

Booked
N. 290
2/2/98
R. Loomis

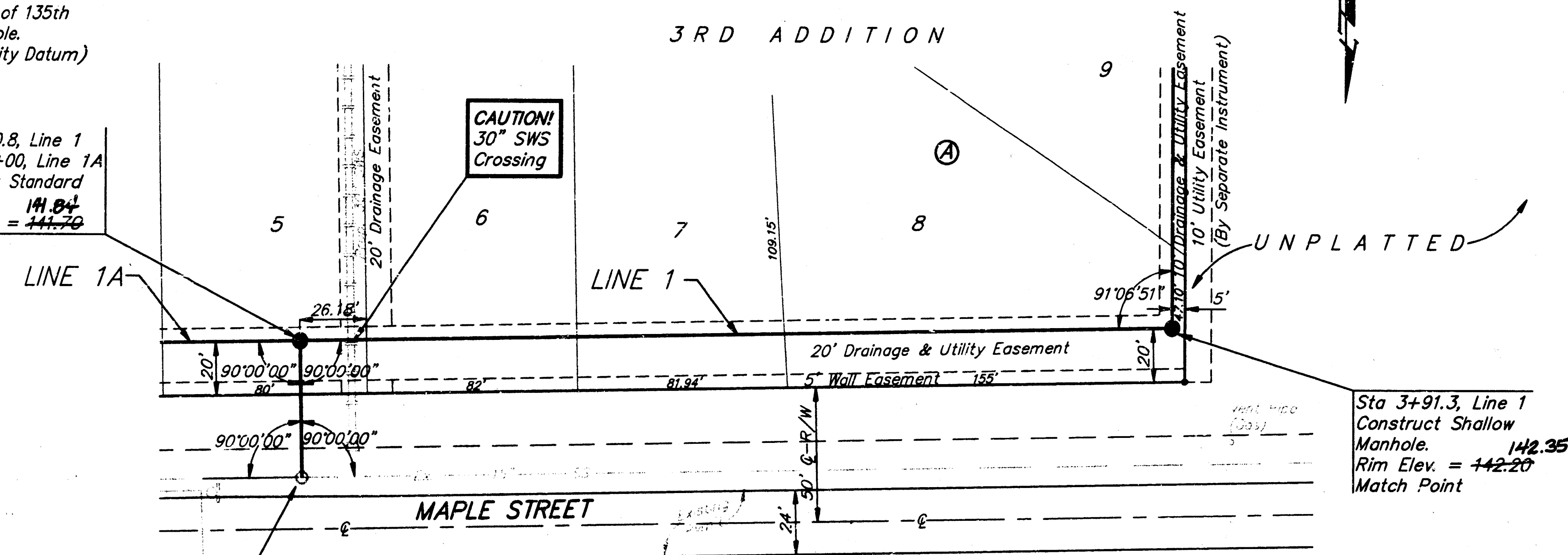
BENCHMARKS:
 BM #1: City Disk 34.3' East
 and 3.3' North of SW Corner
 of NW 1/4, Sec. 25, T-26-S,
 R-2-W.
 Elev. = 156.63 (City Datum)

BM #2: City Disk 30' North and
 15' East of the C's of 135th
 Street West and Maple.
 Elev. = 150.20 (City Datum)

Sta 0+50.8, Line 1
 = Sta 0+00, Line 1A
 Construct Standard
 Manhole. **141.84**
 Rim Elev. = **144.70**

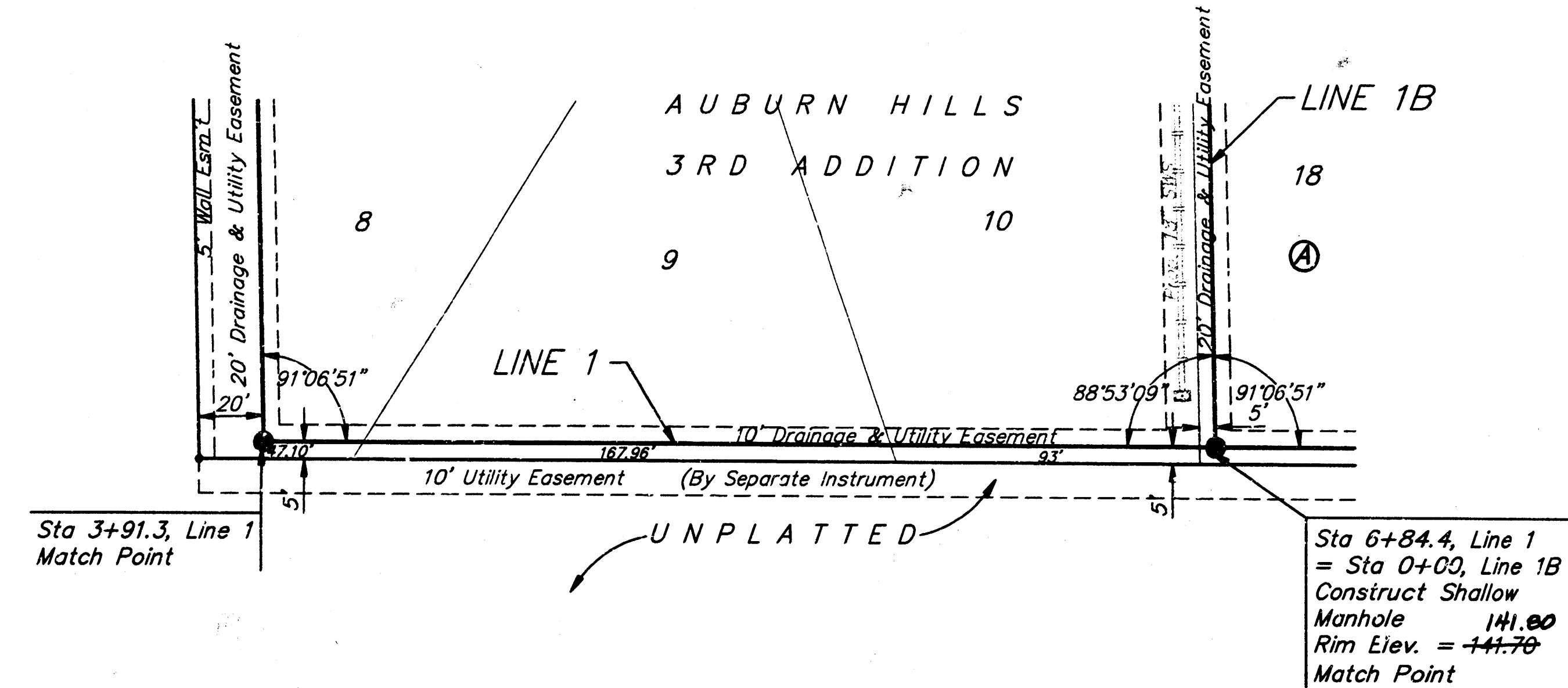
Sta 0+00, Begin Line 1
 Core into Existing Manhole.
 Extend 10" SS South. Seal &
 Grout Water Tight Around Pipe.
 Reshape Invert if Required.
 Cast of Coring, Sealing,
 Grouting, and Reshaping To
 Be Incidental to L.F. 8" Pipe.

AUBURN HILLS 3RD ADDITION

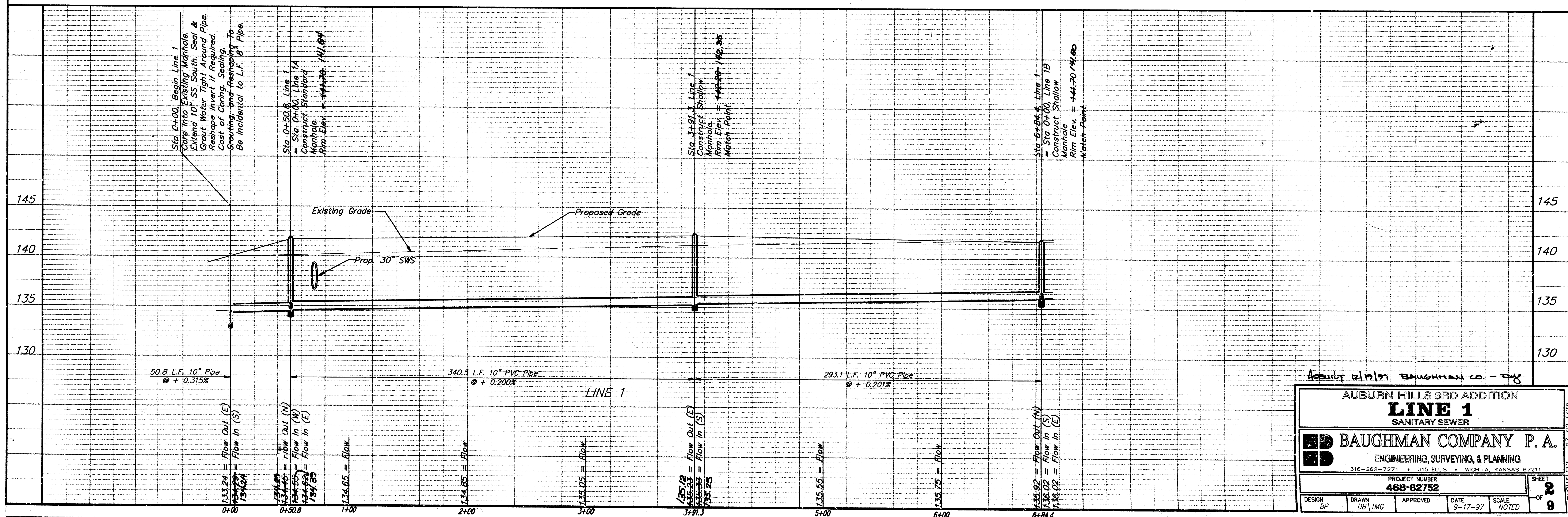


Sta 3+91.3, Line 1
 Construct Shallow
 Manhole. **142.35**
 Rim Elev. = **142.20**
 Match Point

Scale: 1" = 40' Horizontal
 1" = 5' Vertical
 • = Iron



Sta 6+84.4, Line 1
 = Sta 0+00, Line 1B
 Construct Shallow
 Manhole. **141.80**
 Rim Elev. = **144.70**
 Match Point



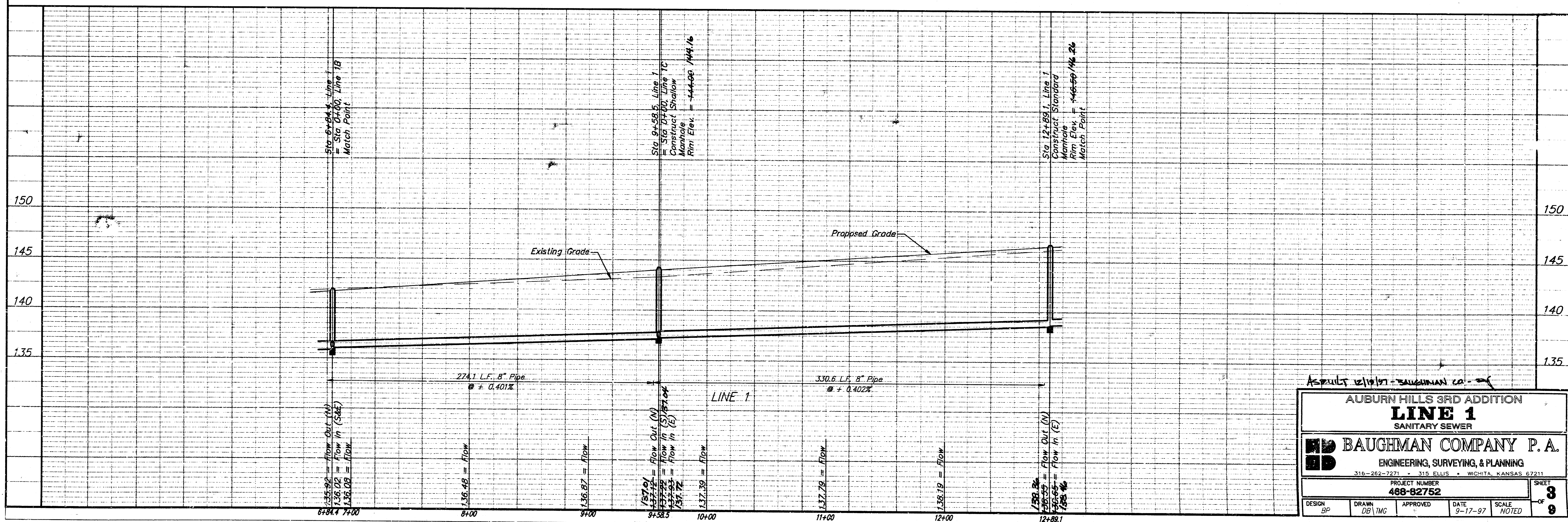
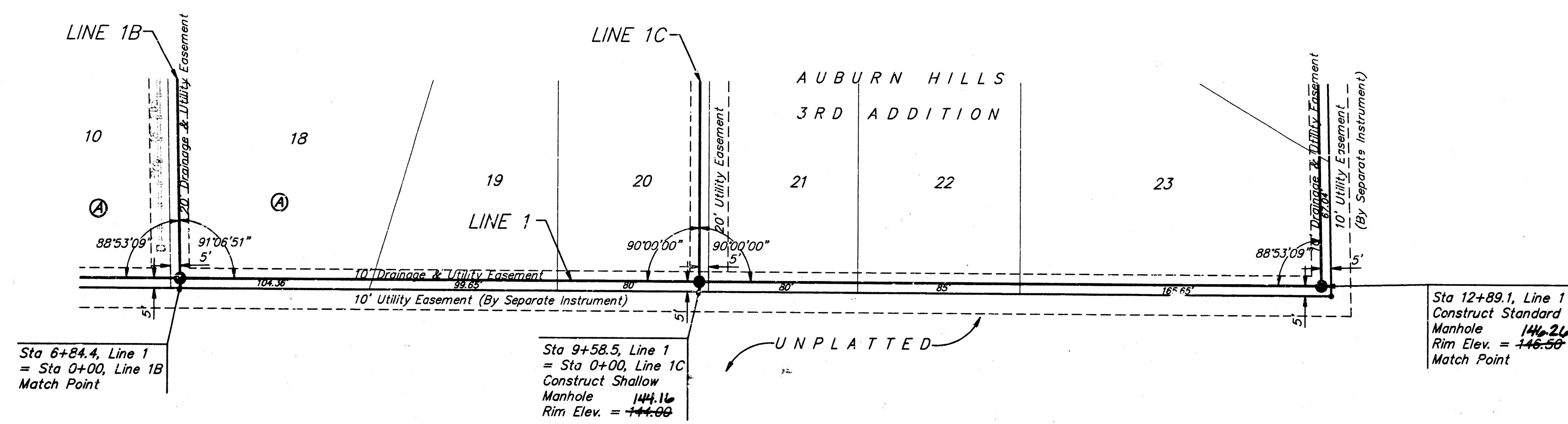
As built by BAUGHMAN CO. - 7/8

AUBURN HILLS 3RD ADDITION			
LINE 1			
SANITARY SEWER			
BAUGHMAN COMPANY P.A.			
ENGINEERING, SURVEYING, & PLANNING			
316-262-7271 • 313 ELLIS • WICHITA, KANSAS 67211			
PROJECT NUMBER 488-82752			
DESIGN BP	DRAWN DB/TMG	APPROVED	DATE 9-17-97
SCALE NOTED		SHEET 2 OF 9	

BENCHMARKS:
 BM #1: City Disk 34.3' East
 and 3.3' North of SW Corner
 of NW 1/4, Sec. 25, T-26-S,
 R-2-W.
 Elev. = 156.63 (City Datum)

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 and 15' East of the C's of 135th
 Street West and Maple.
 Elev. = 150.20 (City Datum)

Scale: 1" = 40' Horizontal
 1" = 5' Vertical
 • = Iron



As of 12/10/97 - BAUGHMAN CO. -

AUBURN HILLS 3RD ADDITION
LINE 1
 SANITARY SEWER

BAUGHMAN COMPANY P.A.
 ENGINEERING, SURVEYING, & PLANNING
 315-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

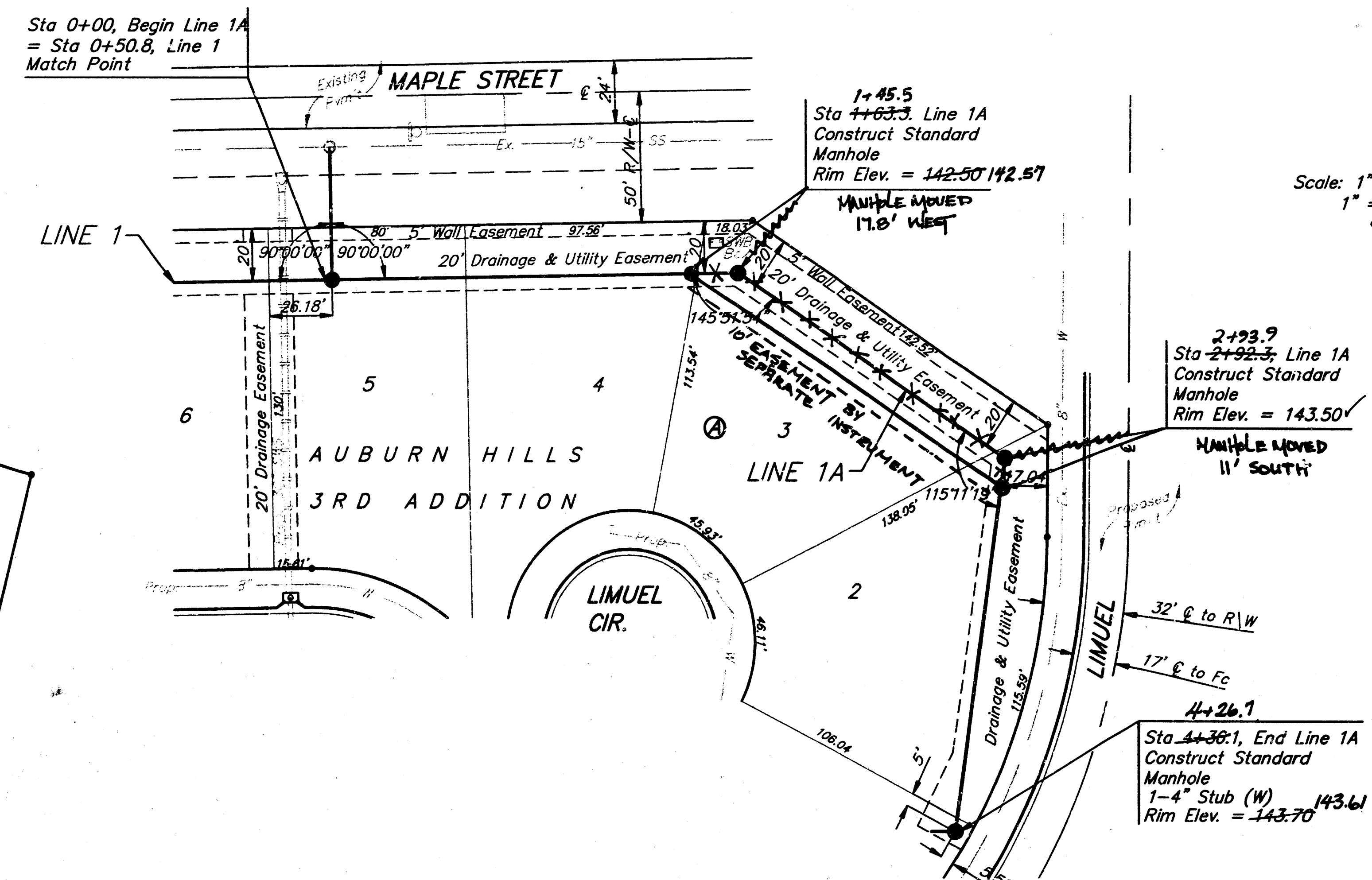
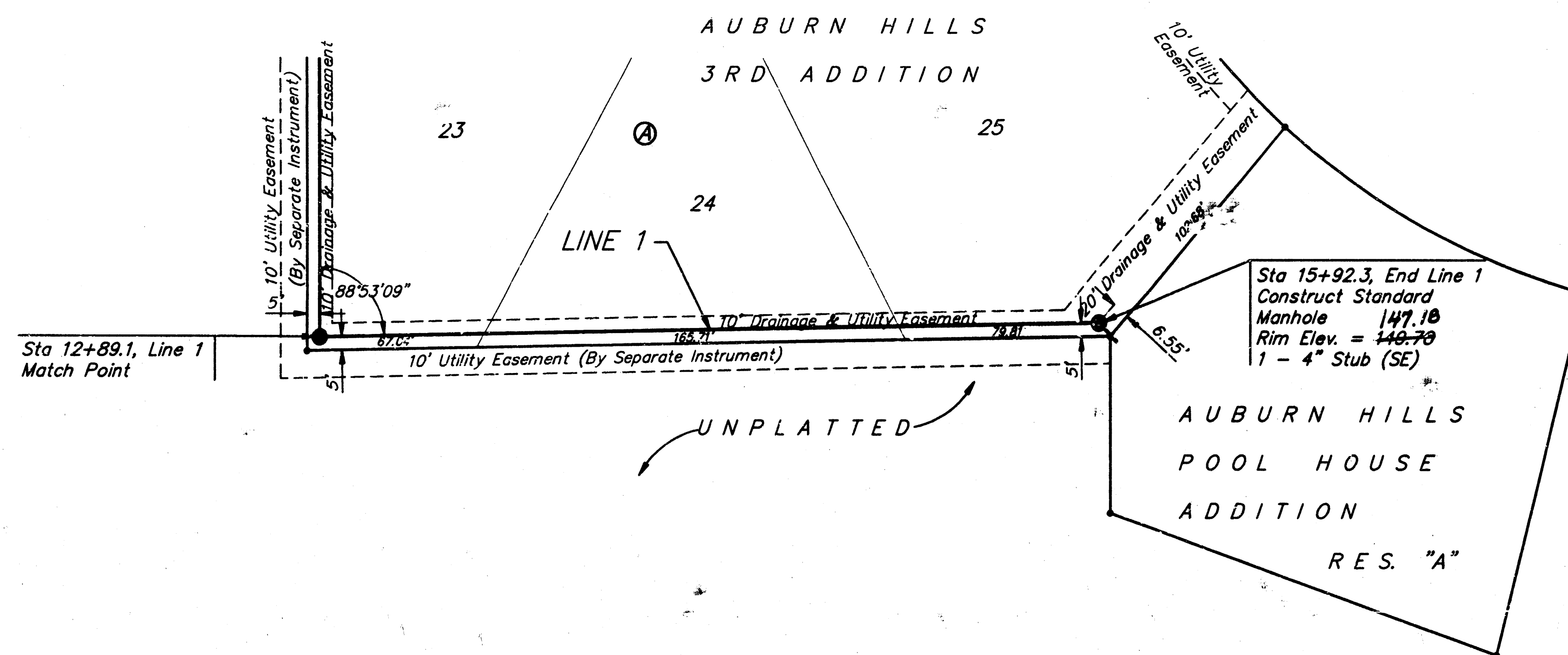
PROJECT NUMBER
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DESIGN BP	DRAWN CB/TMG	APPROVED	DATE 9-17-97	SCALE NOTED
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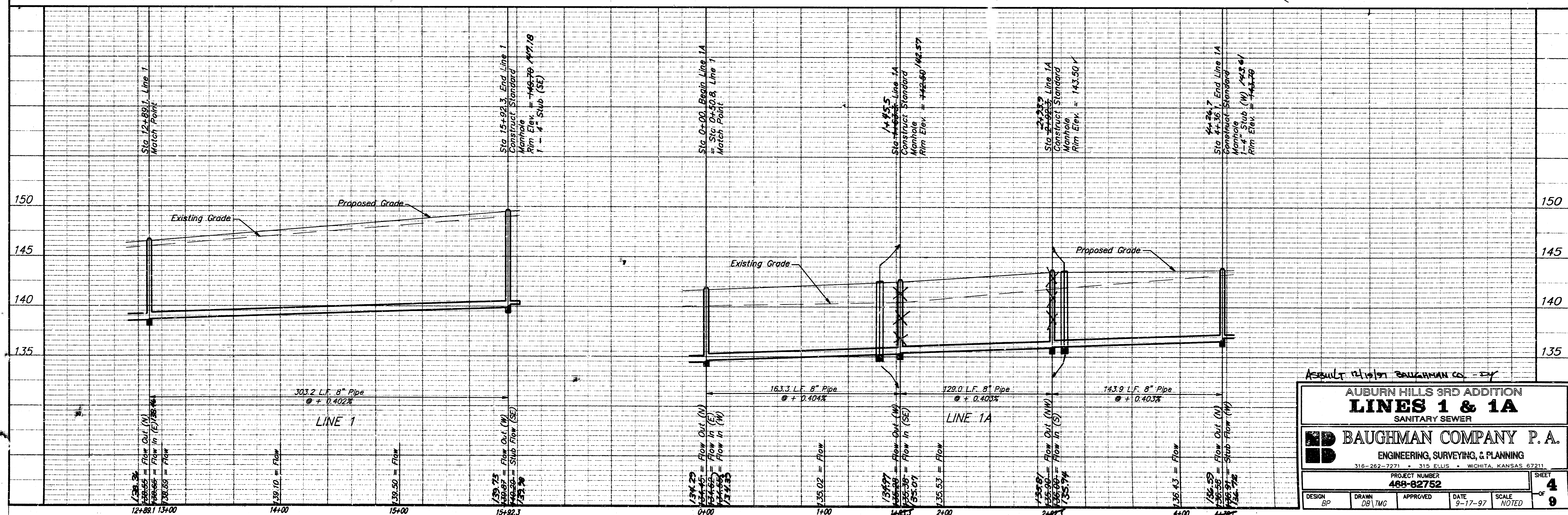
SHEET
3
 OF
9

AUBURN HILLS 3RD ADDITION 97-02-1618

BENCHMARKS:
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 and 3.3' North of SW Corner
 of NW 1/4, Sec. 25, T-26-S,
 R-2-W.
 Elev. = 156.63 (City Datum)
 BM #2: City Disk 30' North and
 15' East of the C's of 135th
 Street West and Maple.
 Elev. = 150.20 (City Datum)



Scale: 1" = 40' Horizontal
 1" = 5' Vertical
 • = Iron



AUBURN HILLS 3RD ADDITION
LINES 1 & 1A
 SANITARY SEWER

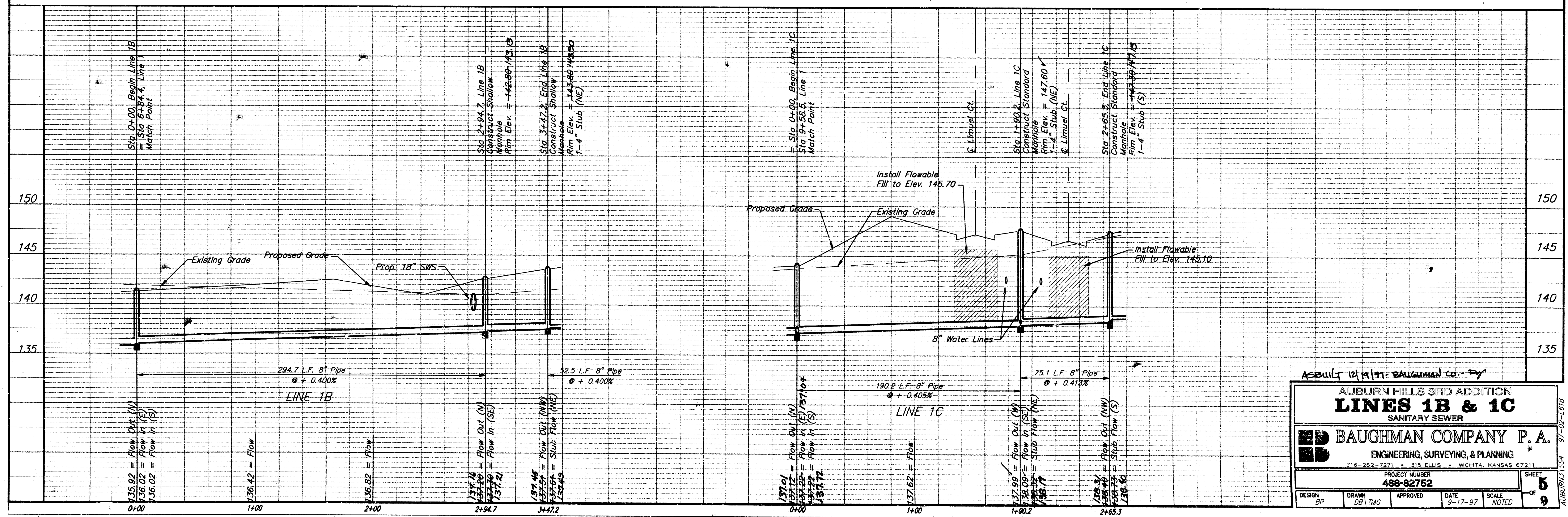
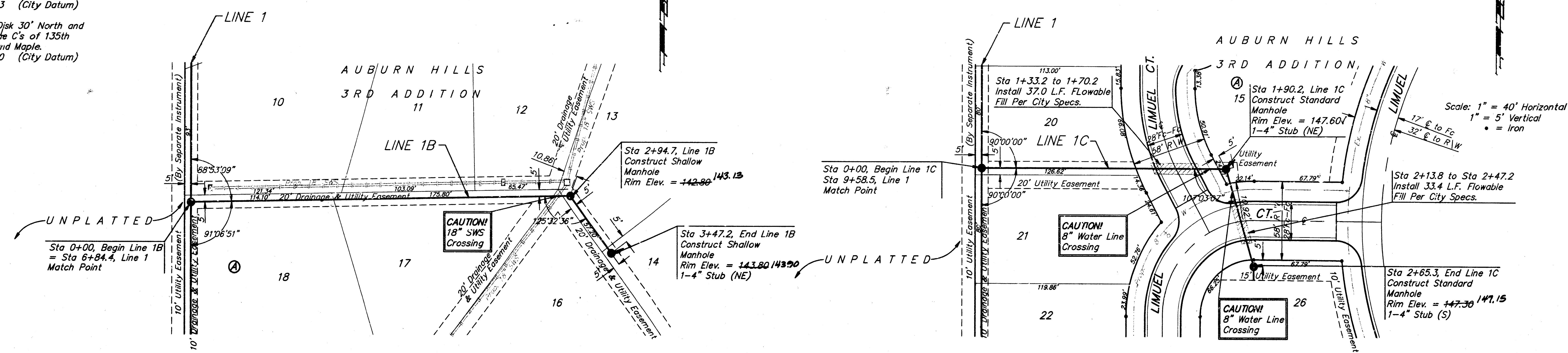
BAUGHMAN COMPANY P.A.
 ENGINEERING, SURVEYING, & PLANNING
 316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER
408-02752

DESIGN: SP DRAWN: DB/TMG APPROVED: DATE: 9-17-97 SCALE: NOTED

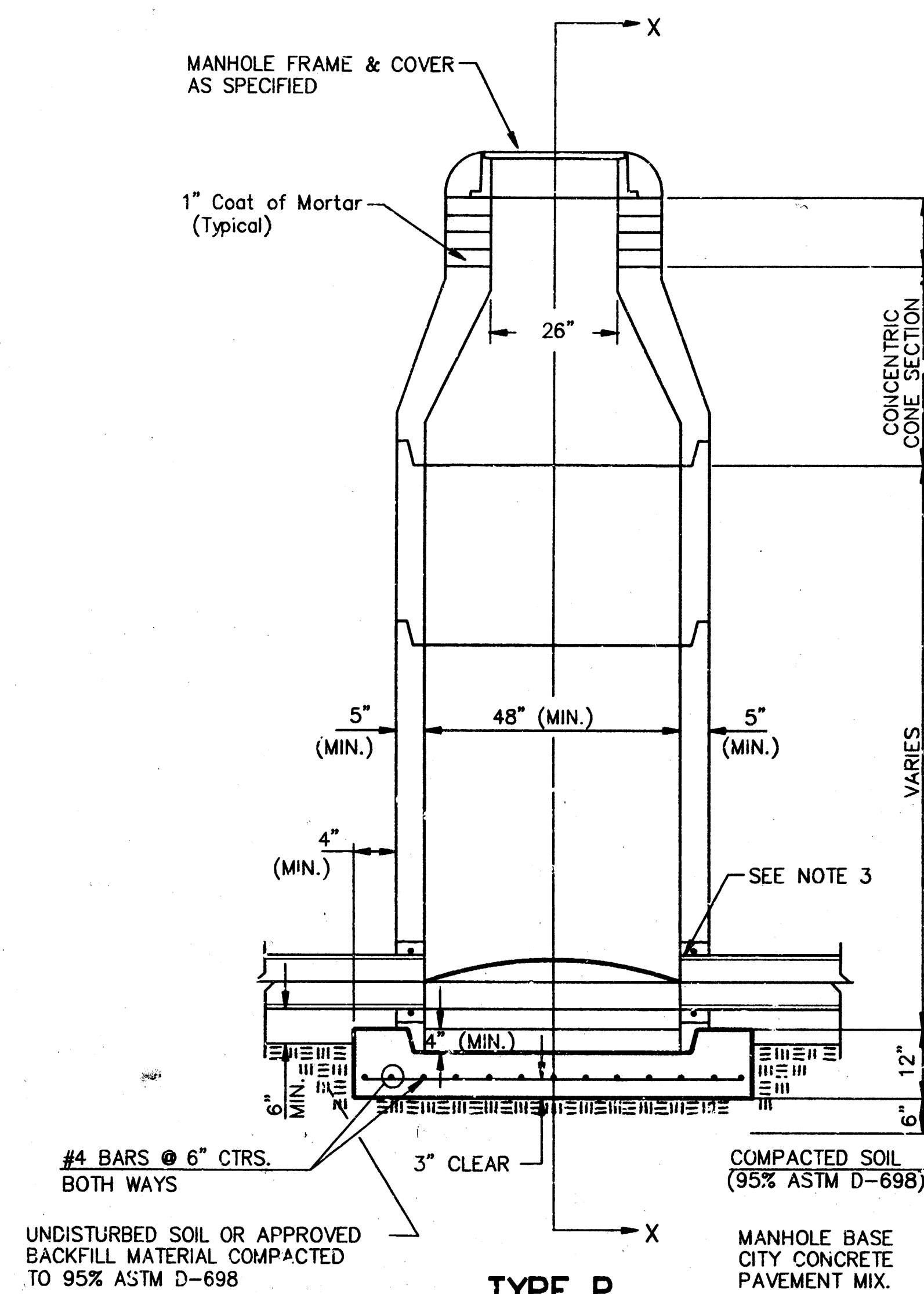
SHEET
4
 OF
9

BENCHMARKS:
 BM #1: City Disk 34.3' East and 3.3' North of SW Corner of NW 1/4, Sec. 25, T-26-S, R-2-W.
 Elev. = 156.63 (City Datum)
 BM #2: City Disk 30' North and 15' East of the C's of 135th Street West and Maple.
 Elev. = 150.20 (City Datum)

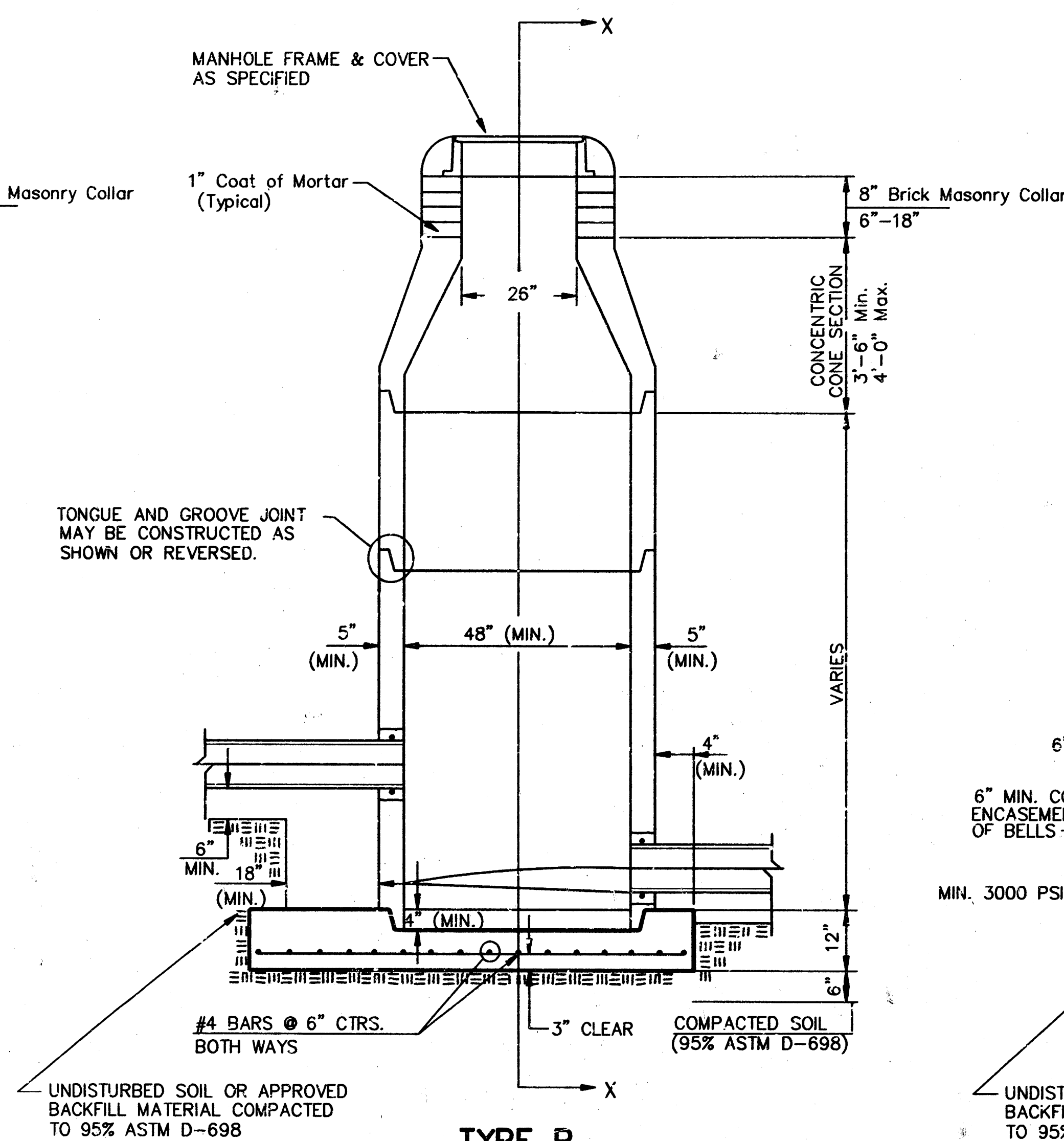


DESIGNED BY: BAUGHMAN CO. P.A.
 DRAWN BY: DB/TMG
 APPROVED BY: [Signature]
 DATE: 9-17-97
 SCALE: NOTED
 SHEET: 5 OF 9
 PROJECT NUMBER: 488-82752
 AUBURN HILLS 3RD ADDITION
 LINES 1B & 1C
 SANITARY SEWER
 BAUGHMAN COMPANY P.A.
 ENGINEERING, SURVEYING, & PLANNING
 216-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

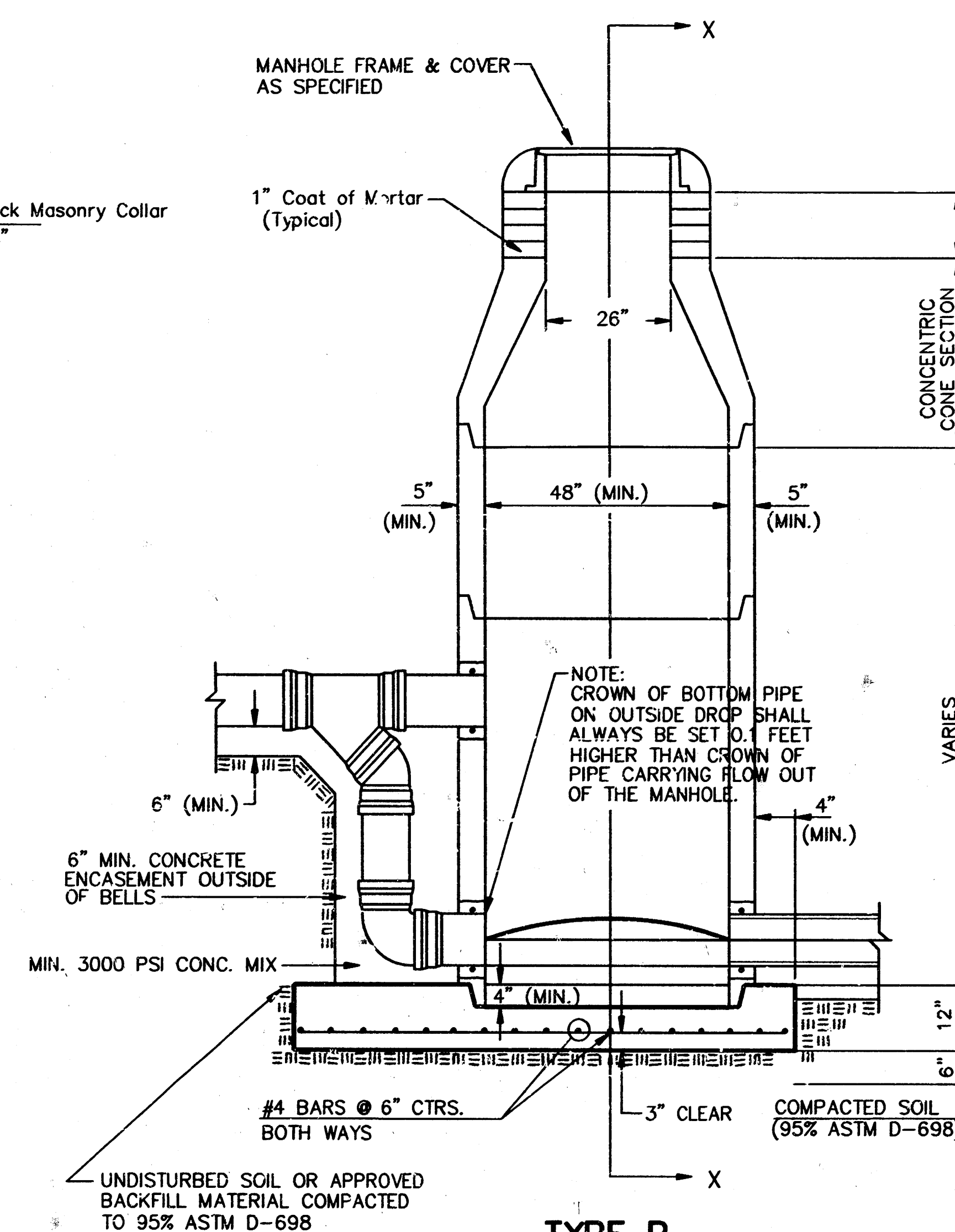
SEWER APPURTENANCES DETAILS



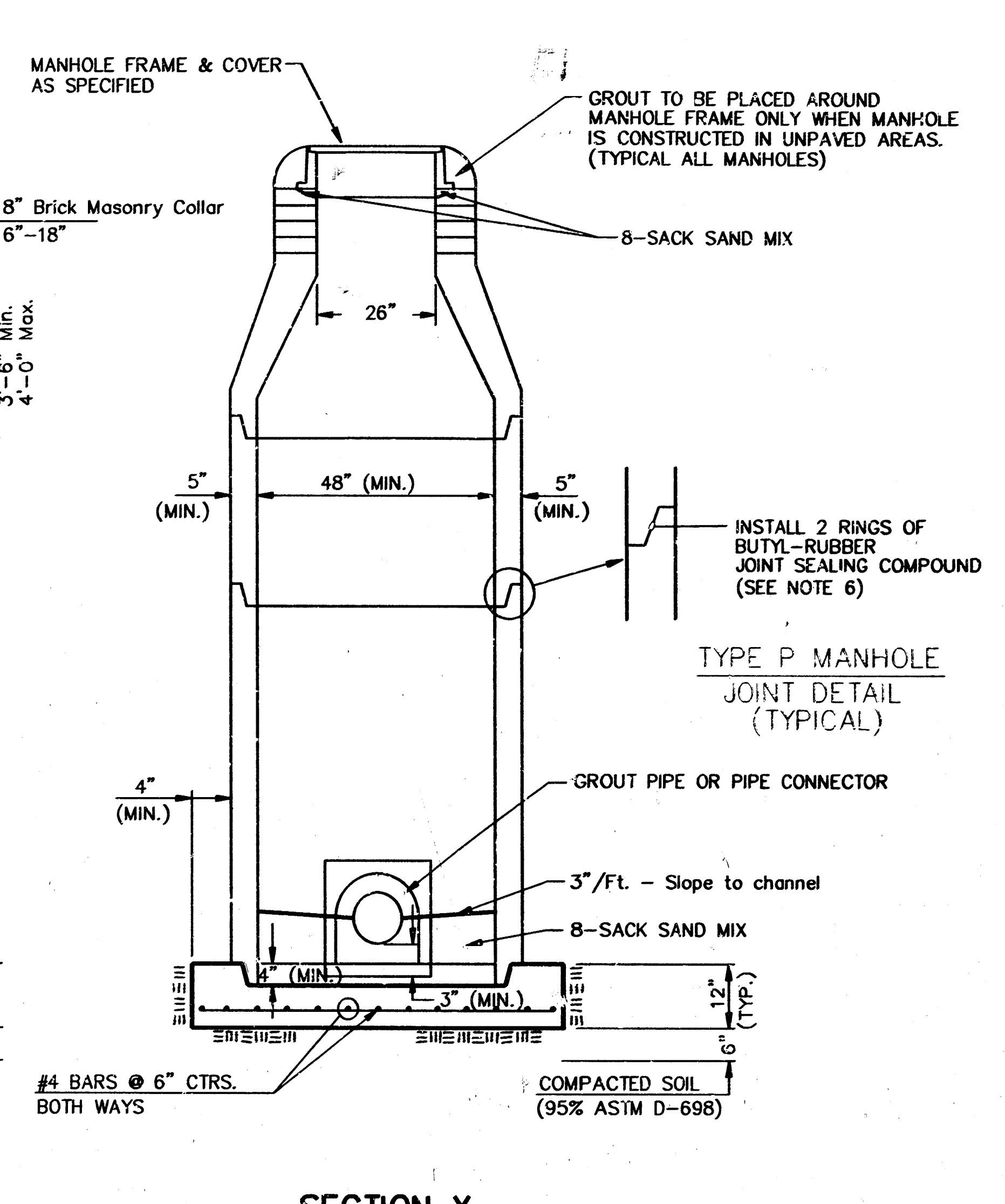
TYPE P STANDARD MANHOLE



TYPE P INSIDE DROP MANHOLE



TYPE P OUTSIDE DROP MANHOLE

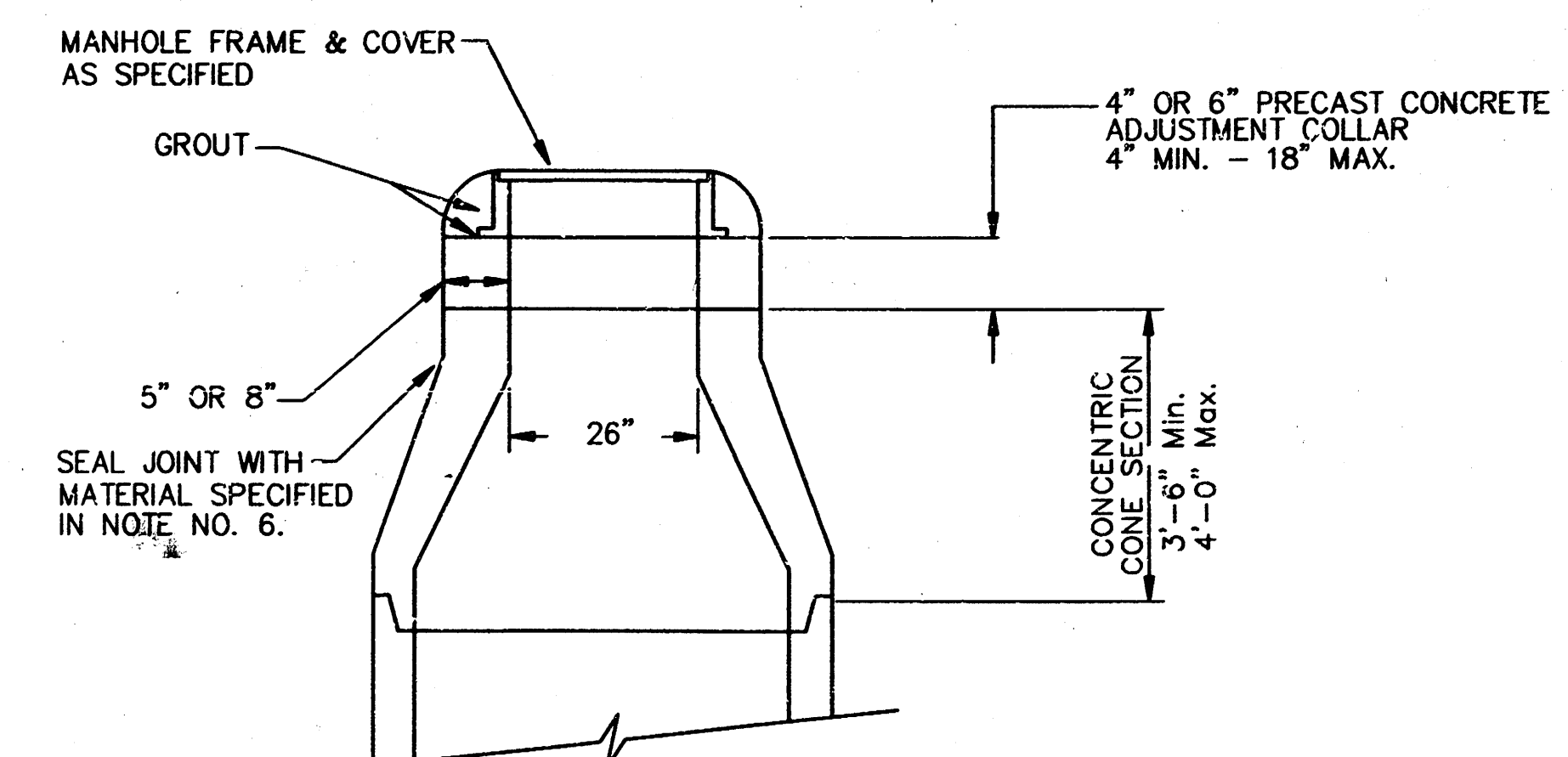


SECTION X (TYPICAL)

- GENERAL NOTES**
- PRECAST MANHOLE NOTES**
- ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
 - NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
 - 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.
 - ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS TMEMEC SERIES 66 HI-BUILD EPOXYLINE, DRY THICKNESS OF 8 MILS (MIN.).
 - EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINOUS COATING.
 - JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUAL.
 - PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE.
 - 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.
 - LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
 - 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 PAVING 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.

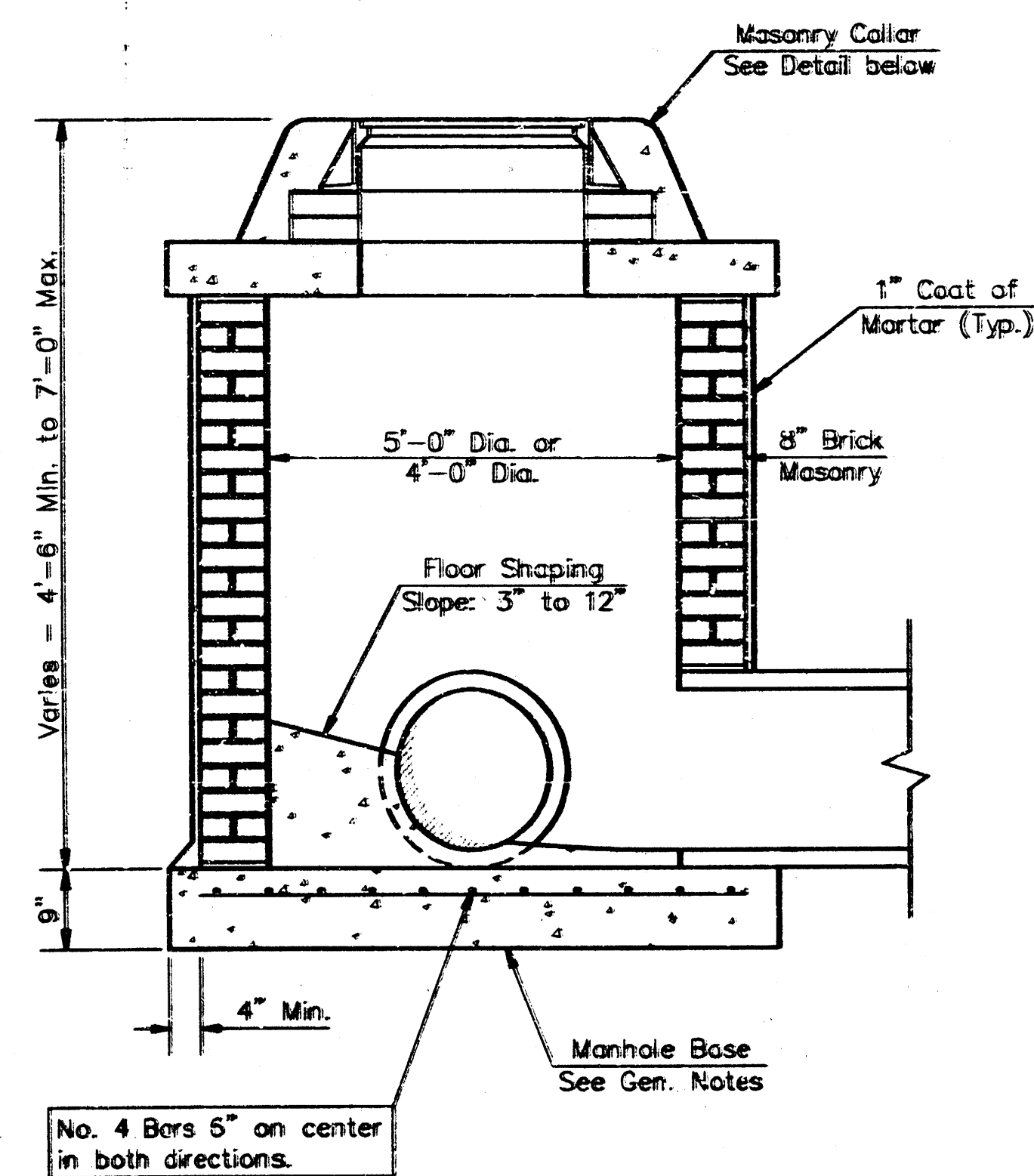
- REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED AT LEAST 3" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED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

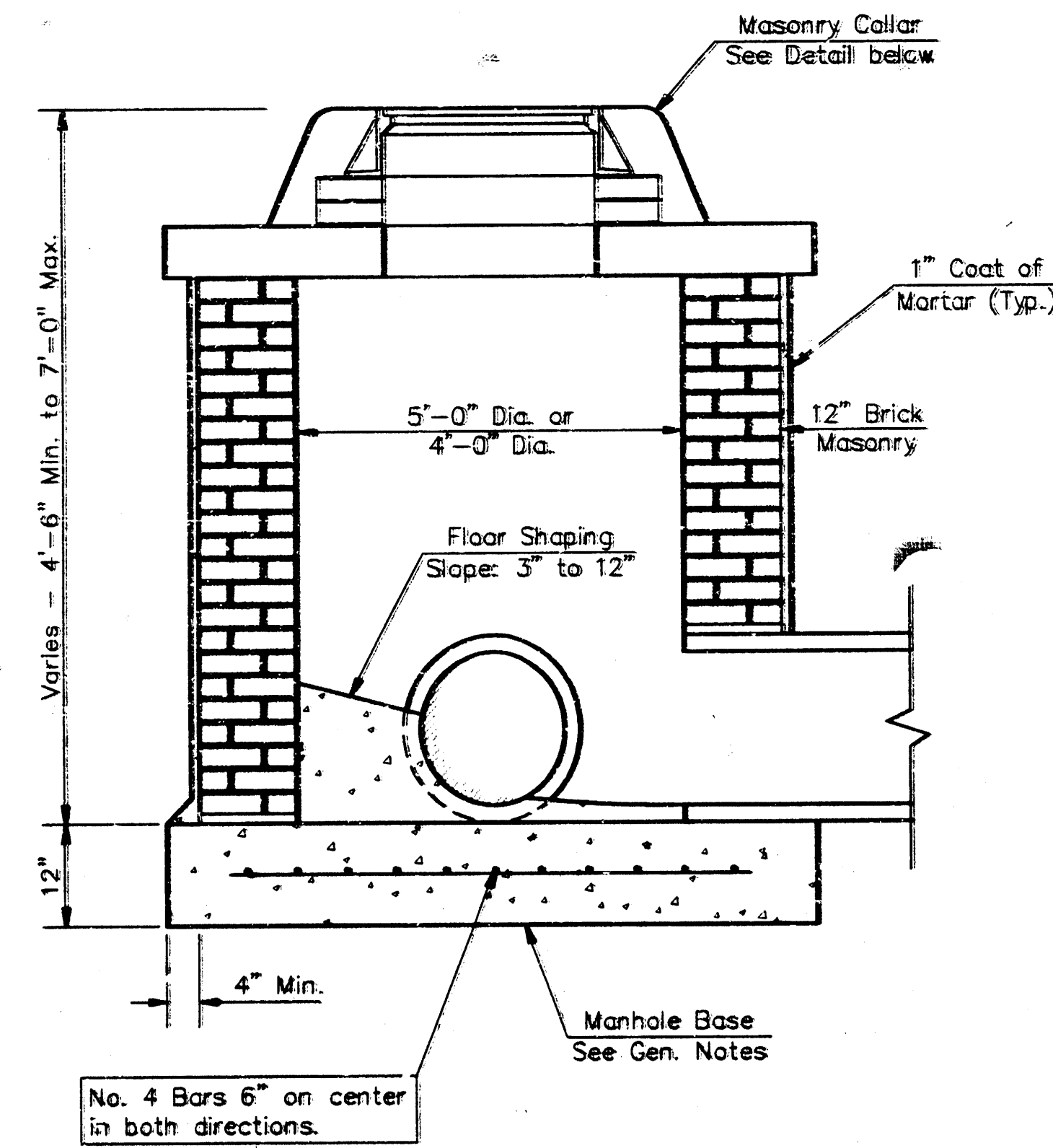


ALTERNATE CONSTRUCTION IN UNPAVED AREAS

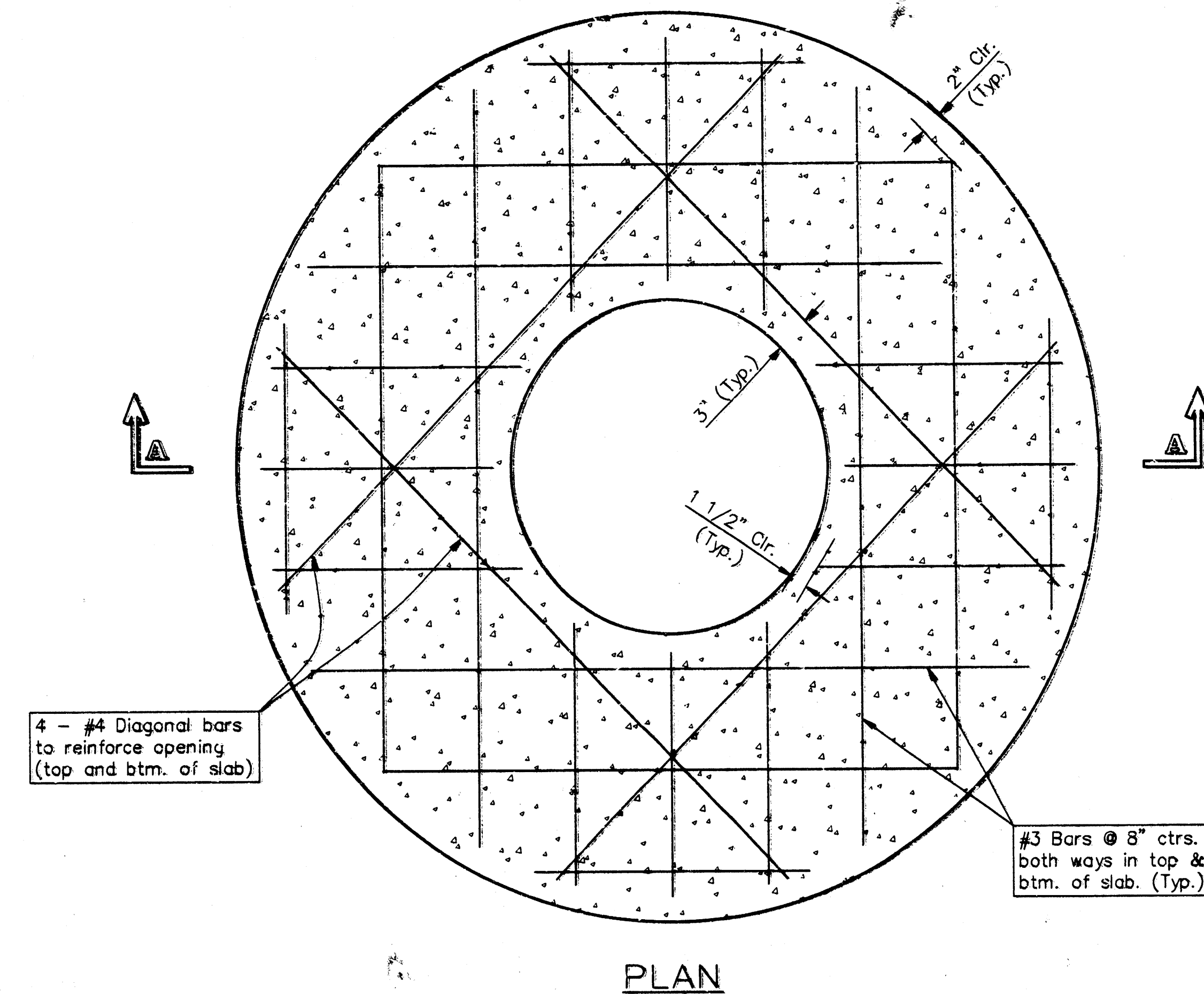
CITY OF WICHITA					
STD. MANHOLE DETAILS					
& SEWER APPURTENANCES DETAIL					
BAUGHMAN COMPANY P.A.					
ENGINEERING, SURVEYING, & PLANNING					
316-262-2271 • 316-221-316 • WICHITA, KANSAS 67211					
PROJECT NUMBER					
488-82752					
DESIGN	DRAWN	APPROVED	DATE	SCALE	SHEET
C.O.W.	Staff		9-17-97	NONE	6



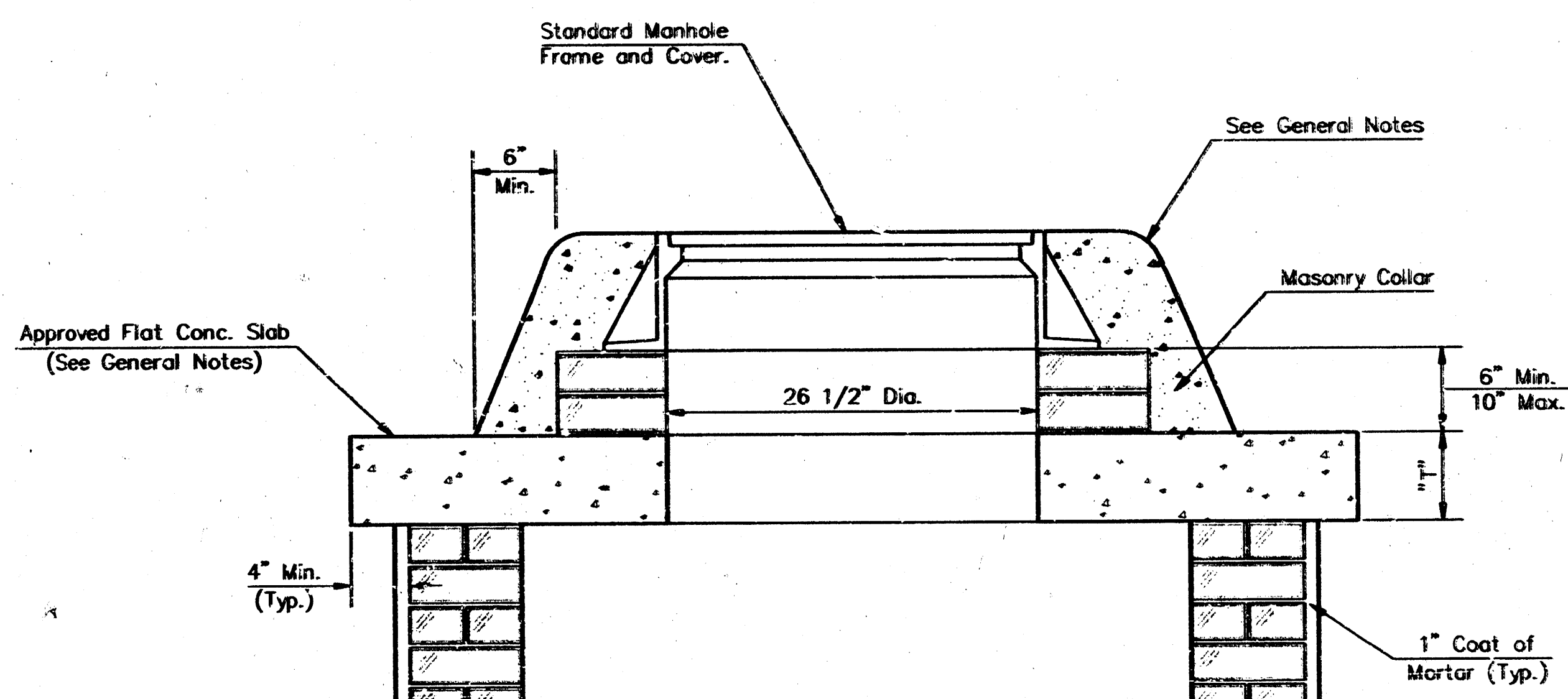
SHALLOW TYPE "A" MANHOLE



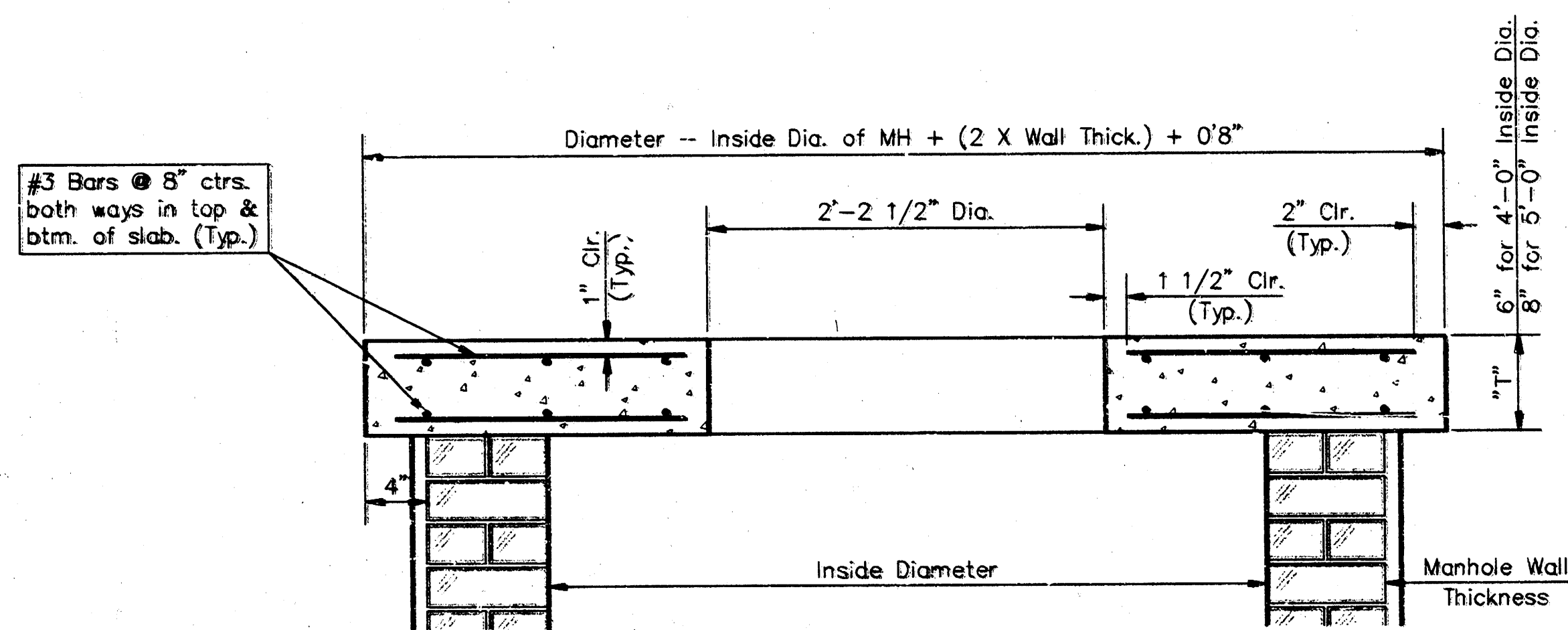
SHALLOW TYPE "B" MANHOLE



PLAN

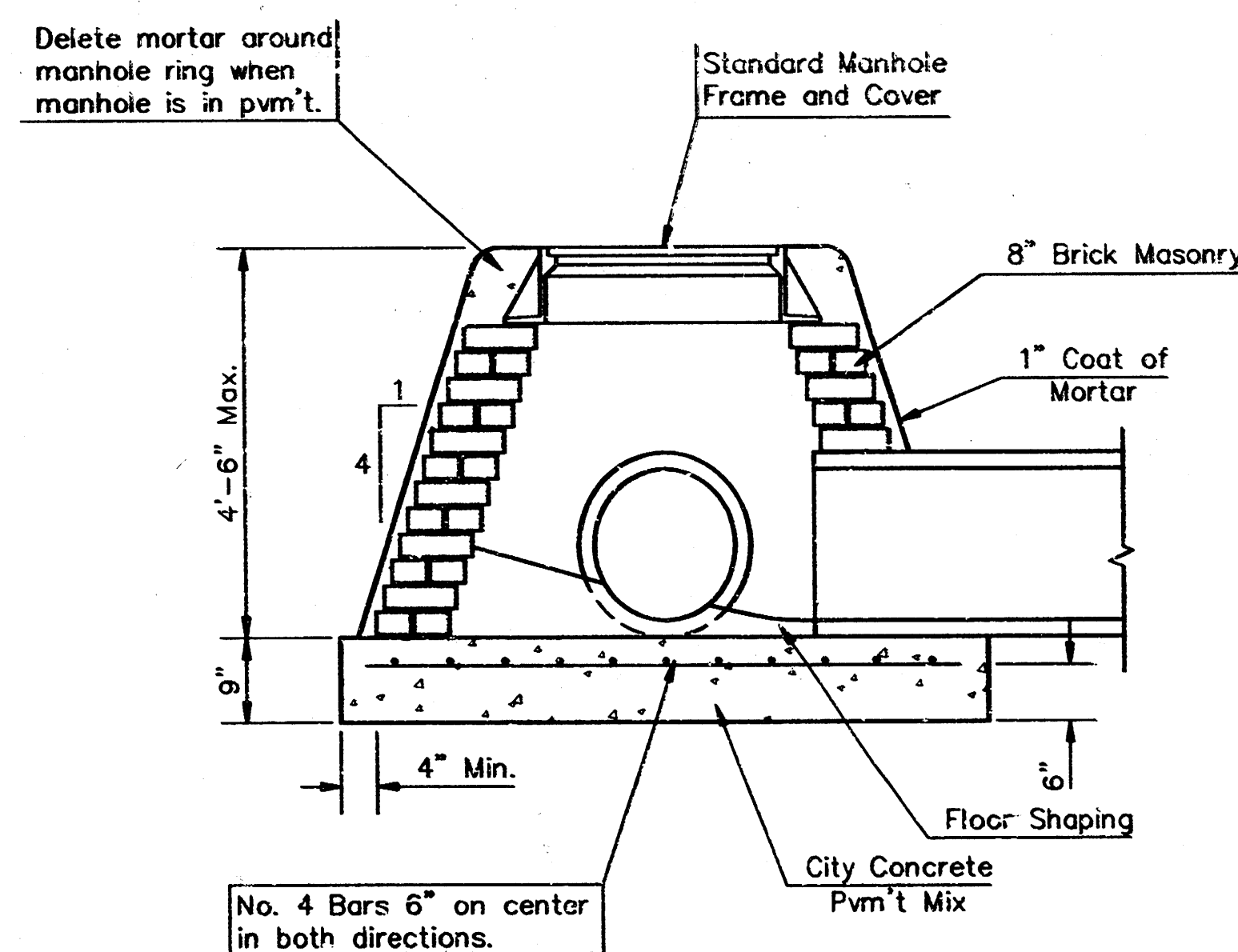


MASONRY COLLAR DETAIL

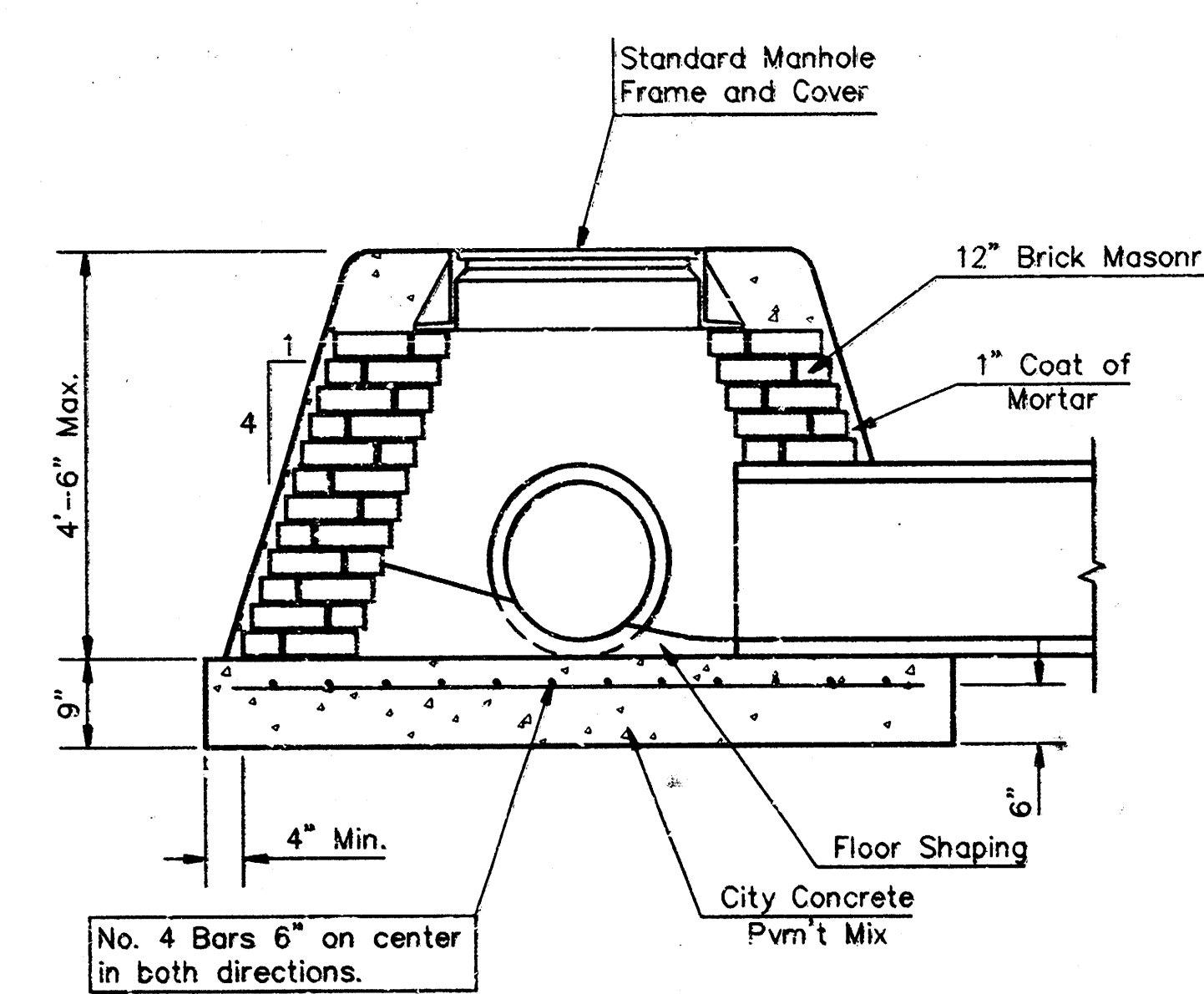


SECTION A-A

FLAT CONCRETE SLAB DETAILS



SPECIAL SHALLOW TYPE "A" MANHOLE



SPECIAL SHALLOW TYPE "B" MANHOLE

GENERAL NOTES

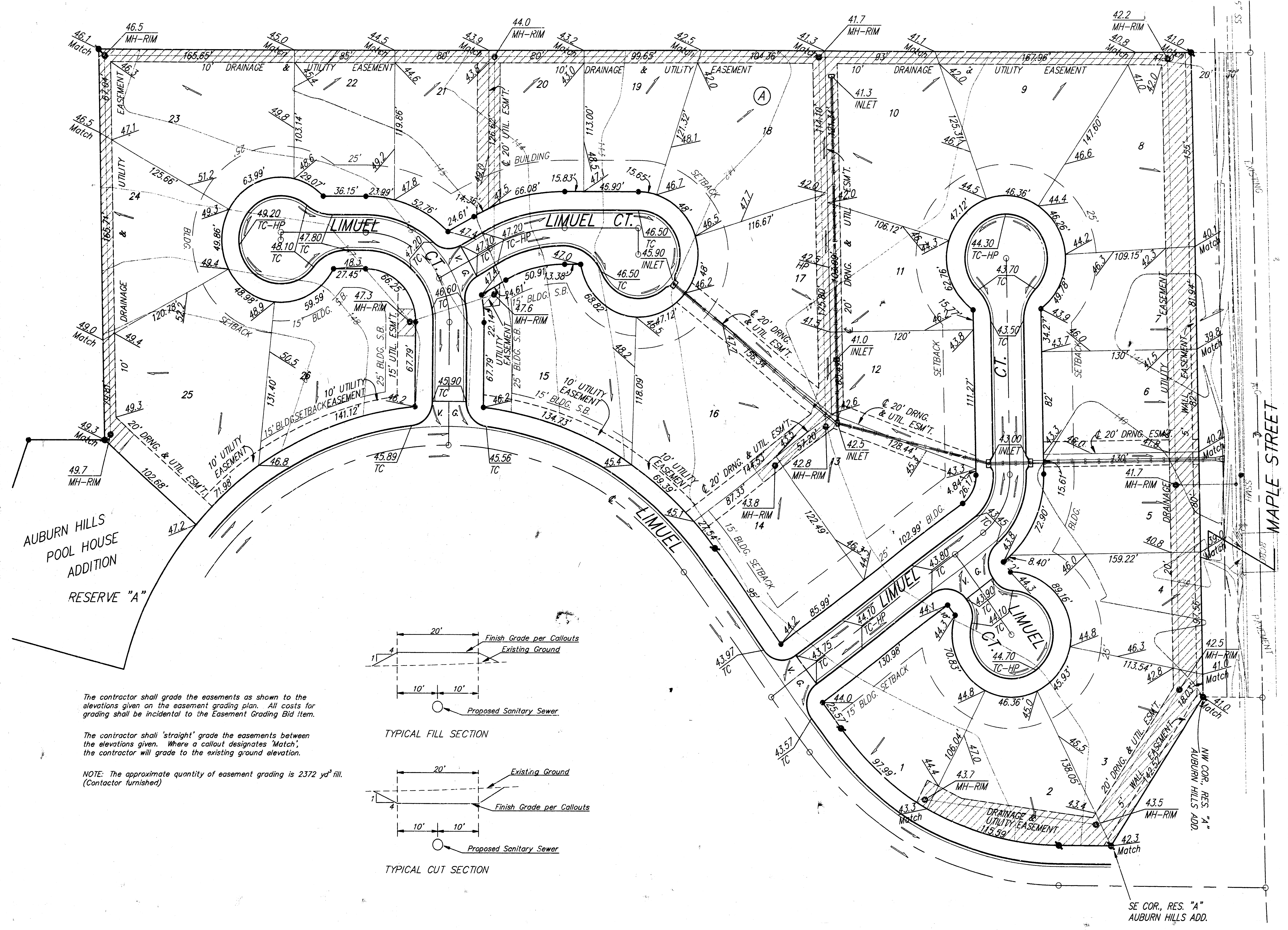
- Mortar used in masonry construction shall contain 8 sacks of cement per cubic yard. Concrete used in manhole bases shall conform to the requirements of concrete for concrete pavement construction as specified in the city standard paving specifications using city concrete cement mix without air entraining 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.
- All brick used in manhole construction shall meet Grade SW of ASTM C652 or C62-87.

CITY OF WICHITA, KANSAS					
Std. Manhole Detail					
TYPE "A" AND TYPE "B"					
BAUGHMAN COMPANY P.A.					
ENGINEERING, SURVEYING, & PLANNING					
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211					
PROJECT NUMBER					
488-82752					
DESIGN	DRAWN	APPROVED	DATE	SCALE	SHEET
C.O.W.	Staff		9-17-97	NONE	7 of 9

NW COR., NW1/4,
SEC. 25, T27S, R2W



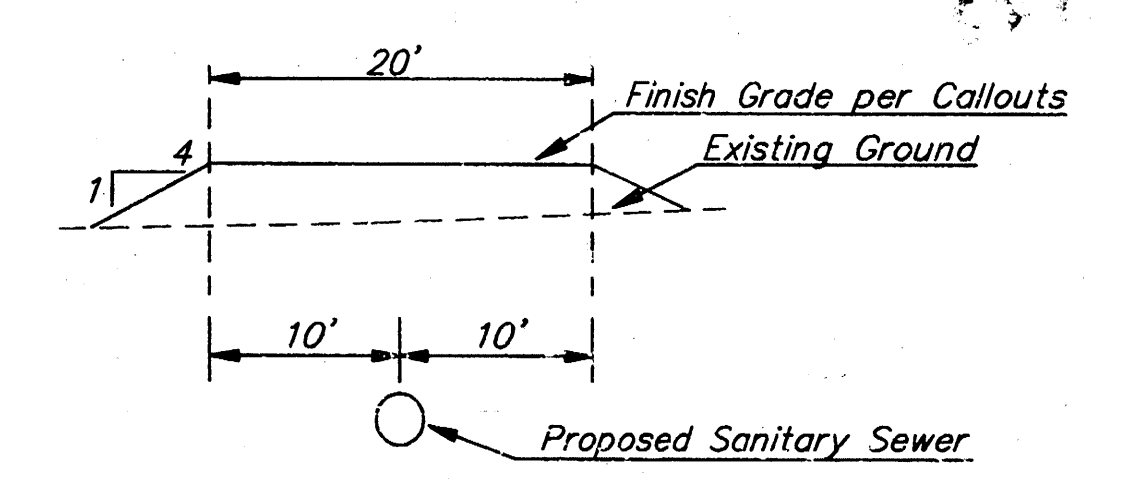
Scale: 1" = 40'
• = Iron



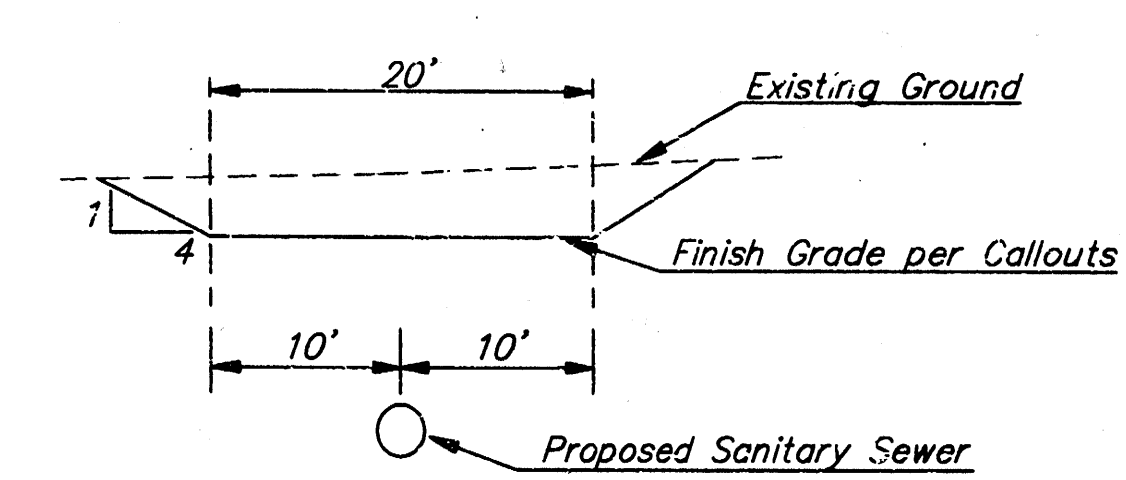
The contractor shall grade the easements as shown to the elevations given on the easement grading plan. All costs for grading shall be incidental to the Easement Grading Bid item.

The contractor shall 'straight' grade the easements between the elevations given. Where a callout designates 'Match', the contractor will grade to the existing ground elevation.

NOTE: The approximate quantity of easement grading is 2372 yd³ fill. (Contractor furnished)



TYPICAL FILL SECTION



TYPICAL CUT SECTION

EASEMENT GRADING

AUBURN HILLS 3RD ADDITION			
ESMT. GRADING PLAN			
SANITARY SEWER			
BAUGHMAN COMPANY P.A.			
ENGINEERING, SURVEYING, & PLANNING			
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211			
PROJECT NUMBER		468-82752	
DESIGN	DRAWN	APPROVED	DATE
BP	TMG	BP	9-17-97
SCALE		1"=40'	
SHEET		8 OF 9	

State of Kansas)
County of Sedgwick) SS. We, Baughman Company P.A., Surveyors in
aforesaid county and state do hereby certify that, under the supervision
of the undersigned, we have surveyed and platted "AUBURN HILLS 3RD ADDITION",
Wichita, Sedgwick County, Kansas and that the accompanying plat is a
true and correct exhibit of the property surveyed, described as follows:
That part of the NW1/4 of Sec. 25, Twp. 27-S, R-2-W of the 6th P.M.,
Sedgwick County, Kansas, described as commencing at the NW Corner
of said NW1/4, thence N88°59'02"E along the north line of said NW1/4,
1089 feet for a point of beginning; thence S00°05'53"W parallel with the
west line of said NW1/4, 972.73 feet; thence N88°59'02"E parallel with
the north line of said NW1/4, 312.56 feet; thence N41°16'20"E, 102.68 feet
to a point on the westerly right-of-way line of Limuel as platted in
Auburn Hills Addition, Wichita, Sedgwick County, Kansas; thence north-
westerly; northerly and northeasterly along said right-of-way line, being
a curve to the right, having a central angle of 102°10'05" and a radius
of 282 feet, an arc distance of 502.85 feet, (having a chord length of
438.83 feet bearing N02°21'23"E), to the P.T. of said curve; thence
N53°26'25"E along said right-of-way line, 178.57 feet to the P.C. of
a curve to the left; thence northeasterly and northerly along said right-of-
way line, having a central angle of 53° and a radius of 230.89 feet,
an arc distance of 213.58 feet, (having a chord length of 206.05 feet
bearing N26°56'25"E), to the P.T. of said curve; thence N00°26'25"E
along said right-of-way line, 42.75 feet to the SE Corner of Reserve "A"
as platted in said Auburn Hills Addition; thence N56°52'53"W along the
southwesterly line of said Reserve "A", 142.52 feet to the NW Corner of
said Reserve "A"; thence N00°26'25"E parallel with the east line of said
NW1/4, 50.01 feet to a point on the north line of said NW1/4; thence
S88°59'02"W along the north line of said NW1/4, 514.83 feet to the
point of beginning.

Baughman Company, P.A.

Michael G. Conrey 6/26/97 Surveyor
Michael G. Conrey


West Wichita Development, Inc.

My App't Exp. 05/05/01 Charles Y. Arthur Notary Public

My App't. Exp. _____ Notary Public

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELUS • WICHITA, KANSAS 67211