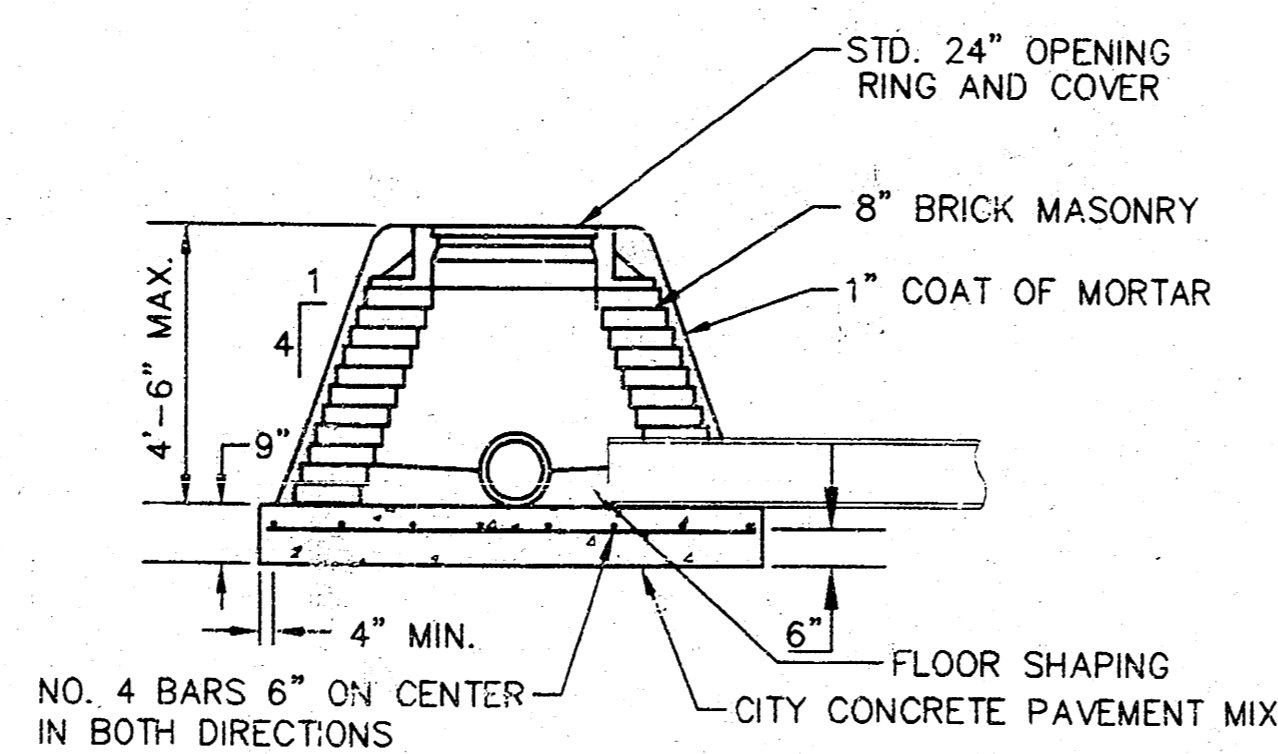
- MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE CEMENT MIX WITHOUT AIR ENTRAINING 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 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 CRADLE 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 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.



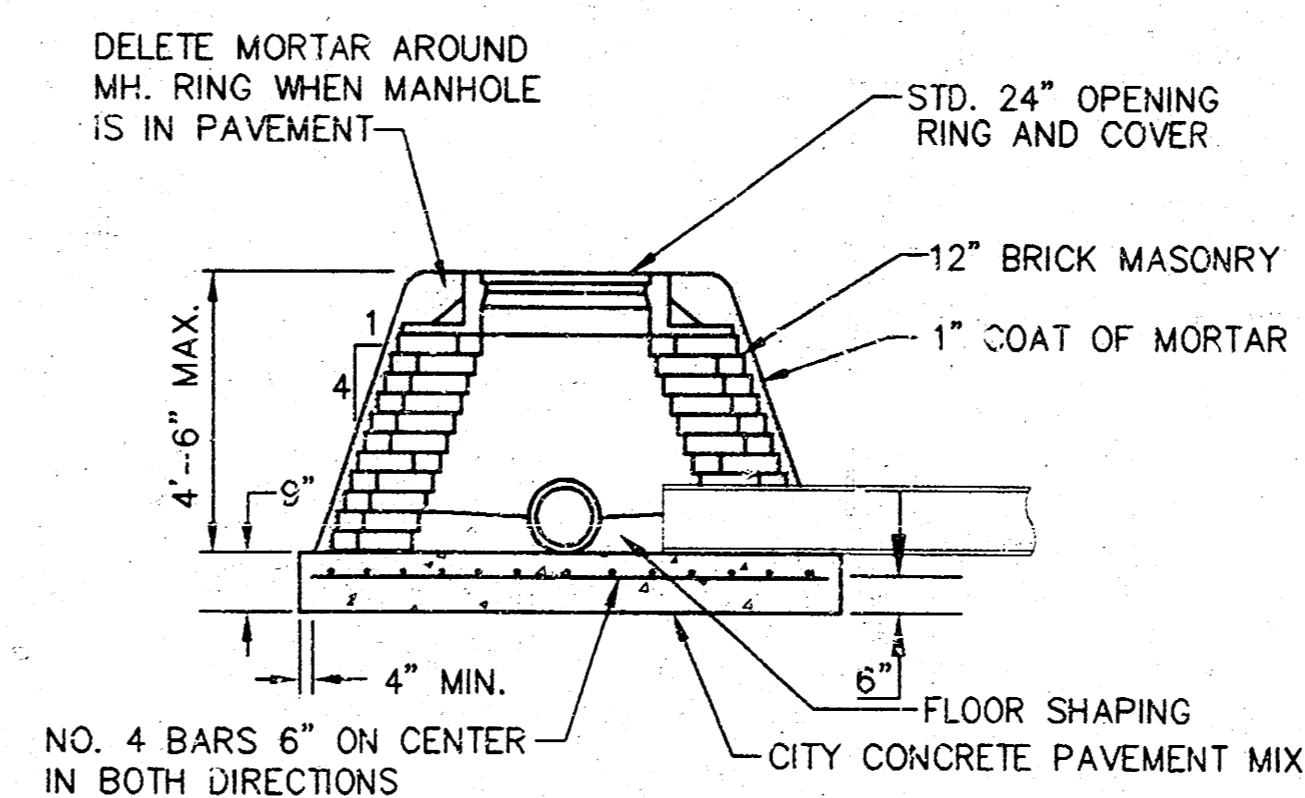
MASONRY COLLAR DETAIL



FLAT CONCRETE SLAB DETAILS



SPECIAL SHALLOW TYPE "A" MANHOLE



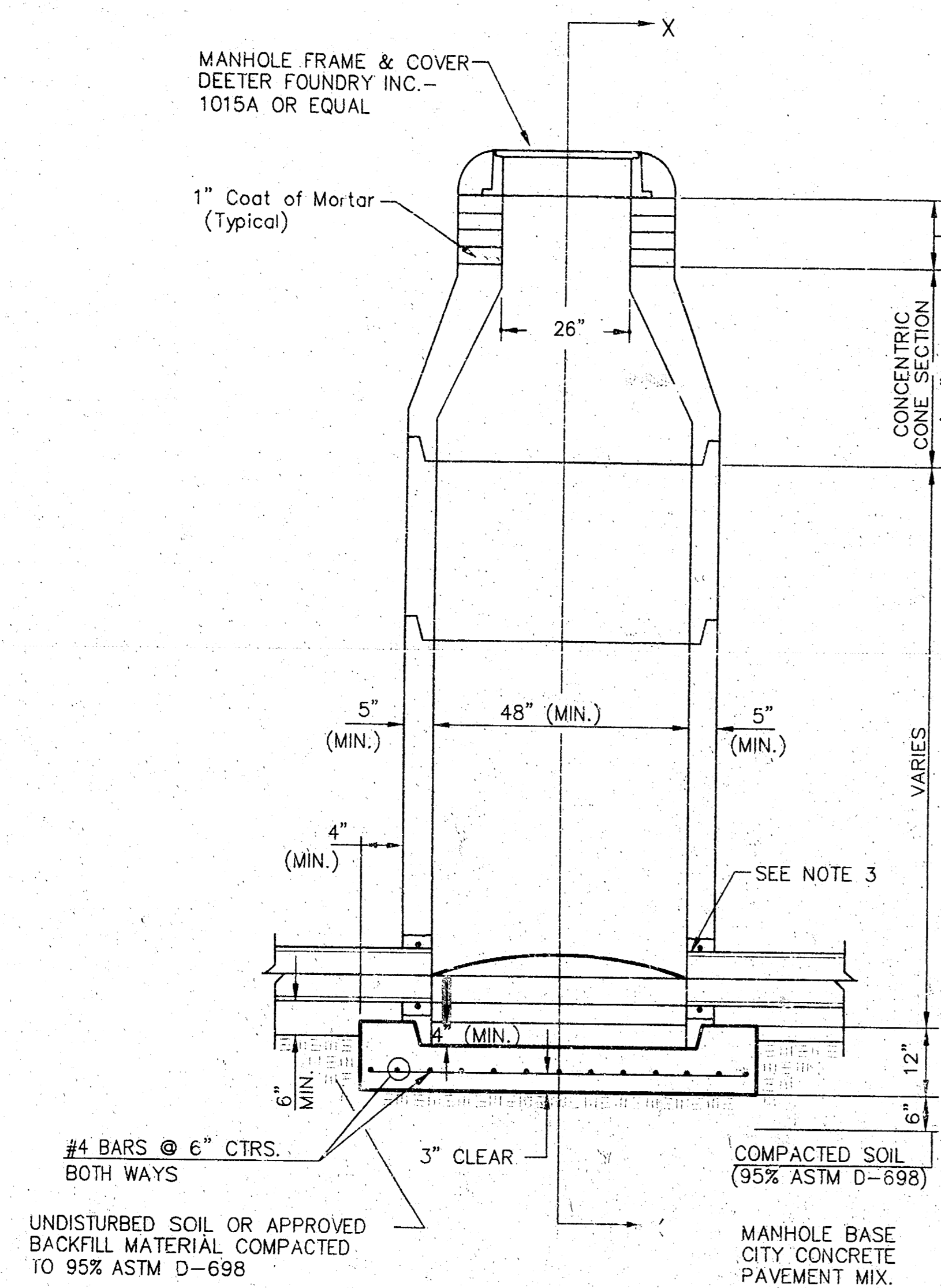
SPECIAL SHALLOW TYPE "B" MANHOLE

STANDARD SHALLOW MANHOLES TYPE "A" AND TYPE "B"

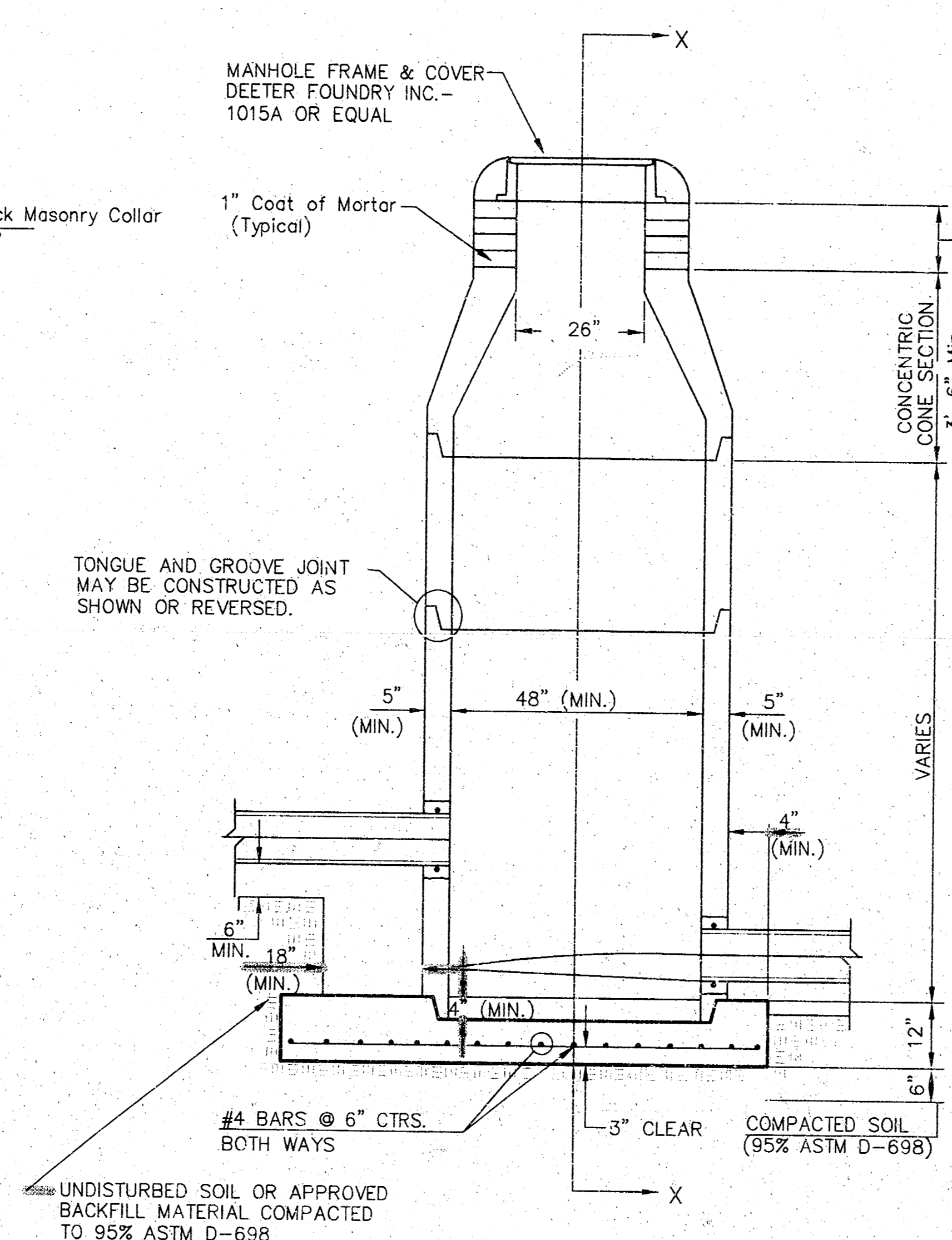
CITY OF WICHITA, KANSAS

Design	C.O.W.	Checked by	Checked by
Drawn by	Date	Date	Job No.

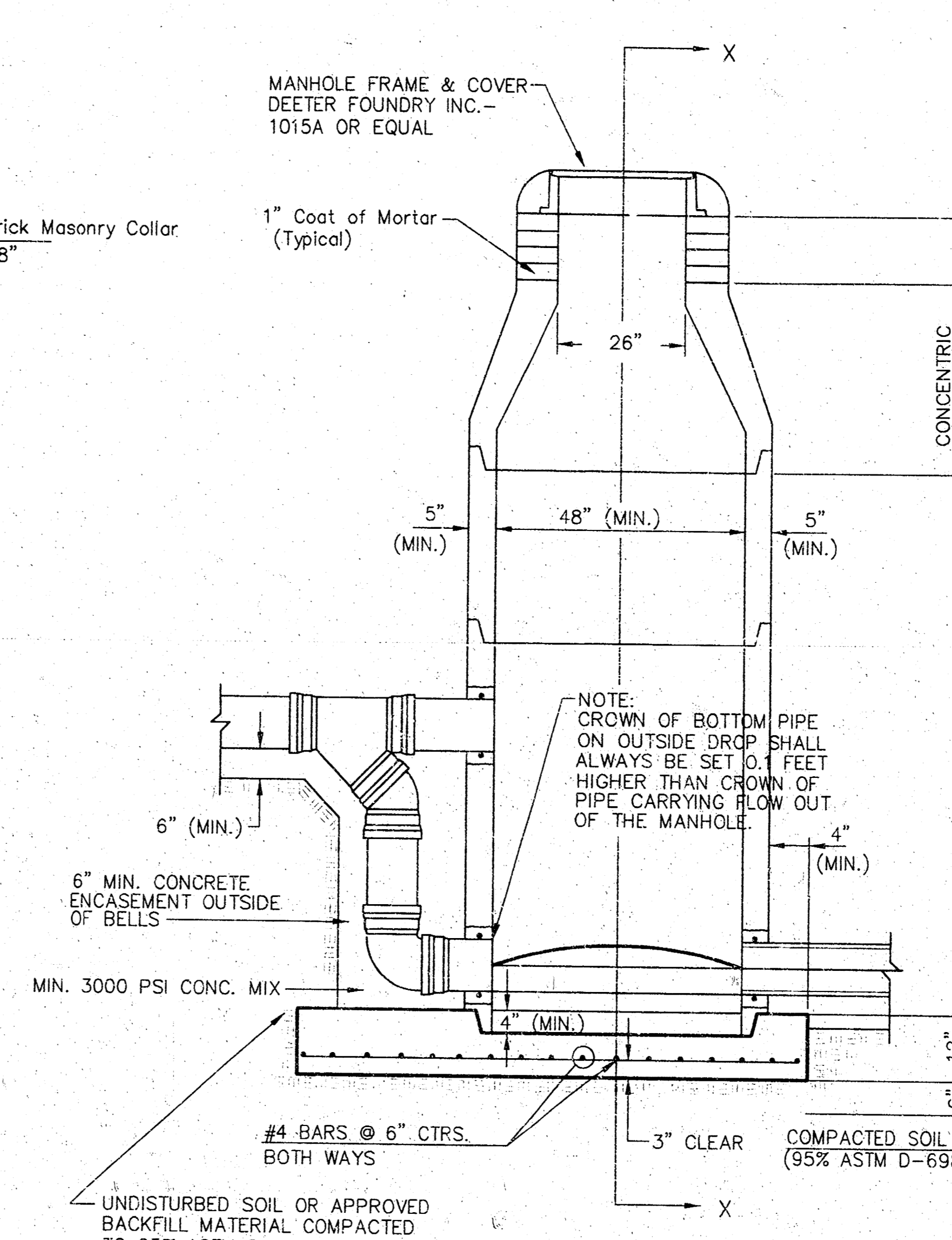
SEWER APPURTENANCES DETAILS



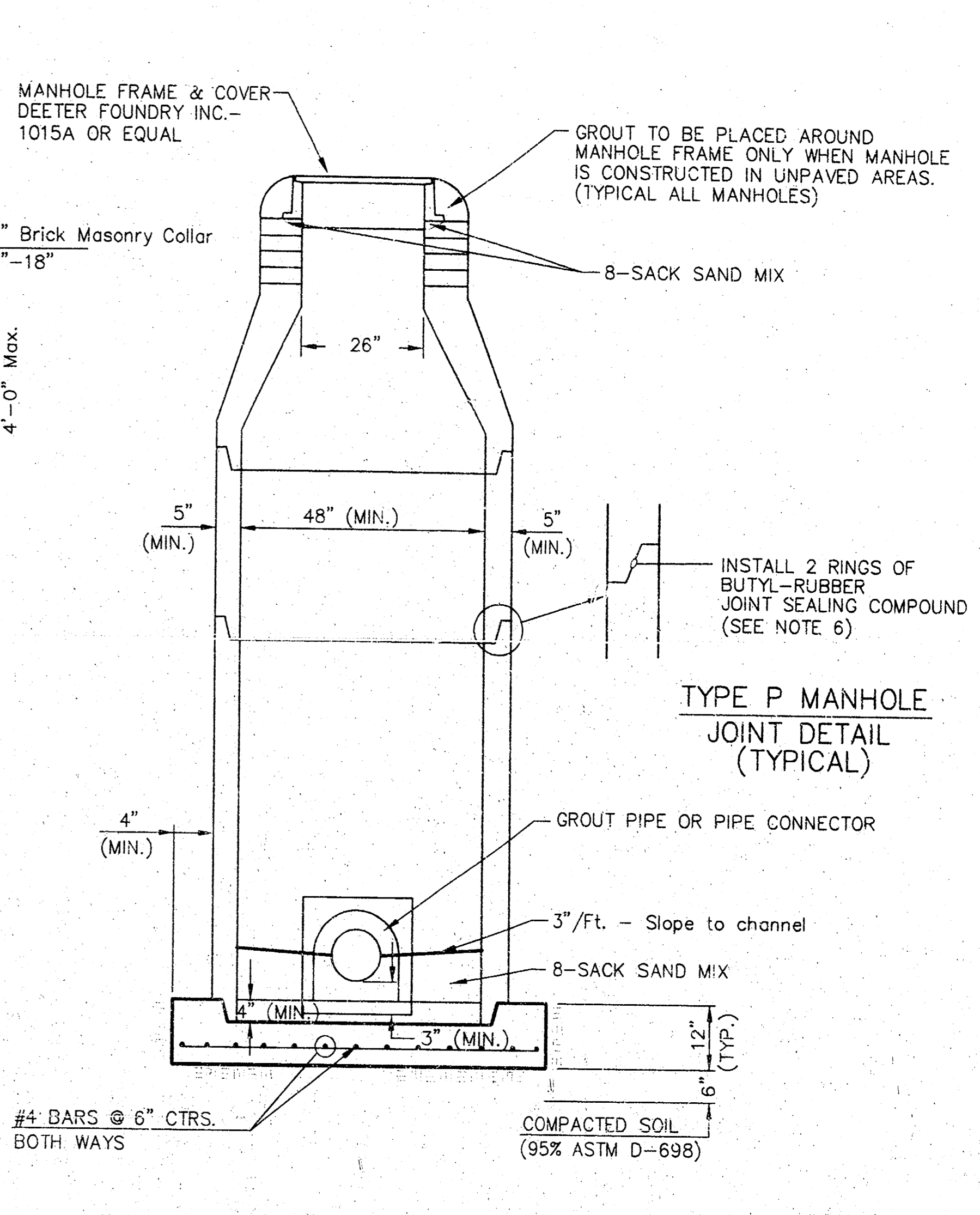
**TYPE P
STANDARD MANHOLE**



**TYPE P
INSIDE DROP MANHOLE**



**TYPE P
OUTSIDE DROP MANHOLE**



**SECTION X
(TYPICAL)**

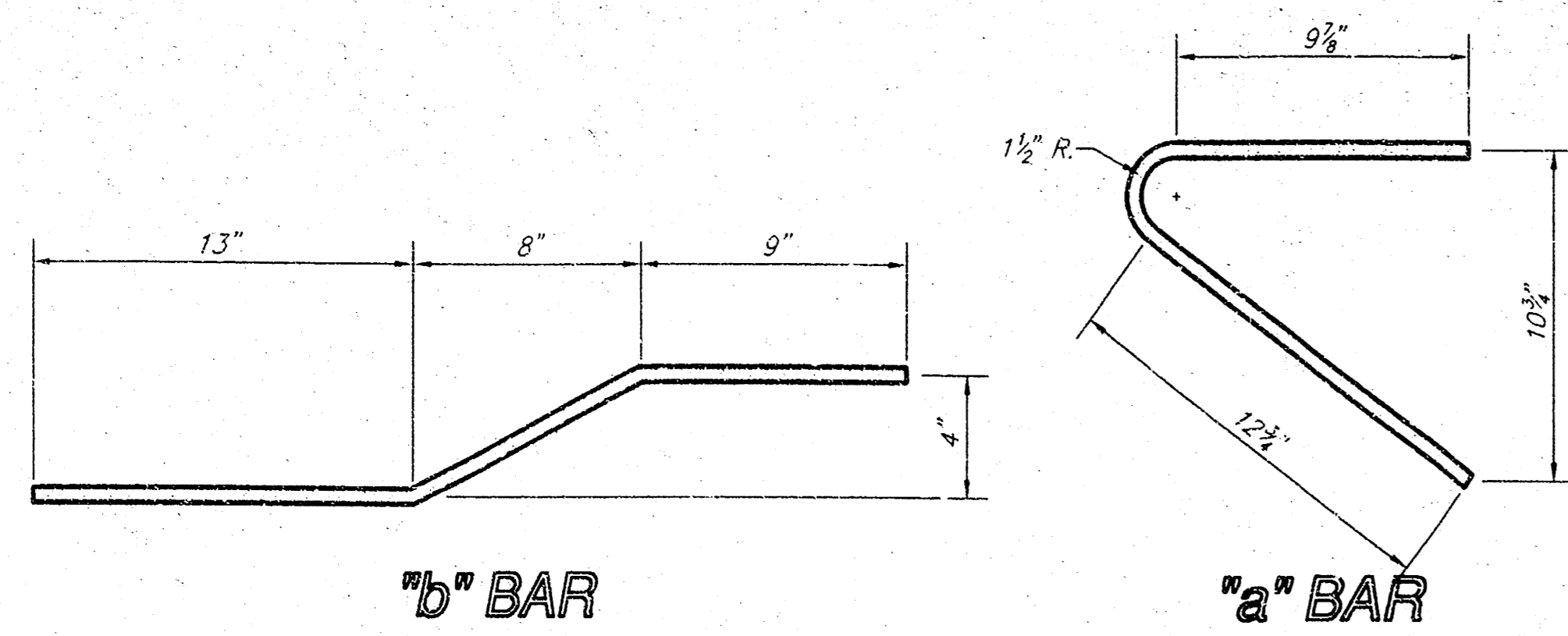
GENERAL NOTES
PRECAST MANHOLE NOTES

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 GROUTED 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 INEMEC SERIES 66 HI-BUILD EPOXYLINE, DRY THICKNESS OF 8 MILS (MIN.).
5. EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINOUS COATING.
6. JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUAL.
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.

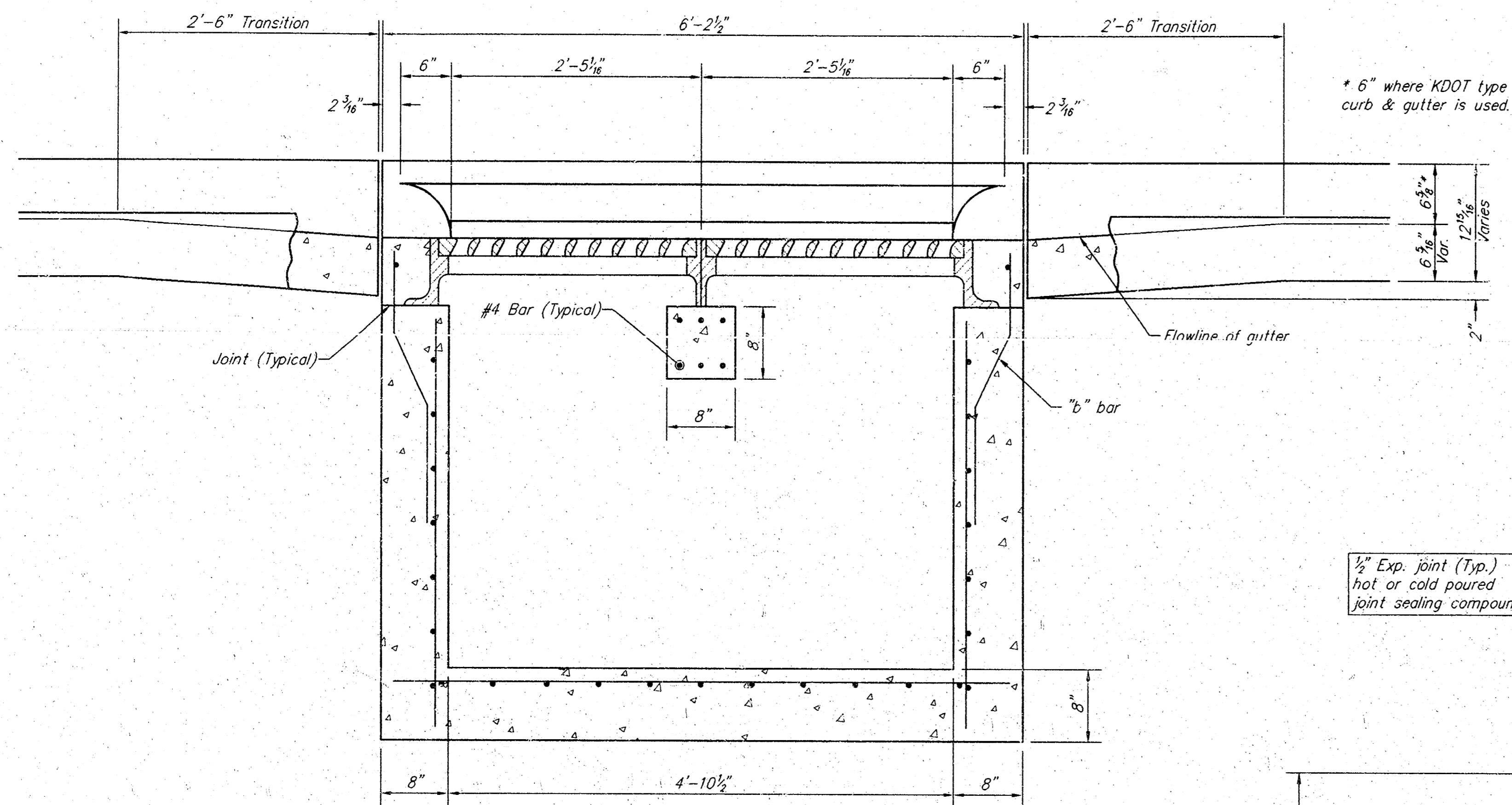
11. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED AT LEAST 3" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED 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 GROUTING 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 GROUTED 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 GRADED 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.

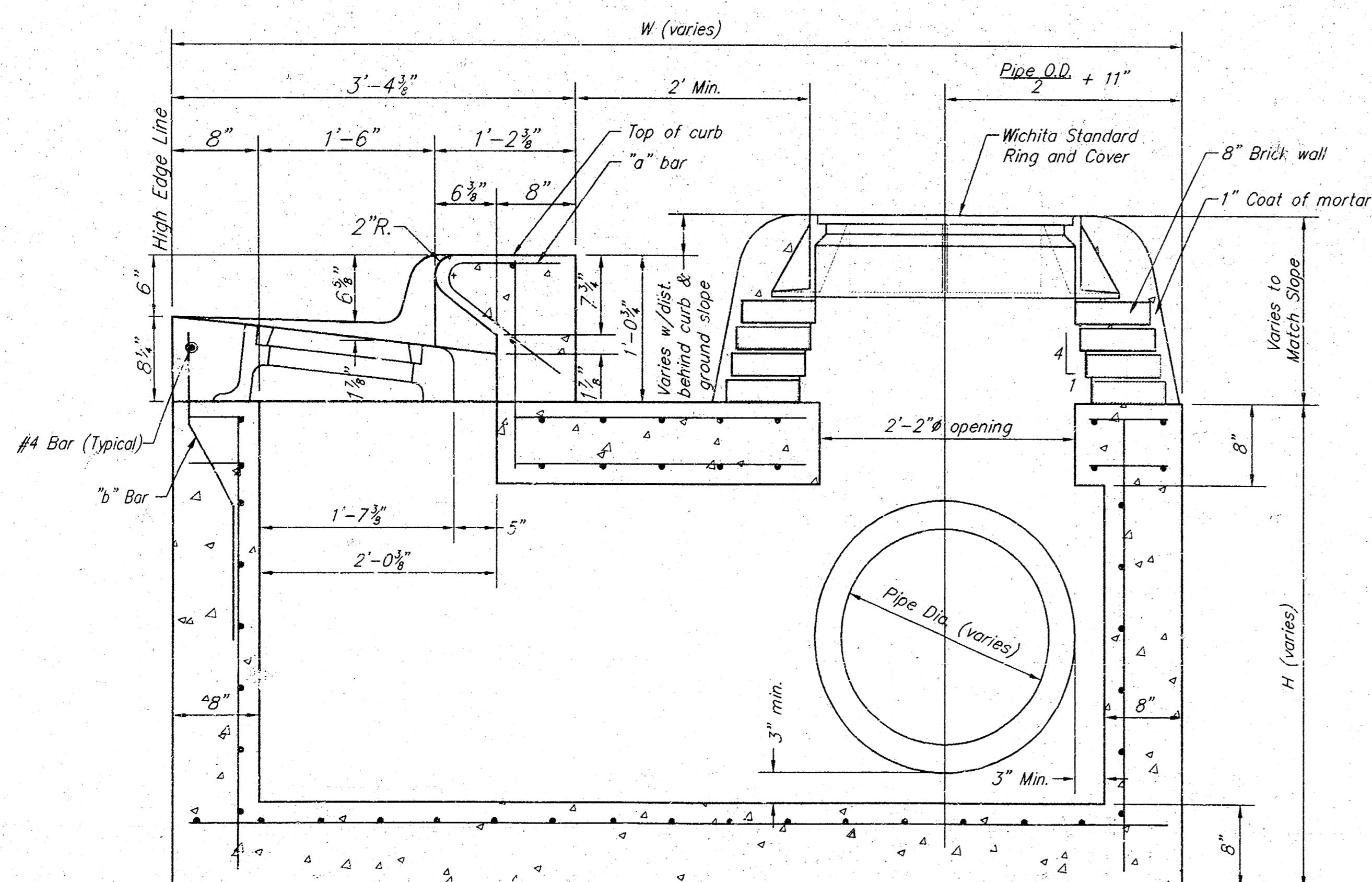
STANDARD MANHOLE DETAILS
SEWER APPURTENANCES DETAILS
CITY OF WICHITA, KANSAS



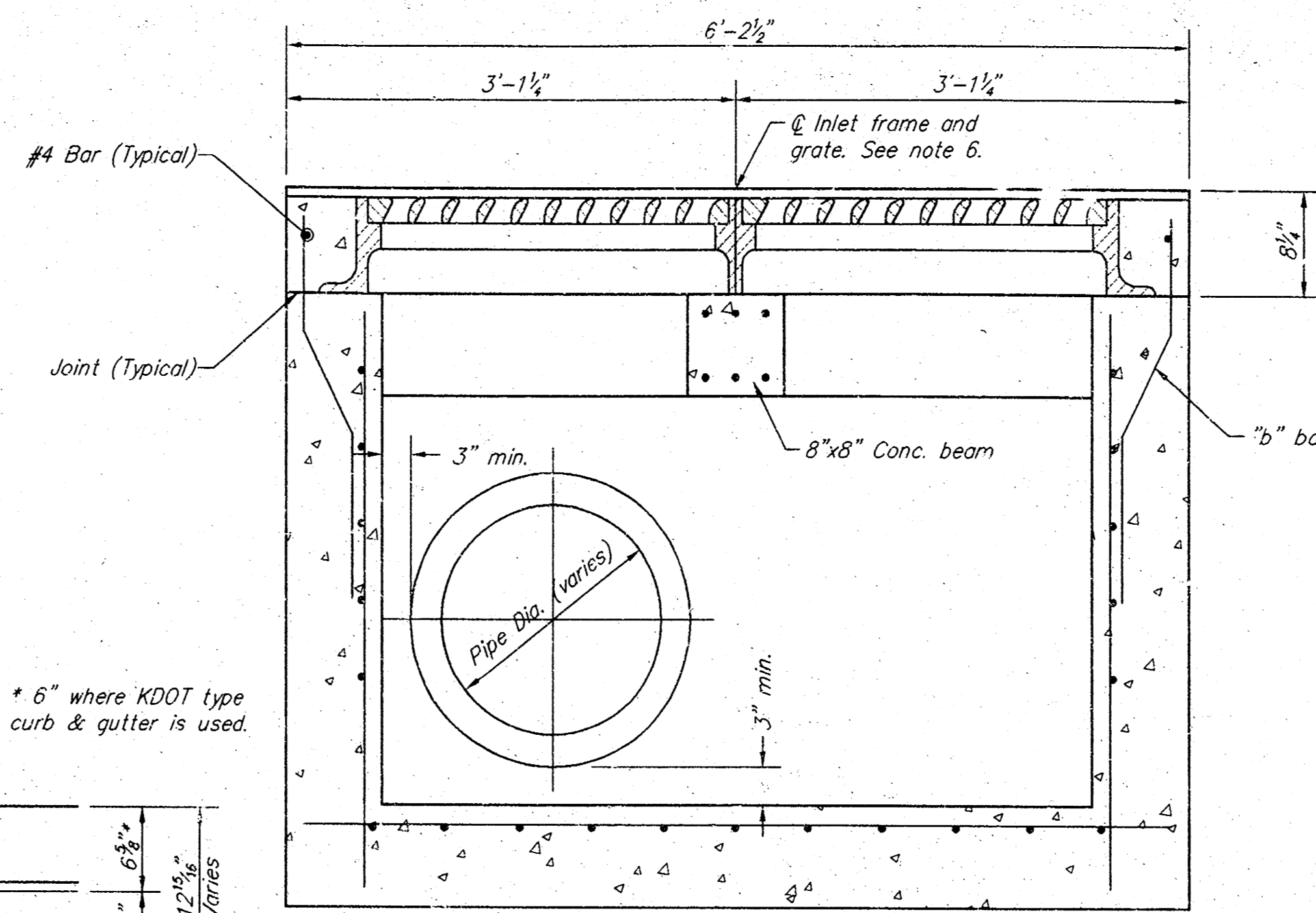
"b" BAR
"a" BAR
BENDING DIAGRAM



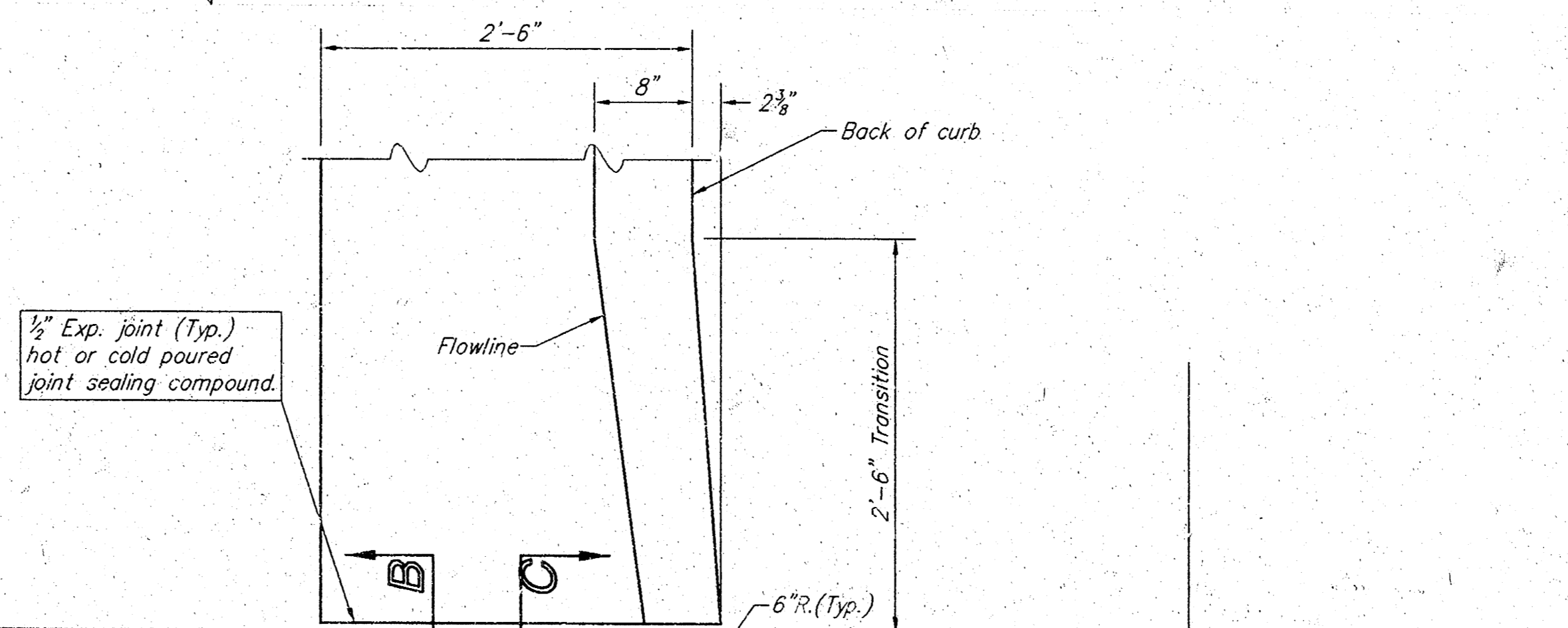
SECTION C-C



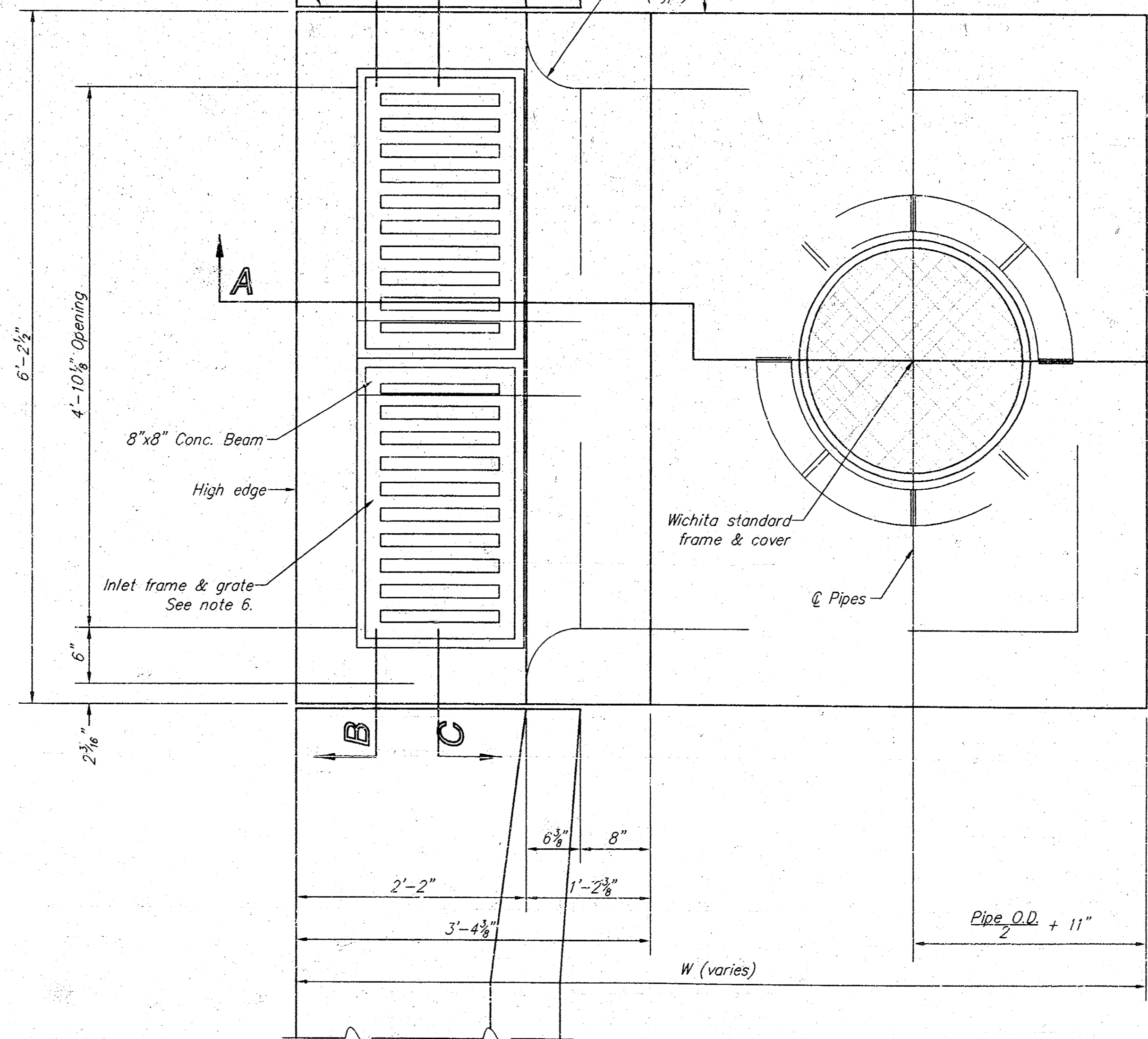
SECTION A-A



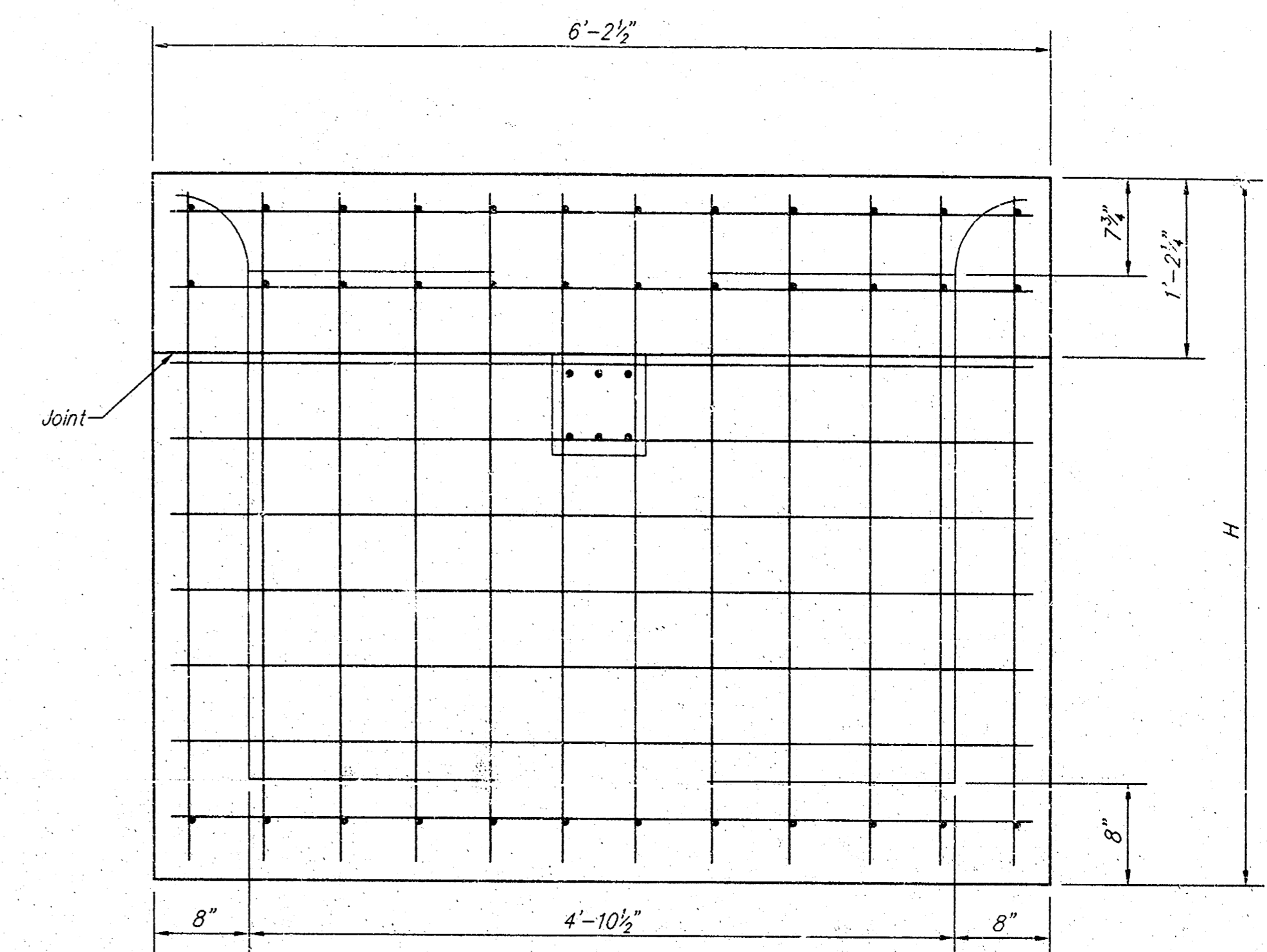
SECTION B-B



1/2" Exp. joint (Typ.)
hot or cold poured
joint sealing compound.



PLAN



REAR WALL

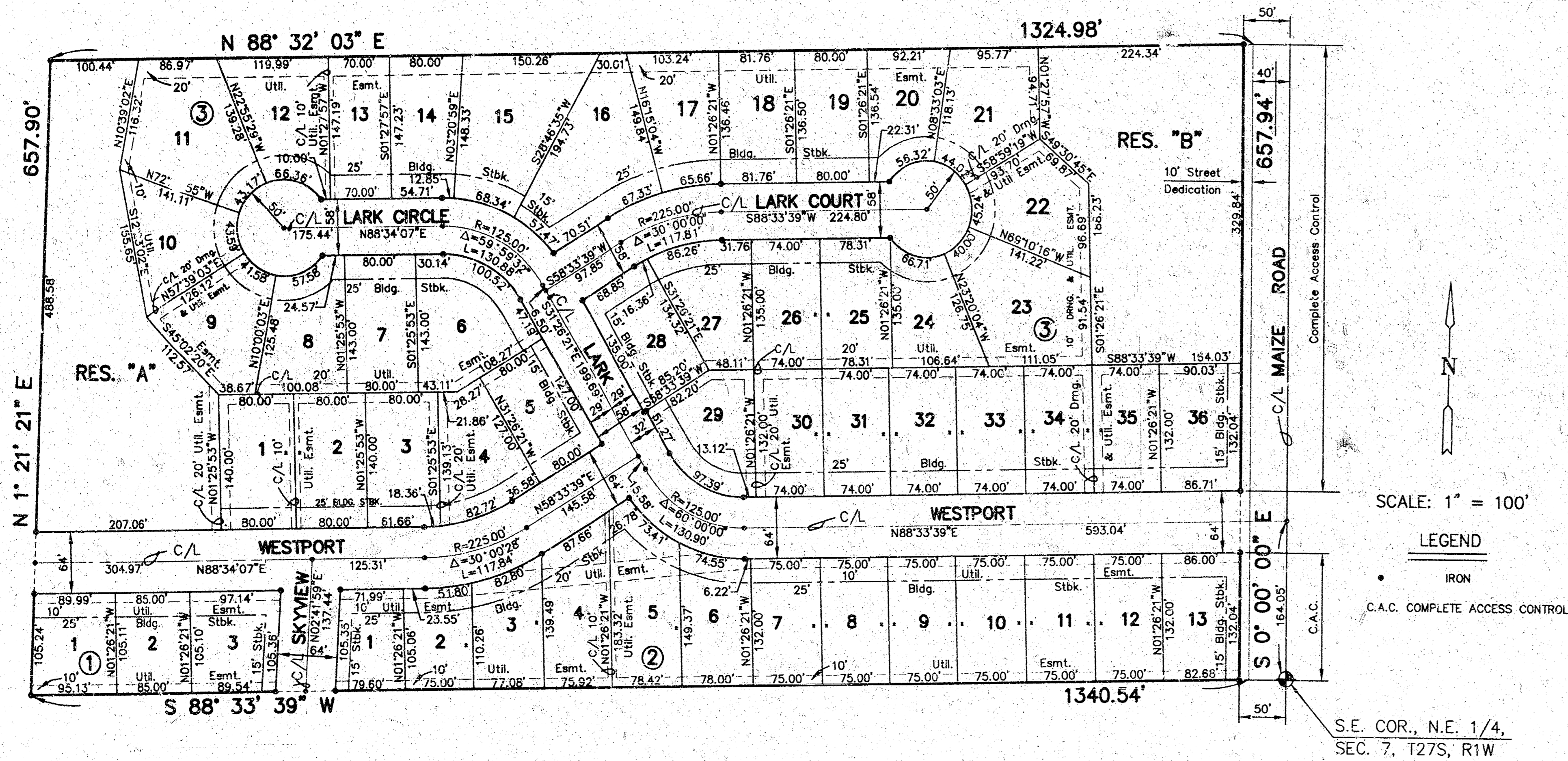
GENERAL NOTES:

1. Use the concrete mix specified for the City of Wichita concrete pavement throughout. All exposed edges shall be finished with an edging tool. Reinforcing bars shall be bent around pipe.
2. Inlet invert shall be shaped with 8 sack 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.
3. All bars are #4 with 6" spacing and shall have a minimum clearance of 1 1/2 inches unless otherwise noted on the plans.
4. When directed by the Engineer, a small opening may be required in the back of the inlet in order to drain a low area. Reinforcing bars will extend through the openings. No deductions in concrete quantities will be made for these openings.
5. No deductions will be made in pay length of curb, gutter, or curb and gutter through the inlet area.
6. Use Neenah R-3289-HV Single Inlet Frame and Grate or approved equal. Inlet frame to be proof load tested to 40,000 lbs. on unsupported side.
7. Reinforcing bars shall be cut or bent around pipes. No deduction in concrete quantities shall be made for pipe openings.
8. The vanes of the grate shall be oriented with respect to the flow arrows shown on the plans.
9. Deeter Foundry, Inc. casting No. 2441 with style H grate is an approved equal to Neenah castings specified. Inlet drawing is based on Neenah castings and concrete walls and supports will require some field modifications to accommodate.

CITY OF WICHITA, KANSAS SPECIAL TYPE II CURB INLET DETAILS INLET OPENING = 6"x4'-10 1/8"					
SRB	924 NORTH MAIN WICHITA, KANSAS 67203		316-264-8003 FAX 264-5621		REVISED
	SAVOY, RUGGLES & BOHM, P. A. ENGINEERING & SURVEYING				SHEET 10 OF 12
PROJECT NUMBER 468-82524					
DRAWN J. Long	DESIGN C.O.W.	REVIEW	DATE	UTILITY	SRB JOB

FINAL PLAT OF WINDWOOD

AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS



SCALE: 1" = 100'

LEGEND

- IRON
- C.A.C. COMPLETE ACCESS CONTROL

S.E. COR., N.E. 1/4,
SEC. 7, T27S, R1W

Minimum Pad Elevations (Lowest Opening)			
Lot	Block	Elevations	
		City Datum	USGS Datum
1	3	164.5	1351.9
2	3	164.5	1351.9
8	3	164.5	1351.9
9	3	164.5	1351.9
10	3	164.5	1351.9
11	3	164.0	1351.4
21	3	162.1	1349.5
22	3	162.1	1349.5
23	3	162.1	1349.5
34	3	162.1	1349.5
35	3	162.1	1349.5
36	3	162.1	1349.5

20.00 d

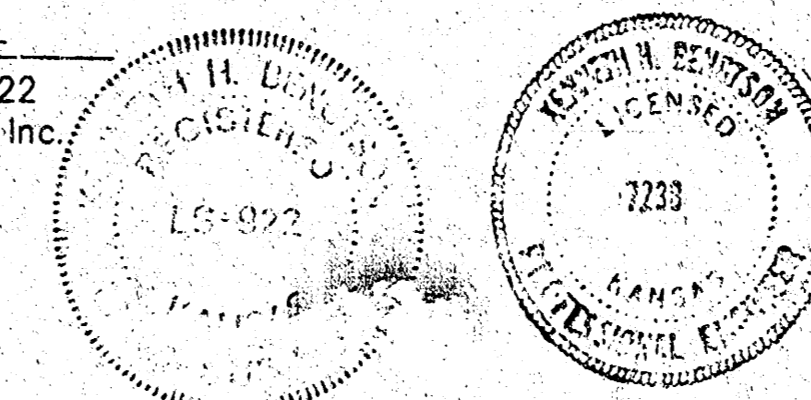
I, Kenneth H. Bengtson, a Civil Engineer and Registered Land Surveyor in Kansas, do hereby certify that I have been in responsible charge of surveying and platting of "WINDWOOD", an addition to Wichita, Sedgwick County, Kansas, in Lots, Blocks, Streets and Reserves, the same being accurately set forth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

The South half of the Southeast Quarter of the Northeast Quarter of Section 7, Township 27 South, Range 1 West of the 6th Prime Meridian, Sedgwick County, Kansas, except the East 40 feet thereof.

All lots, blocks, streets, easements and building setbacks located within the above described property are being vacated and replatted by virtue of K.S.A. 12-512(b).

I hereby certify that the details of this plat are correct to the best of my knowledge and belief this 1st day of September, 1995.

Kenneth H. Bengtson
Kenneth H. Bengtson, P.E., R.L.S. #922
Mid-Kansas Engineering Consultants, Inc.
411 N. Webb Road
Wichita, KS 67206



We, HAVEN STATE BANK, mortgagees on the above described property, do hereby consent to the plat of WINDWOOD.

HAVEN STATE BANK

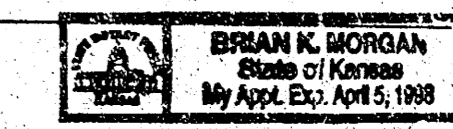
Michael Fahrbach
Michael Fahrbach, President

STATE OF KANSAS)
SEDGWICK COUNTY)

BE IT REMEMBERED, that on this 8th day of September, 1995, before me the undersigned, a Notary Public in and for the County and State aforesaid, came Michael Fahrbach, President for Haven State Bank 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 WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, the day and year last above written.

Brian K. Moran
Notary Public



My appointment expires: _____

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

Dated this 30th day of December, 1993

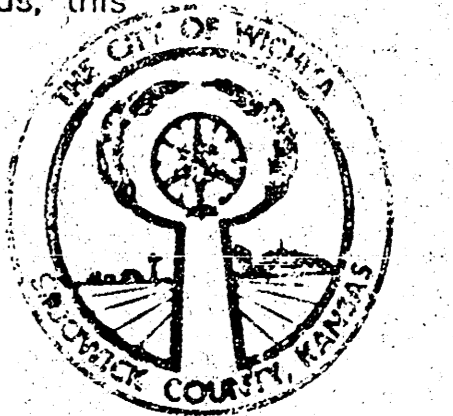
WICHITA-SEDGWICK COUNTY METROPOLITAN AREA PLANNING COMMISSION

James D. Miner, Chairman
James D. Miner
Marvin S. Krout, Secretary
Marvin S. Krout



This plat approved and all dedications shown hereon, if any, accepted by the City Council of the City of Wichita, Kansas, this 21st day of November, 1995.

Bob Knight, Mayor
Bob Knight
Tom Schneider, City Clerk
for Pat Burnett Tom SCHNEIDER, City Clerk



Entered on transfer record this 28th day of December, 1995.

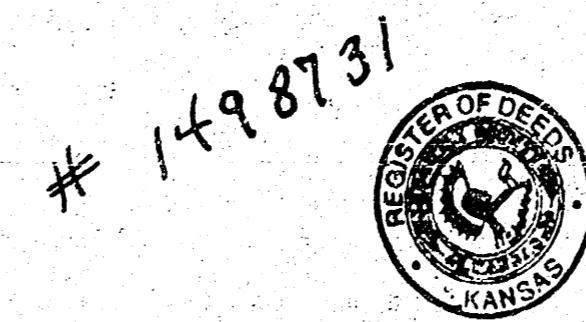
Susan E. Givens-Spoon, County Clerk
Susan E. Givens-Spoon, County Clerk

STATE OF KANSAS)
SEDGWICK COUNTY)

This is to certify that this instrument was filed for record in the Register of Deeds office this 2nd day of January, 1996.

Pat Kettler, Register of Deeds
Pat Kettler

Ed Reso, Deputy
Ed Reso



Philip J. Meyer
Notary Public PHILIP J. MEYER
My appointment expires: 5/3/97