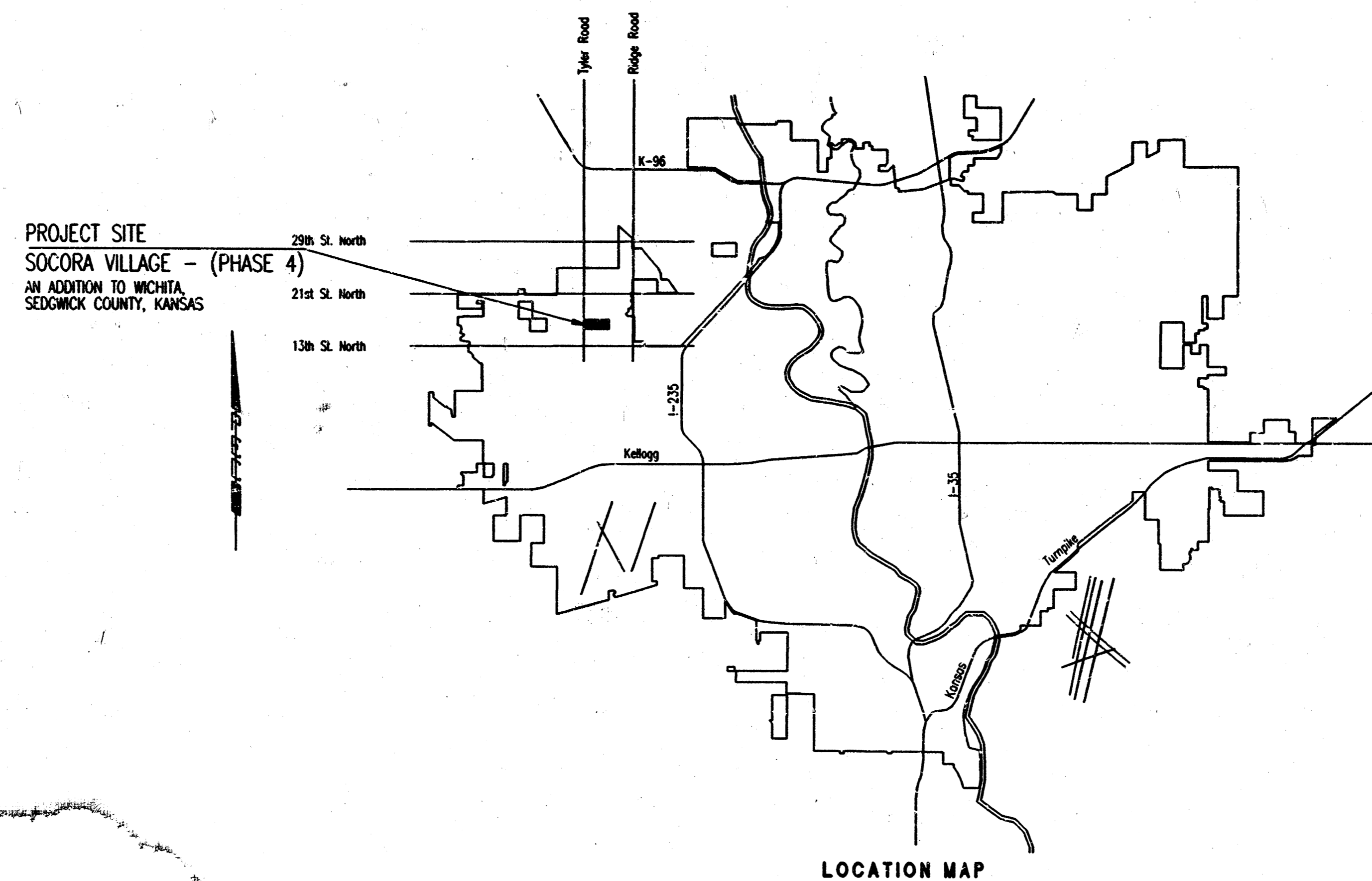


82253

CONSTRUCTION PLANS FOR
LATERAL 30, MAIN 15
 OF THE
SOUTHWEST INTERCEPTOR SEWER
 IN
THE CITY OF WICHITA,
 SEDGWICK COUNTY, KANSAS
 MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER



INDEX OF SHEETS

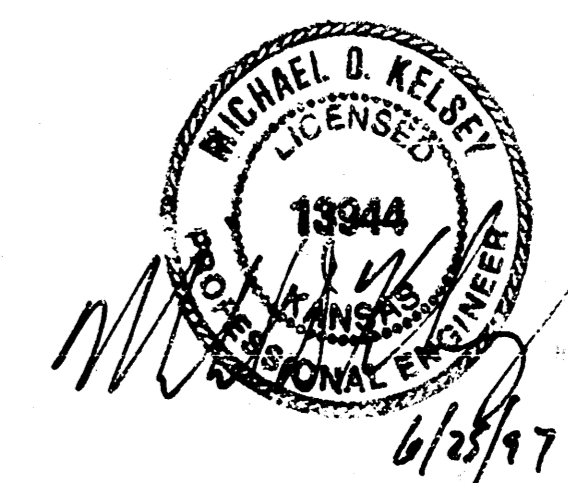
SHEET NO. 1	TITLE SHEET
SHEET NO. 2	KEY MAP AND GENERAL NOTES
SHEET NO. 3	EASEMENT GRADING PLAN
SHEET NO. 4-6	PLAT
SHEET NO. 7-8	PLAN/PROFILE
SHEET NO. 9	TYPE "P" MANHOLE DETAILS
SHEET NO. 10	FRAME & COVER DETAIL
SHEET NO. 11	RISER DETAILS

INDEX CODE 743146
 WICHITA PROJECT NO. 468-76-245-82253-000-000-001

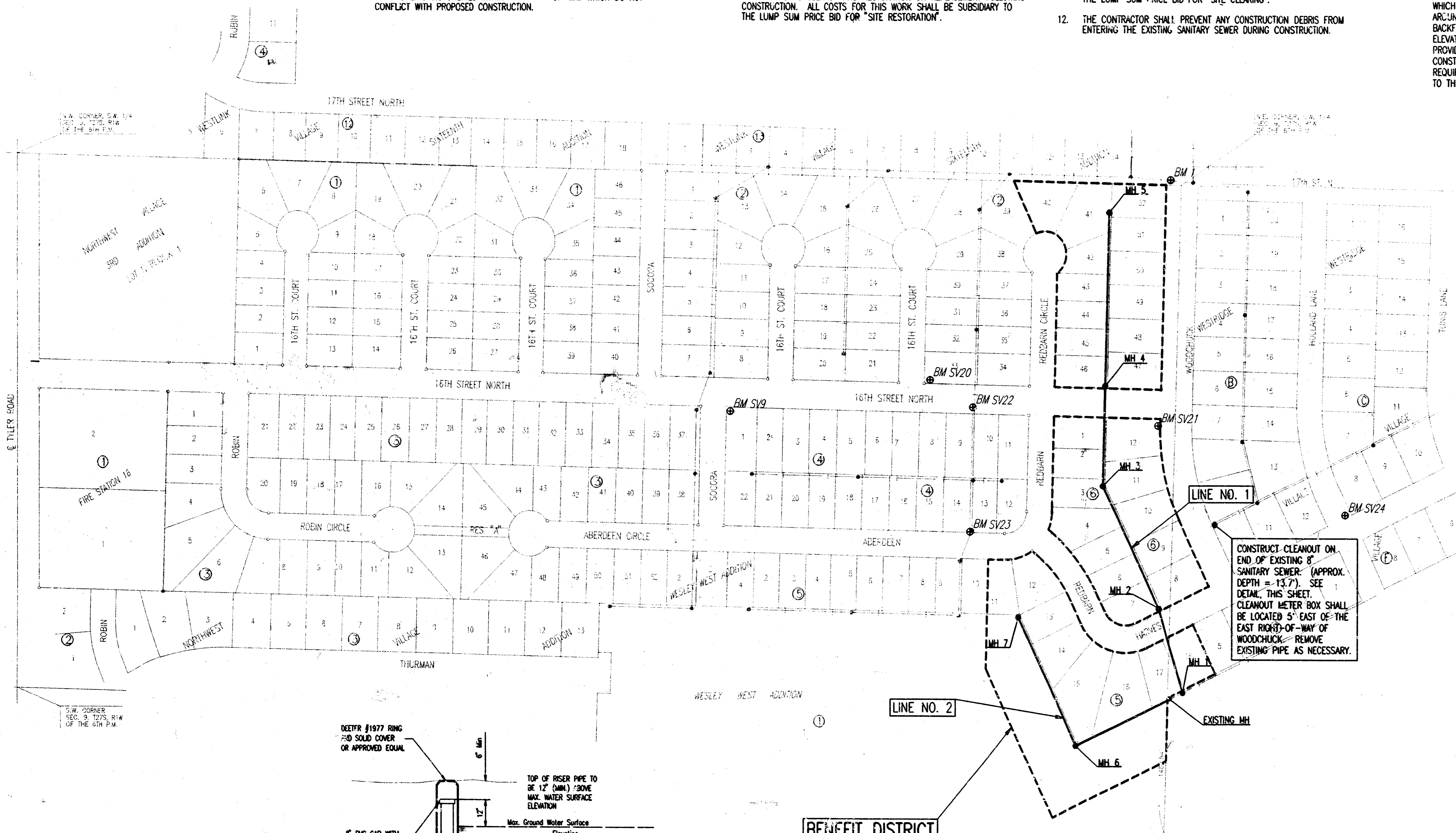
JUNE 1997

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

*Booked
 D-236
 AS BUILT
 12/29/97
 RDL*



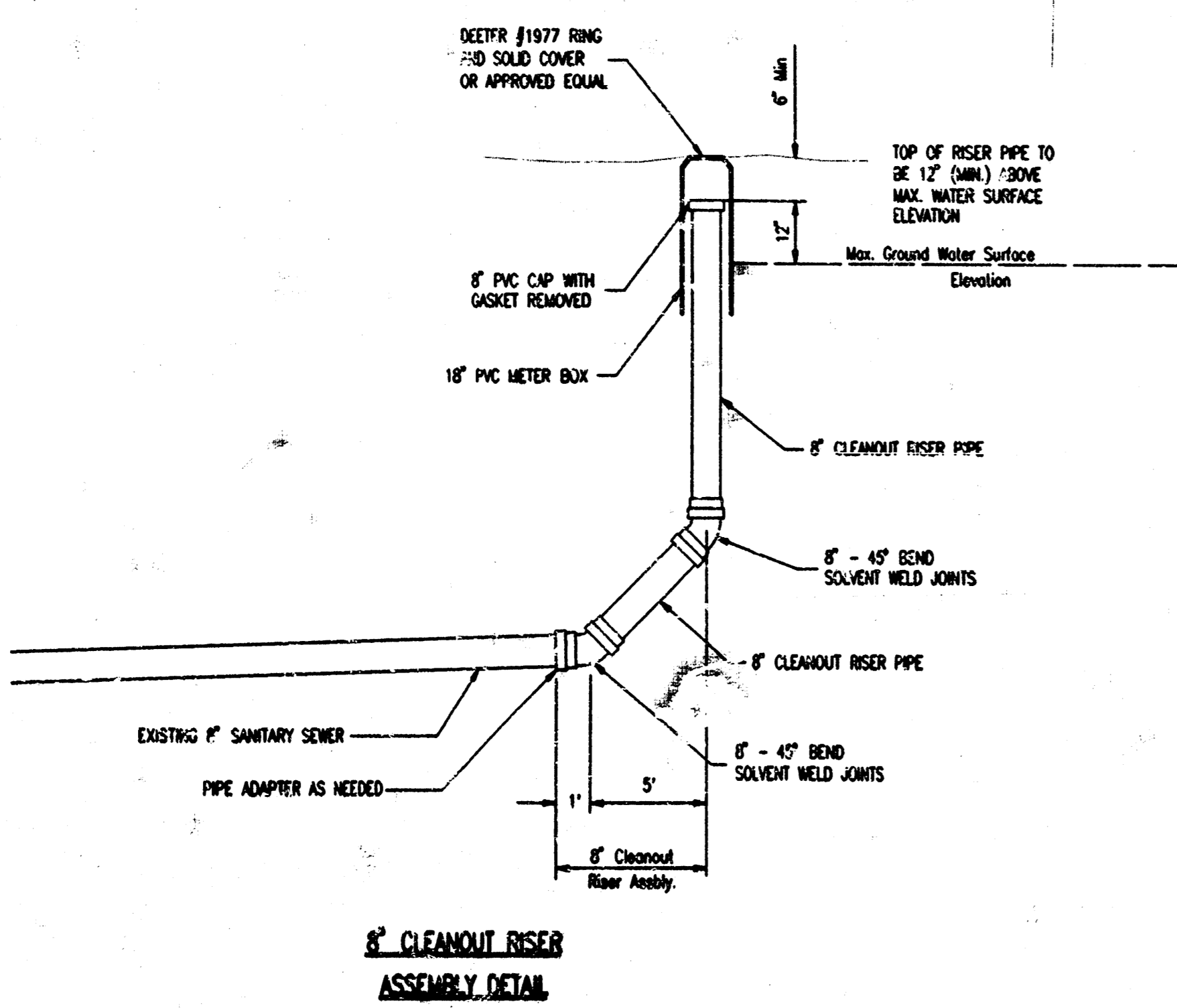
- GENERAL NOTES**
- ALL CONSTRUCTION AND MATERIALS TO COMPLY WITH CITY OF WICHITA SPECIFICATIONS AND STANDARDS.
 - ALL ELEVATIONS SHOWN ARE BASED ON CITY OF WICHITA DATUM.
 - THE CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH TO REMAIN OPEN OVERNIGHT AND WEEKENDS TO LESS THAN 50 FEET.
 - AT LEAST 72 HOURS PRIOR TO BEGINNING EXCAVATION (EXCLUDING WEEKENDS AND HOLIDAYS), THE CONTRACTOR SHALL CONTACT THE KANSAS ONE-CALL SYSTEM, A UTILITY LOCATION SERVICE, AT (316) 687-2470 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 PREPARING PROPERTY IRONS. THE CONTRACTOR WILL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO THE LUMP SUM PRICE BID FOR "SITE RESTORATION".
 - CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL MANHOLE COVERS.
 - MANHOLES SHALL BE TYPE "P" MANHOLES. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS.
 - ALL LAWN/TURF AREAS DISTURBED BY CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE RESTORED WITH THE SAME GRASS/SOD 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 CITY OF WICHITA STANDARD SPECIFICATIONS AND THE CITY OF WICHITA ADMINISTRATIVE REGULATION NO. AR78 WHICH GOVERNS CLEANUP AND RESTORATION OR REPLACEMENT FOLLOWING CONSTRUCTION. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO THE LUMP SUM PRICE BID FOR "SITE RESTORATION".
 - RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES INCLUDING ANY TREES REMOVED, TREE TRIMMINGS, AND EXCESS EXCAVATION WHICH IS TO BE WASTED 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 REMOVAL OR TRIMMING OF ANY TREES OR SHRUBS WHERE POSSIBLE. WHERE THE CONTRACTOR BELIEVES THE REMOVAL OR TRIMMING IS UNAVOIDABLE, HE SHALL COORDINATE SUCH WORK WITH THE ENGINEER. COSTS FOR TREE/SHRUB REMOVAL AND TRIMMING REGARDLESS OF SIZE SHALL BE CONSIDERED SUBSIDIARY TO THE LUMP SUM PRICE BID FOR "SITE CLEARING".
 - THE CONTRACTOR SHALL PREVENT ANY CONSTRUCTION DEBRIS FROM ENTERING THE EXISTING SANITARY SEWER DURING CONSTRUCTION.
 - THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY ADJACENT TO THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF TEN (10) DAYS ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION.
 - ALL APPROVED EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE STOCKPILED WITHIN SOCCORA VILLAGE AT NO ADDITIONAL COST TO THE OWNER. STOCKPILE LOCATIONS SHALL BE AS DIRECTED BY MR. LARRY CHAMBERS, AT 263-3201 AND IN ACCORDANCE WITH GENERAL NOTE NO. 10 ABOVE.
 - 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 OTHER SEEDING IS REQUIRED IN ACCORDANCE WITH GENERAL NOTE NO. 9 ABOVE. TEMPORARY SEEDING OR PERMANENT SEEDING/SODDING SHALL BE APPLIED WITHIN 14 DAYS AFTER THE AREA HAS BEEN DISTURBED.
 - THE CONTRACTOR SHALL NOT BURY MANHOLES THAT HAVE RIM ELEVATIONS WHICH ARE LOWER THAN EXISTING GROUND AT THE MANHOLE. THE GROUND AROUND SUCH MANHOLES AND ALONG THE SEWER ALIGNMENT SHALL BE BACKFILLED TO THE APPROXIMATE ELEVATION OF THE PROPOSED GROUND ELEVATION SHOWN ON THE PLAN/PROFILE SHEETS. THE CONTRACTOR SHALL PROVIDE DRAINAGE AWAY FROM THESE MANHOLES AND SEWER LINES BY CONSTRUCTION OF TEMPORARY DITCHES OR SLOPING THE GROUND AS REQUIRED. ALL COSTS FOR THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO THE INSTALLED BID PRICE FOR MANHOLES OR PIPE.
 - INTERURBAN TRAFFIC GENERATED OUTSIDE THE PROJECT AREA AND LOCAL BUSINESS OR RESIDENTIAL TRAFFIC GENERATED WITHIN THE PROJECT AREA ARE TO BE CARRIED THROUGHOUT CONSTRUCTION AS FURTHER PROLUNGATED BY PROJECT SPECIAL PROVISIONS.
 - THE CONTRACTOR SHALL PROVIDE COMPACTED EARTH FILL AROUND PROPOSED MANHOLES AS SHOWN ON THE PLANS. COST SHALL BE CONSIDERED SUBSIDIARY TO THE LUMP SUM PRICE BID FOR "SITE RESTORATION".



SEWER SERVICE TABLE
(See detail and notes, sheet no. 11)

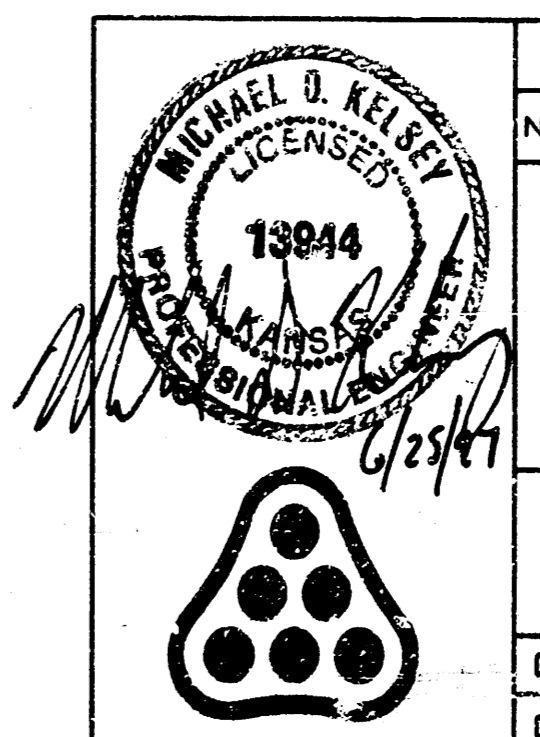
NO.	TYPE	LOCATION				FOR INFORMATION ONLY		RECORD INFORMATION (TO BE COMPLETED BY PROJECT INSPECTOR)		NO.
		LOT NO.	BLOCK NO.	LINE NO.	STATION/DIRECTION	APPROXIMATE LENGTH 4" PIPE		UPSTREAM	DOWNSTREAM	
1	8"x4" Tee Saddle	17	5	1	0+25/LL	12'	6'			1
2	8"x4" Tee Saddle	18	5	1	0+35/RL	12'	11'			2
3	8"x4" Tee Saddle	7	6	1	2+15/LL	11'	2'			3
4	8"x4" Tee Saddle	8	6	1	2+20/RL	12'	15'			4
5	8"x4" Tee Saddle	6	6	1	2+80/LL	12'	3'			5
6	8"x4" Tee Saddle	9	6	1	2+90/RL	12'	15'			6
7	8"x4" Tee Saddle	5	6	1	3+45/LL	12'	3'			7
8	8"x4" Tee Saddle	10	6	1	3+65/RL	13'	15'			8
9	8"x4" Tee Saddle	4	6	1	4+05/LL	13'	3'			9
10	8"x4" Tee Saddle	3	6	1	4+55/LL	12'	4'			10
11	8"x4" Tee Saddle	11	6	1	4+65/RL	12'	14'			11
12	8"x4" Tee Saddle	2	6	1	5+25/LL	11'	4'			12
13	8"x4" Tee Saddle	12	6	1	5+35/RL	11'	14'			13
14	8"x4" Tee Saddle	1	6	1	5+90/LL	10'	4'			14
15	8"x4" Tee Saddle	46	2	1	7+25/LL	10'	4'			15
16	8"x4" Tee Saddle	47	2	1	7+30/RL	10'	14'			16
17	8"x4" Tee Saddle	45	2	1	7+90/RL	10'	4'			17
18	8"x4" Tee Saddle	48	2	1	8+00/RL	10'	14'			18
19	8"x4" Tee Saddle	44	2	1	8+50/LL	10'	4'			19
20	8"x4" Tee Saddle	49	2	1	8+75/RL	11'	14'			20
21	8"x4" Tee Saddle	43	2	1	9+10/LL	10'	4'			21
22	8"x4" Tee Saddle	50	2	1	9+40/RL	10'	14'			22
23	8"x4" Tee Saddle	42	2	1	9+80/LL	9'	4'			23
24	8"x4" Tee Saddle	51	2	1	10+20/RL	9'	4'			24
25	8"x4" Tee Saddle	41	2	1	10+85/LL	8'	4'			25
26	4" MH Ser. Conn.	52	2	1	10+85/RL	8'	16'			26
27	8"x4" Tee Saddle	16	5	2	0+45/RL	12'	12'			27
28	8"x4" Tee Saddle	15	5	2	2+80/RL	11'	14'			28
29	8"x4" Tee Saddle	14	5	2	4+10/RL	11'	14'			29
30	8"x4" Tee Saddle	13	5	2	5+05/RL	10'	14'			30
31	4" MH Ser. Conn.	12	5	2	5+48.7/RL	10'	15'			31
32	4" MH Ser. Conn.	11	5	2	5+48.7/RL	10'	16'			32

NOTES:
1. Vertical Riser Pipe shall be extended to 2' minimum above ground water elevation and 4' maximum below proposed ground elevation.



- BENCHMARK LIST**
- DATUM BM TYLER AND 13TH ST. NORTH CITY OF WICHITA BM DISC. 48' EAST AND 48' NORTH OF INTERSECTION OF CENTERLINE BOTH. ELEV. = 167.929
 - BM 1 CHISELED "6" W. T/C WOODCHUCK AT S. END EXISTING PAVEMENT S. OF 17 TH. ST. SE. OF NE CORNER LOT 52, BLOCK 2, SOCCORA VILLAGE. ELEV. = 159.415
 - BM SV9 CHISELED "6" ON SOUTHWEST CORNER OF CONCRETE TELEPHONE VAULT AT THE SOUTHWEST CORNER OF LOT 1, BLOCK 4, SOCCORA VILLAGE. ELEV. = 169.72

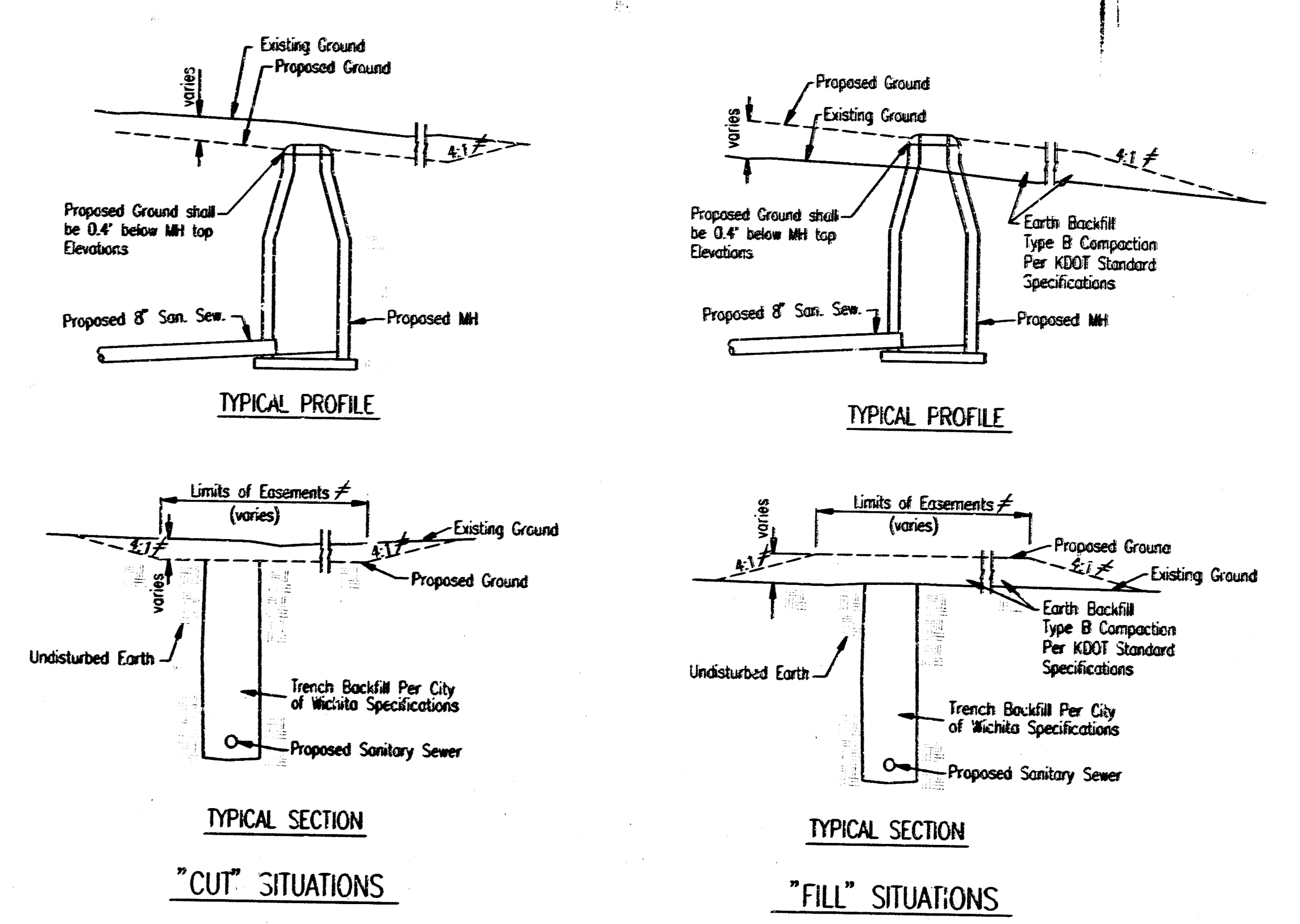
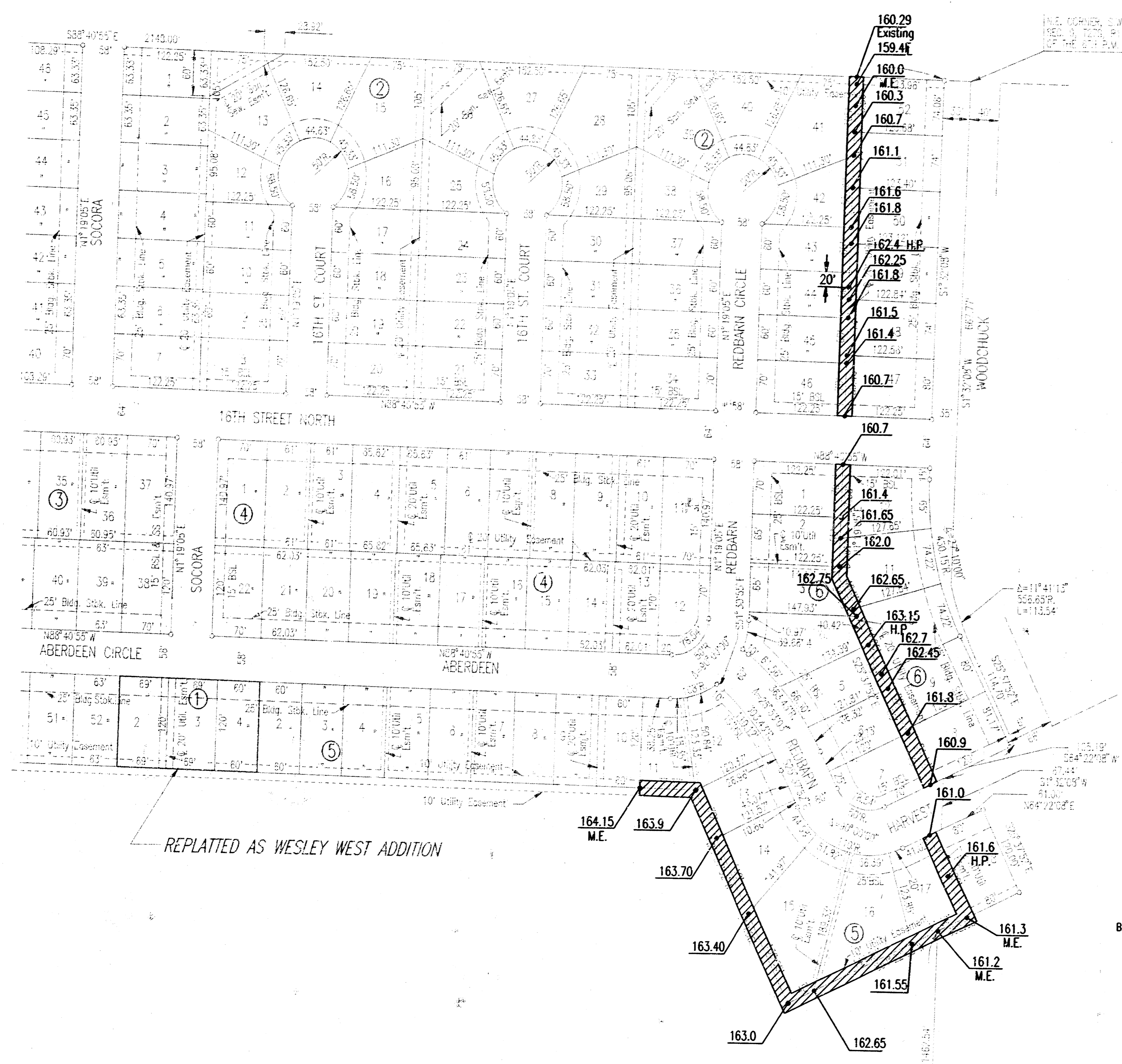
- BM SV20 T-POST 5' N. & 5' E. SW COR. LOT 33, BLOCK 2, SOCCORA VILLAGE. ELEV. = 160.73
- BM SV21 T-POST 5' W. & 15' S. OF NE COR. LOT 12, BLOCK 6, SOCCORA VILLAGE. ELEV. = 159.415
- BM SV22 CHISELED "6" S. T/C 16TH STREET AT LOT CORNERS 9 & 10, BLOCK 4 & AT E. END OF EXISTING CURB. ELEV. = 161.08
- BM SV23 CHISELED "6" N. T/C ABERDEEN STREET AT LOT CORNERS 13 & 14, BLOCK 4 & AT E. END OF EXISTING CURB. ELEV. = 161.645
- BM SV24 CHISELED "6" T/C AT N. RETURN OF NE CORNER OF HOLLAND & HARVEST STREETS. ELEV. = 158.01



No.	Revision	By	Date
	LATERAL 30, MAIN 15 OF THE SOUTHWEST INTERCEPTOR SEWER		
KEY MAP			
MICHAEL E. LINDEGAR, P.E. - CITY ENGINEER CITY OF WICHITA PROJECT NO. 468-76-245-82253-C00-000-001			
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.			
ENGINEERS WICHITA, KANSAS			
Designed by	MDK	Job No.	34-97420-2
Drawn by	TLS	Date	April 1997
			Sht. 2 of 11

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DSMR: RJJ OFFER: BR SCALE: 1=100.00
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EASEMENT GRADING DETAILS

- = AREAS TO BE GRADED
- H.P. = HIGH POINT
- M.E. = MATCH EXISTING

Graded widths and slopes may vary as approved by the Engineer to minimize conflict with existing trees.

Easement Grading will be bid on a lump sum basis for grading the easement to the profile and elevations shown on the Easement Grading Plan (this sheet). Approximate quantities of earthwork for easement grading are shown below. These approximate quantities are given for information only. The Contractor should verify the quantities when preparing the proposal.

Cut 0 C.Y. (Approximate)
 Fill 2,604 C.Y. (Approximate)

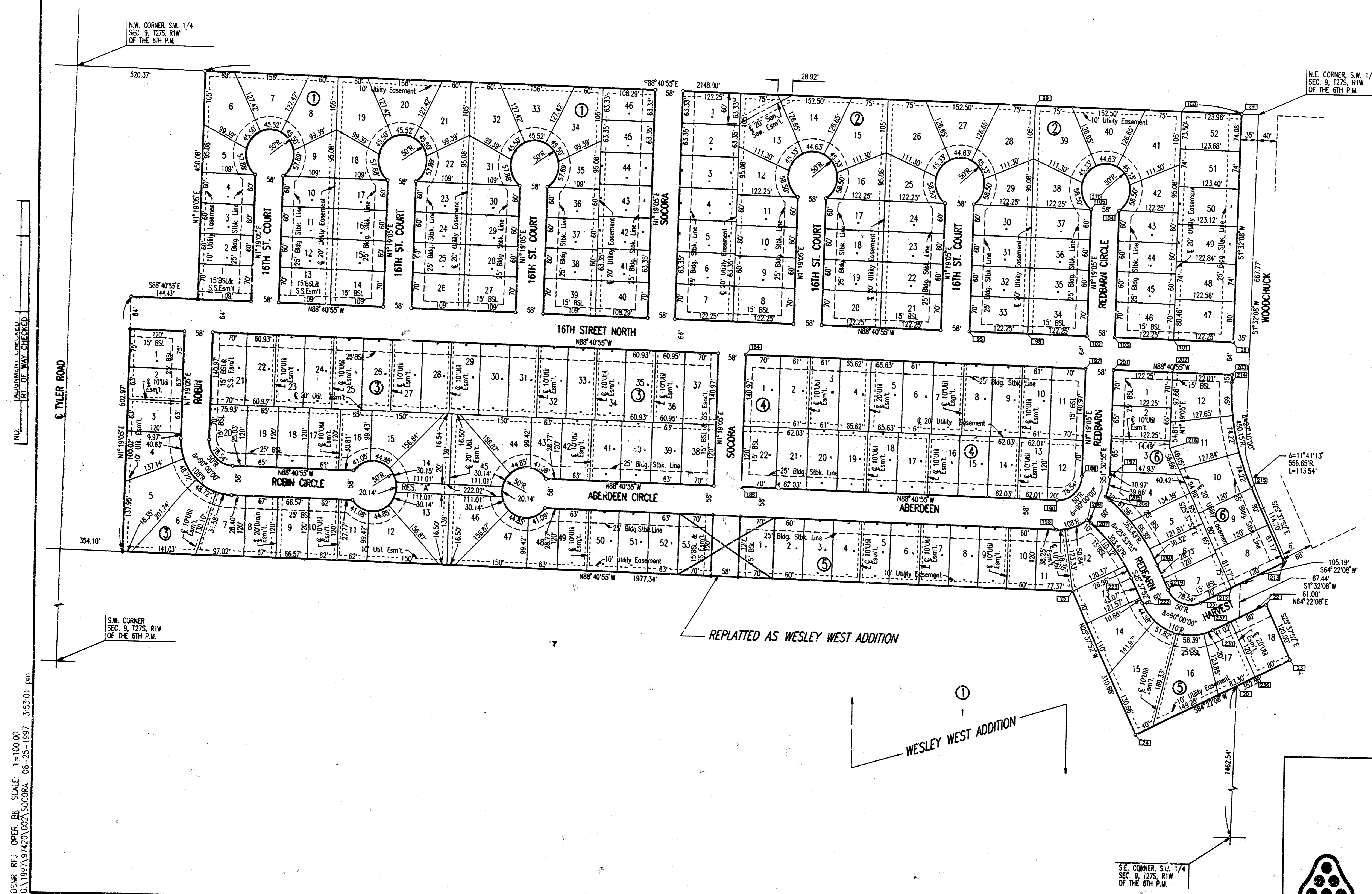
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 ○ = IRON SET
 ● = IRON FOUND
 BSL = BUILDING SETBACK LINE
 S.S. = SANITARY SEWER

B.M. - TYLER AND 13TH STREET NORTH
 CITY OF WICHITA BENCH MARK DISC
 48 FT. EAST AND 48 FT. NORTH OF
 INTERSECTION OF CENTERLINE BOTH
 ELEV.=167.929 CITY DATUM

	No.	Revision	By	Date
	LATERAL 30, MAIN 15 OF THE SOUTHWEST INTERCEPTOR SEWER EASEMENT GRADING PLAN			
	MICHAEL C. LINDEBAK, P.E. - CITY ENGINEER CITY OF WICHITA PROJECT NO. 468-76-245-82253-000-000-001 PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS			
	Designed by	MDK	Job No.	34-97420-2
Drawn by	TLS	Date	April 1997	

SOCORA VILLAGE

AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS



SCALE: 1"=100'

IRON SET
 BSL = BUILDING SETBACK LINE
 S.S. = SANITARY SEWER

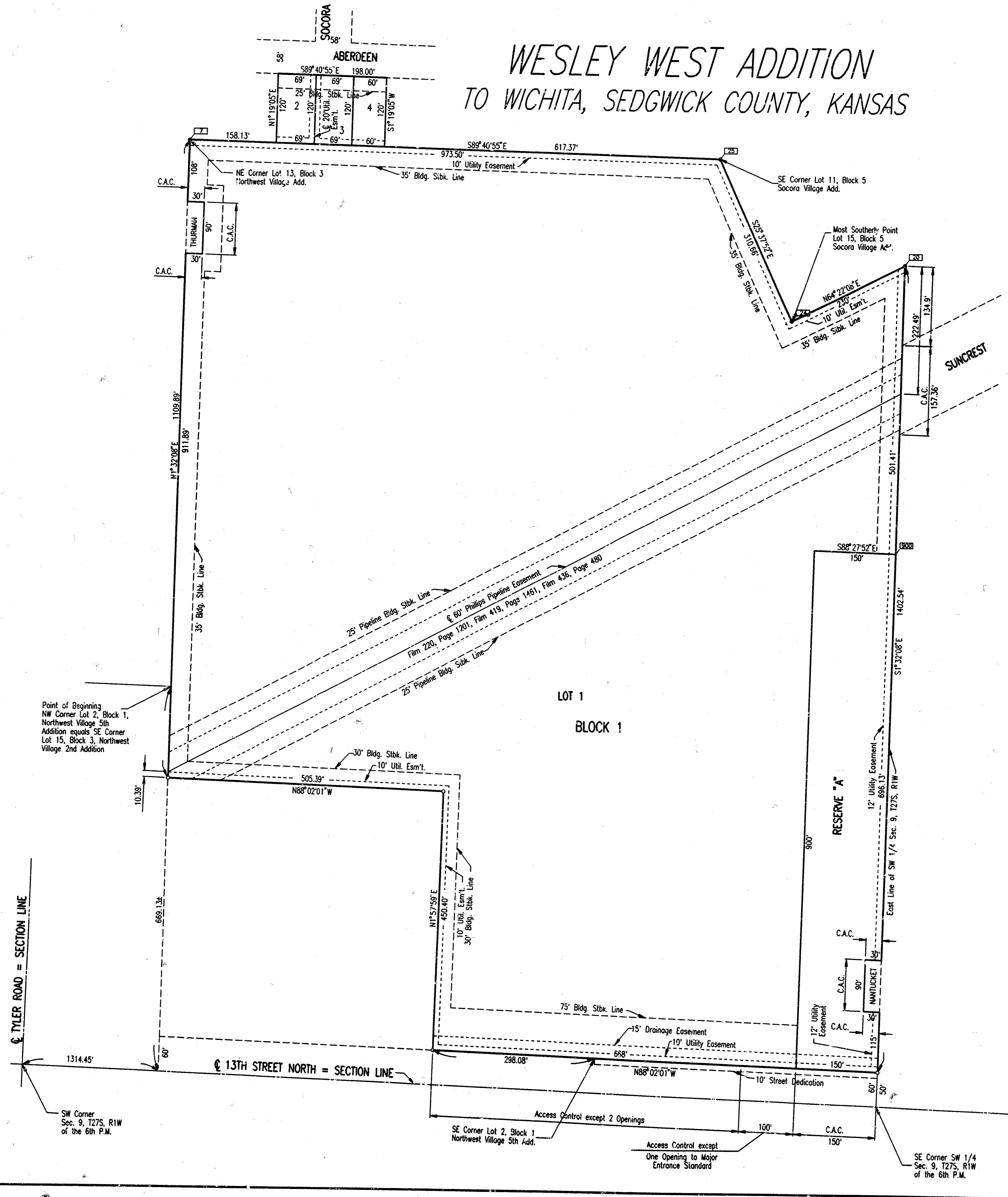
B.M. - TYLER AND 13TH STREET NORTH
 CITY OF WICHITA BENCH MARK DISC.
 48 FT. EAST AND 48 FT. NORTH OF
 INTERSECTION OF CENTERLINE BOTH.
 ELEV.=167.929 CITY DATUM

	NORTHING	EASTING
PNT 20	1871.61353649	3172.48775051
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PNT 23	1924.64008501	3283.00866830
PNT 24	1772.12120086	2985.12026234
PNT 25	2052.21334578	2830.73554303
PNT 28	2547.83865258	3155.60268883
PNT 29	2997.76114449	3167.66372453
PNT 95	2560.42088722	2608.74597649
PNT 98	2557.60894636	2730.96363039
PNT 99	3007.57073955	2741.31652192
PNT 100	3000.61251953	3043.73652352
PNT 101	2550.65072664	3033.38359200
PNT 102	2554.79690550	2853.18128430
PNT 103	2553.46276750	2911.16593809
PNT 104	2803.39662007	2916.91653290
PNT 105	2804.73075807	2858.93187910
PNT 184	2506.87525054	2153.64388174
PNT 188	2245.97741372	2147.64102220
PNT 190	2279.90277218	2846.85639169
PNT 192	2231.08612088	2795.71950222
PNT 196	2480.81383924	2851.70913203
PNT 197	2173.08146688	2784.38536423
PNT 197	2278.56863412	2904.84104549
PNT 201	2489.47970125	2909.6378582
PNT 202	2486.66766039	3031.91143866
PNT 203	2483.86163575	3153.8876214
PNT 205	2239.97206160	2896.75137848
PNT 206	2193.00561435	2859.41302243
PNT 207	2186.78255501	2857.24076364
PNT 208	2233.74900226	2904.57919669
PNT 213	2116.76747833	3267.33884706
PNT 214	2468.86702242	3153.48570276
PNT 215	2262.07929175	3197.62005055
PNT 216	2337.21712026	3028.47281169
PNT 217	2064.85843365	3159.14711411
PNT 219	2058.02927770	3029.32661253
PNT 221	2034.57815759	3086.03526988
PNT 222	2032.07475536	2975.23074605
PNT 223	2080.52113253	2951.98677826
PNT 231	1980.48291111	3121.88979222
PNT 236	1890.03406523	3120.88084633
PNT 237	1988.22579819	3158.97180165
PNT 240	2106.47565487	3006.08284474
PNT 270	2244.78373582	2828.86111186

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No.	Revision	By	Date
LATERAL 30, MAIN 15 OF THE SOUTHWEST INTERCEPTOR SEWER PLAT			
MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER CITY OF WICHITA PROJECT NO. 468-76-245-82253-000-000-001			
PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS			
Designed by	Job No. 34-97420-2	Sht. 4 of 11	
Drawn by DEP	Date April 1997		

WESLEY WEST ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS



SCALE: 1"=100'
 ○ = IRON SET
 ● = IRON FOUND

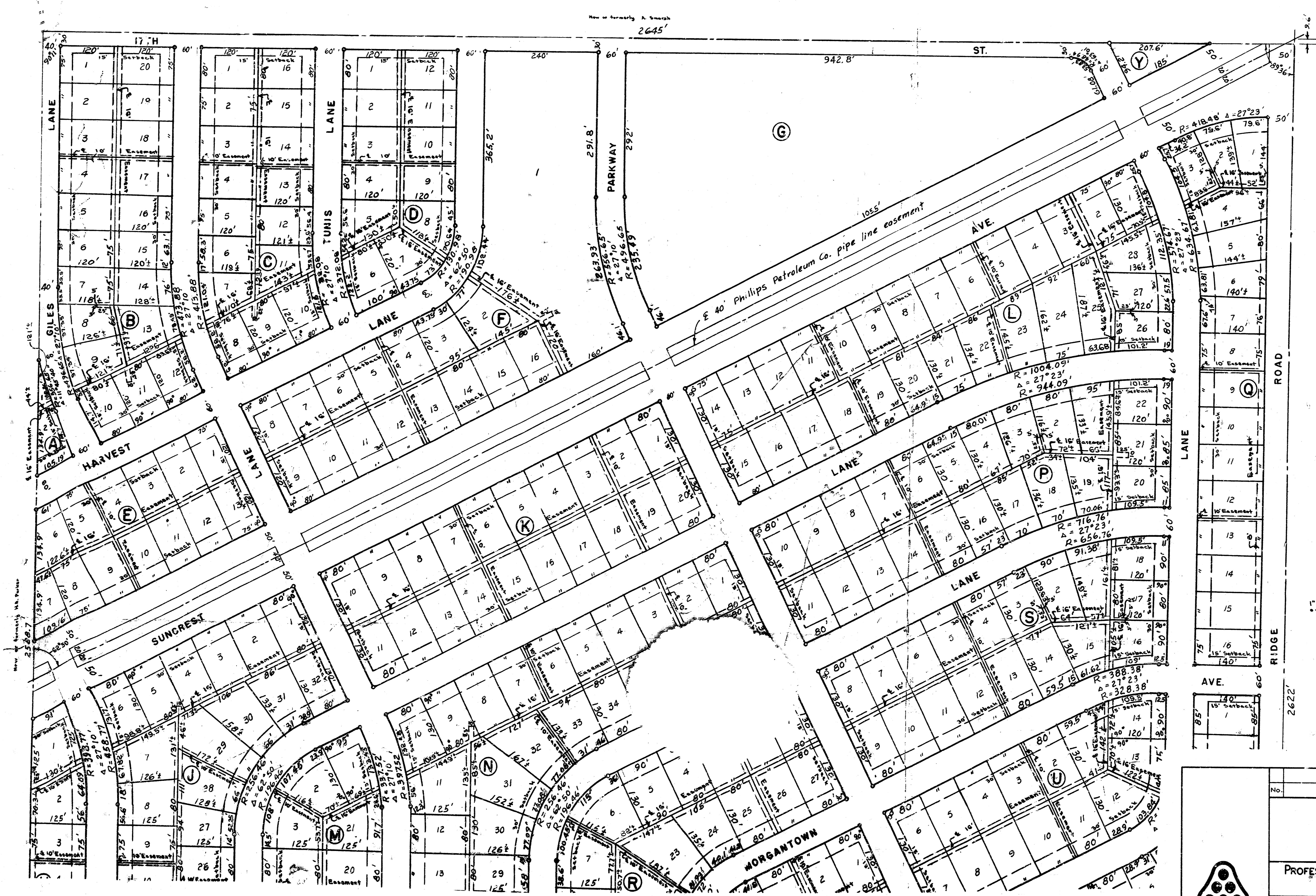
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No. _____ Revision _____ By _____ Date _____	WESLEY WEST ADDITION PLAT
PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS	
Designed by _____ Drawn by DEP	Job No. 34-97420-2 Date April 1997
Sht. 5 of 11	

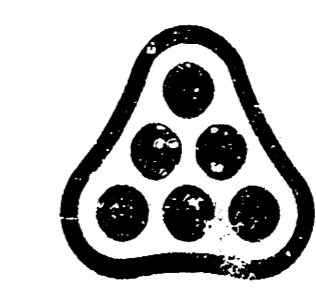
WESTRIDGE VILLAGE

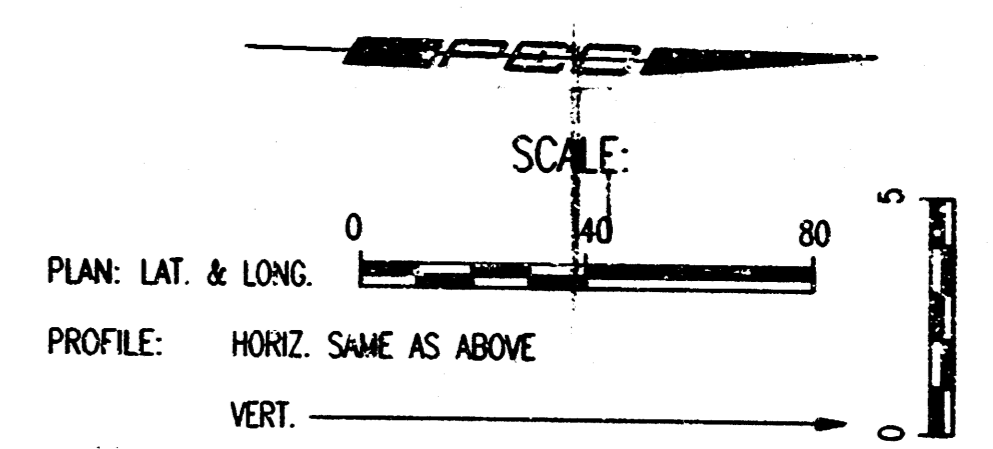
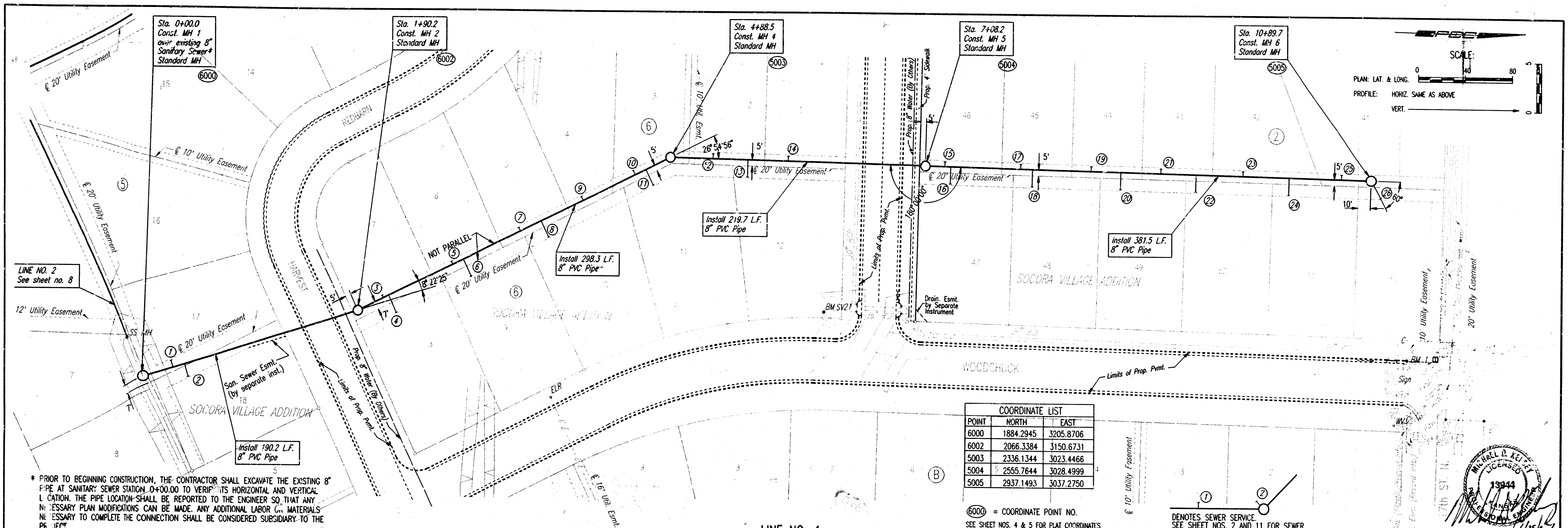
SEDGWICK COUNTY, KANSAS



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	Revision	By	Date
WESTRIDGE VILLAGE			
PLAT			
PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS			
Designed by	Job No. 34-97420-2	Sht. 6 of 11	
Drawn by DEP	Date April 1997		



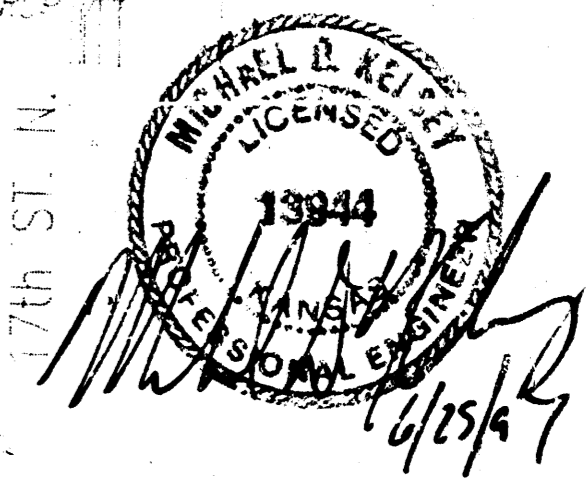


COORDINATE LIST		
POINT	NORTH	EAST
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6003	2336.1344	3023.4466
6004	2555.7844	3028.4999
6005	2937.1493	3037.2750

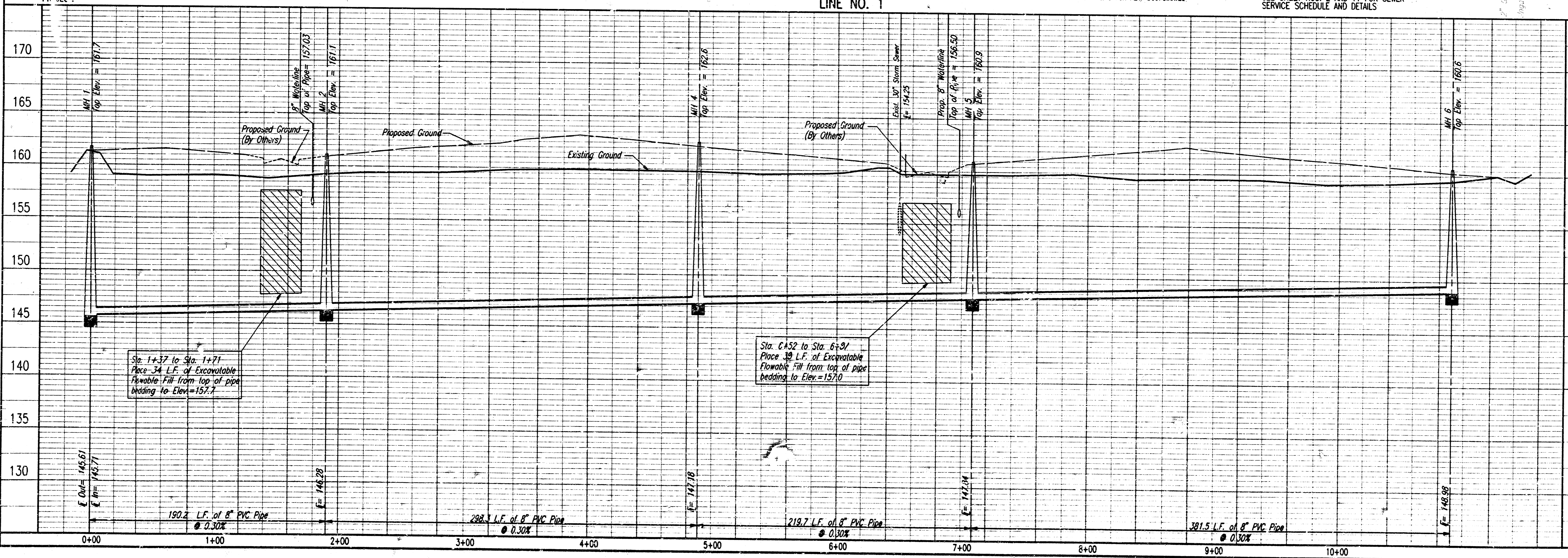
* PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE THE EXISTING 8" PIPE AT SANITARY SEWER STATION 0+00.00 TO VERIFY ITS HORIZONTAL AND VERTICAL LOCATION. THE PIPE LOCATION SHALL BE REPORTED TO THE ENGINEER SO THAT ANY NECESSARY PLAN MODIFICATIONS CAN BE MADE. ANY ADDITIONAL LABOR OR MATERIALS NECESSARY TO COMPLETE THE CONNECTION SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT.

6000 = COORDINATE POINT NO.
 SEE SHEET NOS. 4 & 5 FOR PLAT COORDINATES.

7 2
 DENOTES SEWER SERVICE
 SEE SHEET NOS. 2 AND 11 FOR SEWER SERVICE SCHEDULE AND DETAILS



LINE NO. 1



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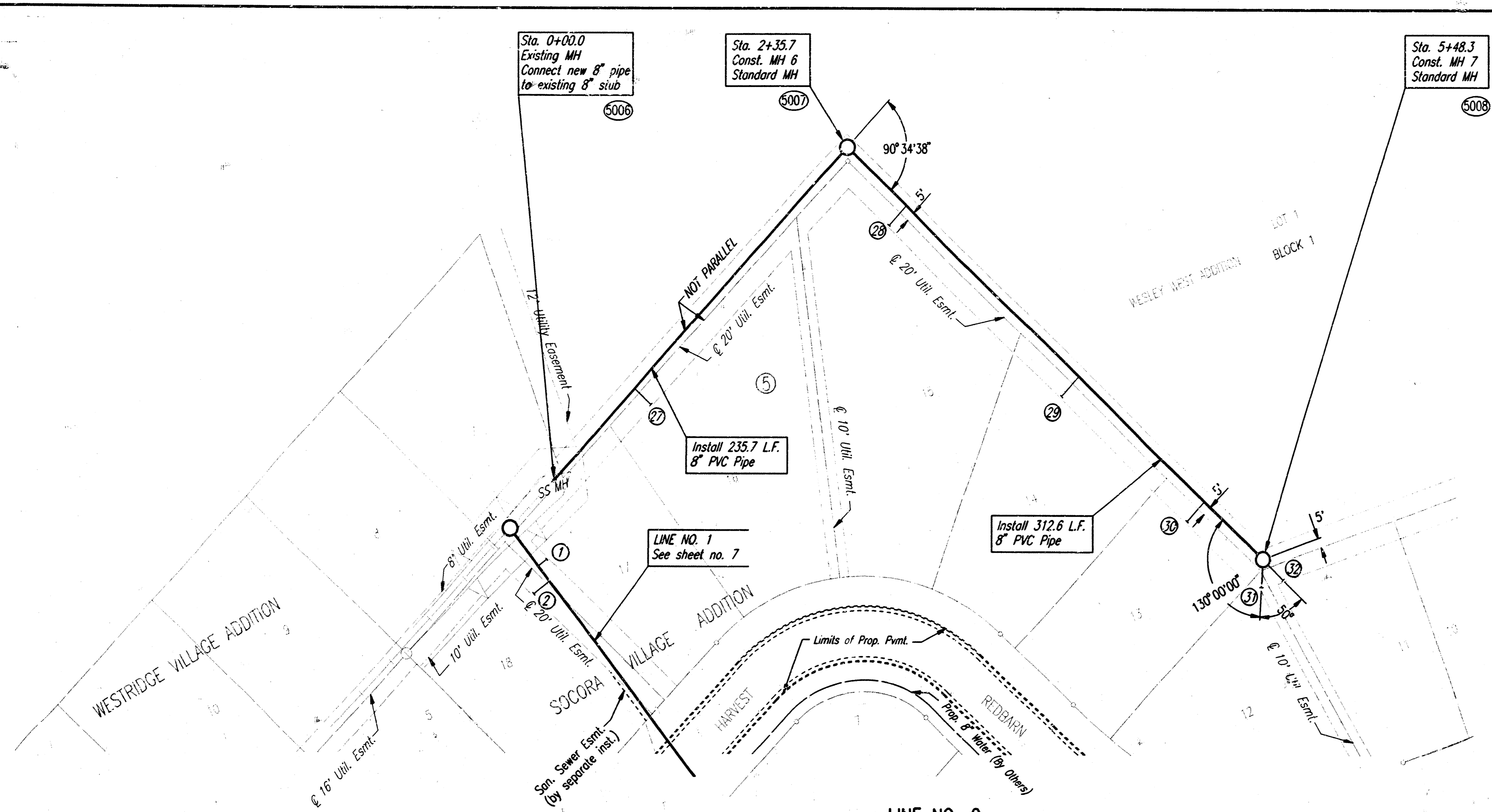
LATERAL 30 MAIN 15
 SOUTHWEST INTERCEPTOR SEWER
LINE NO. 1

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
 MICHAEL F. LINDEBAK, P.E. - CITY ENGINEER
 WICHITA, KANSAS

Job No. 34-97420-2
 Date April 1997

Designed By MLK
 Drawn By TJS

Sheet 7 of 11

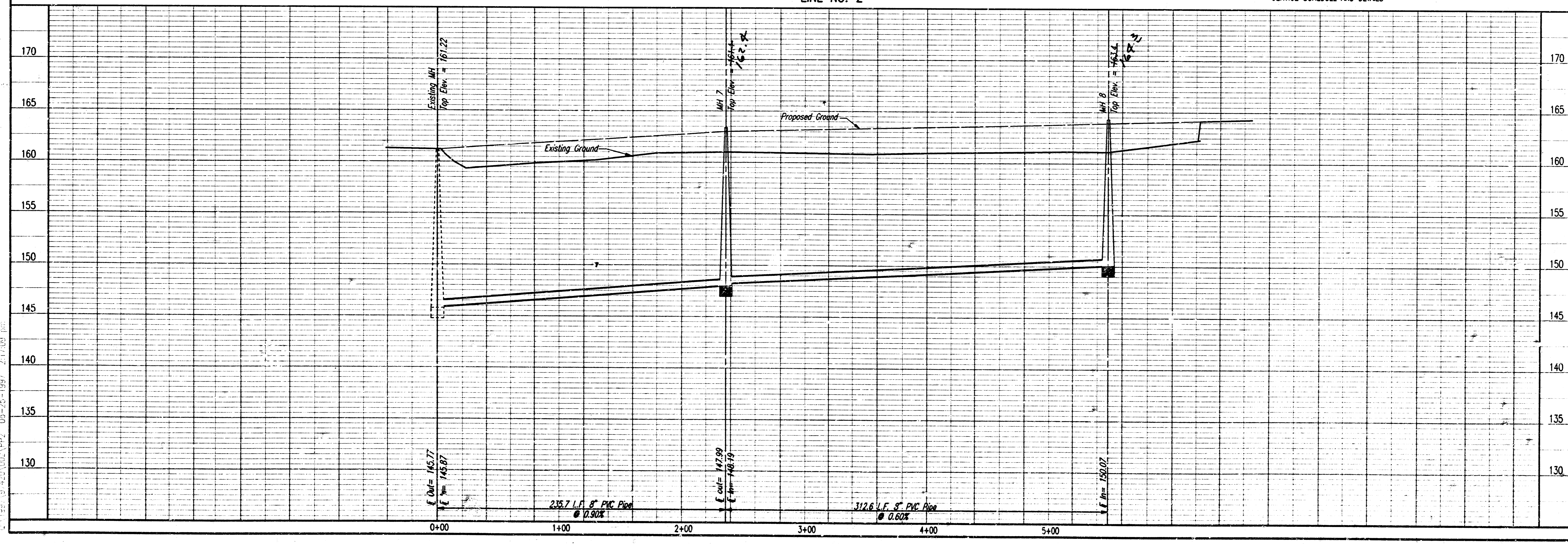
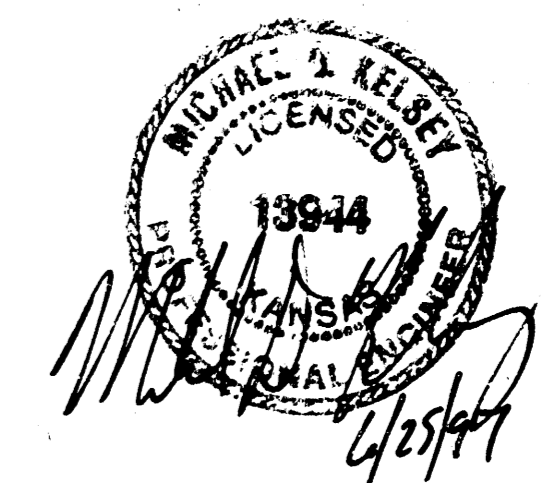


COORDINATE LIST

POINT	NORTH	EAST
5006	1869.3460	3174.3320
5007	1765.4503	2962.7752
5008	2047.2852	2827.5543

5000 = COORDINATE POINT NO.
SEE SHEET NOS. 4 & 5 FOR PLAT COORDINATES

①
②
DENOTES SEWER SERVICE.
SEE SHEET NOS. 2 AND 11 FOR SEWER SERVICE SCHEDULE AND DETAILS



LATERAL 30, MAIN 15
SOUTHWEST INTERCEPTOR SEWER
LINE NO. 2
MICHAEL E. LINDBERG, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 488-76-245-82253-000-000-001

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
WICHITA, KANSAS
Job No. 34-8720-2
Date April 1987

Designed By MKK
Drawn By TLS

Sheet 8 of 11

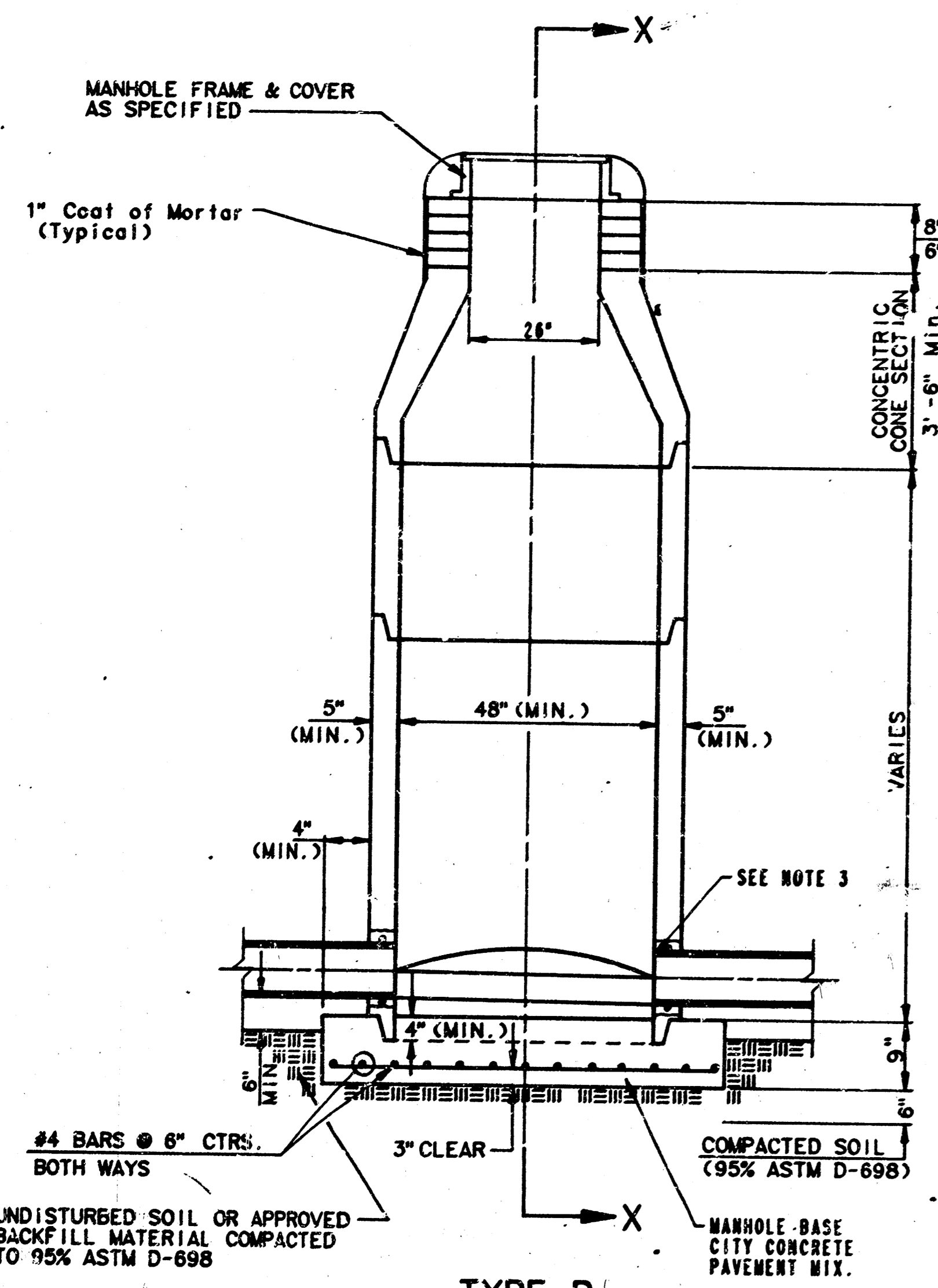
CS&A, P.L.L.C. OPER. BY STATE, 1-40-00
 01/15/97 07:20:00 00/00/00 09-26-1997 2:17:00 PM

SEWER APPURTENANCES DETAILS

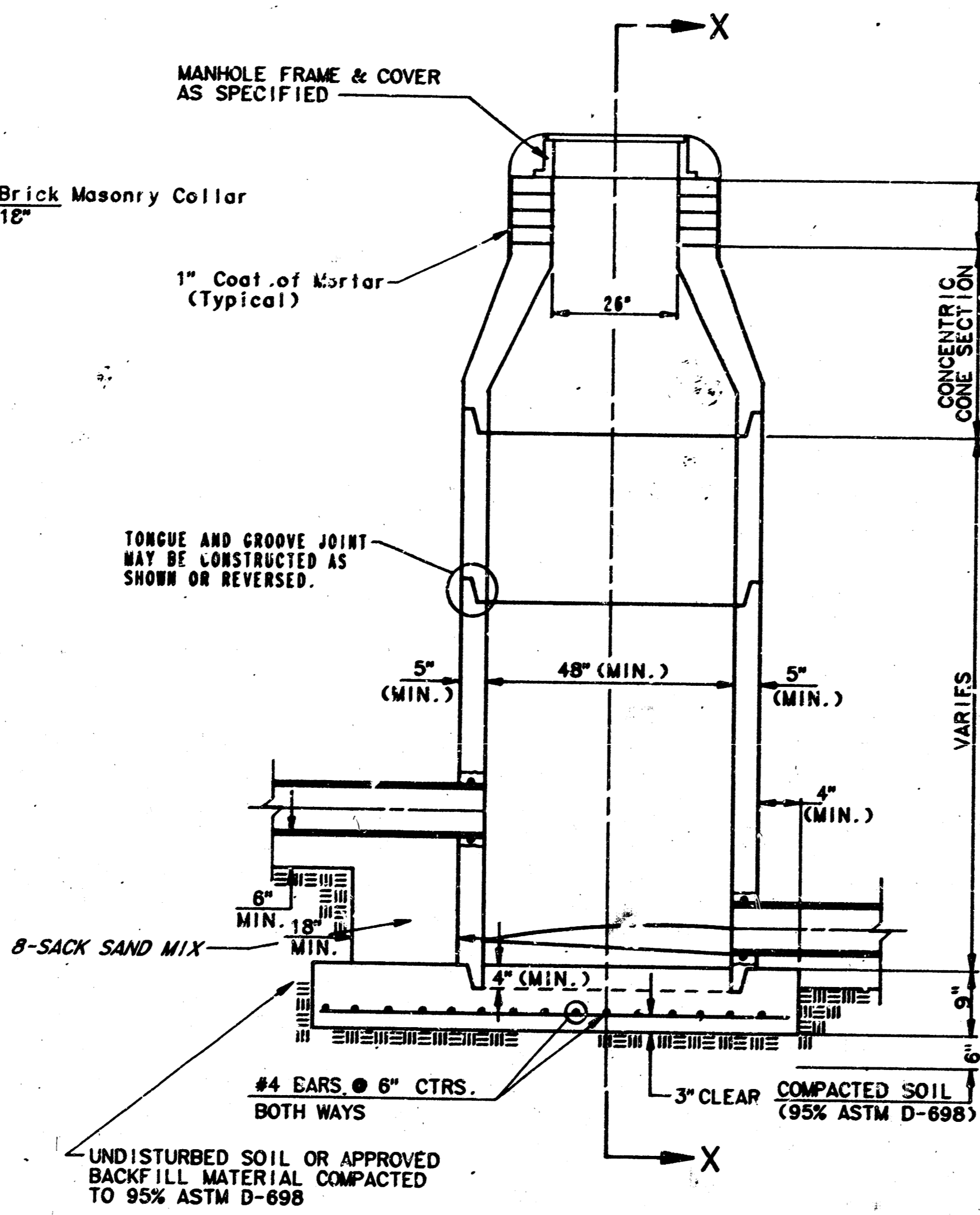
ADOPTED AS STANDARD DESIGN

BY

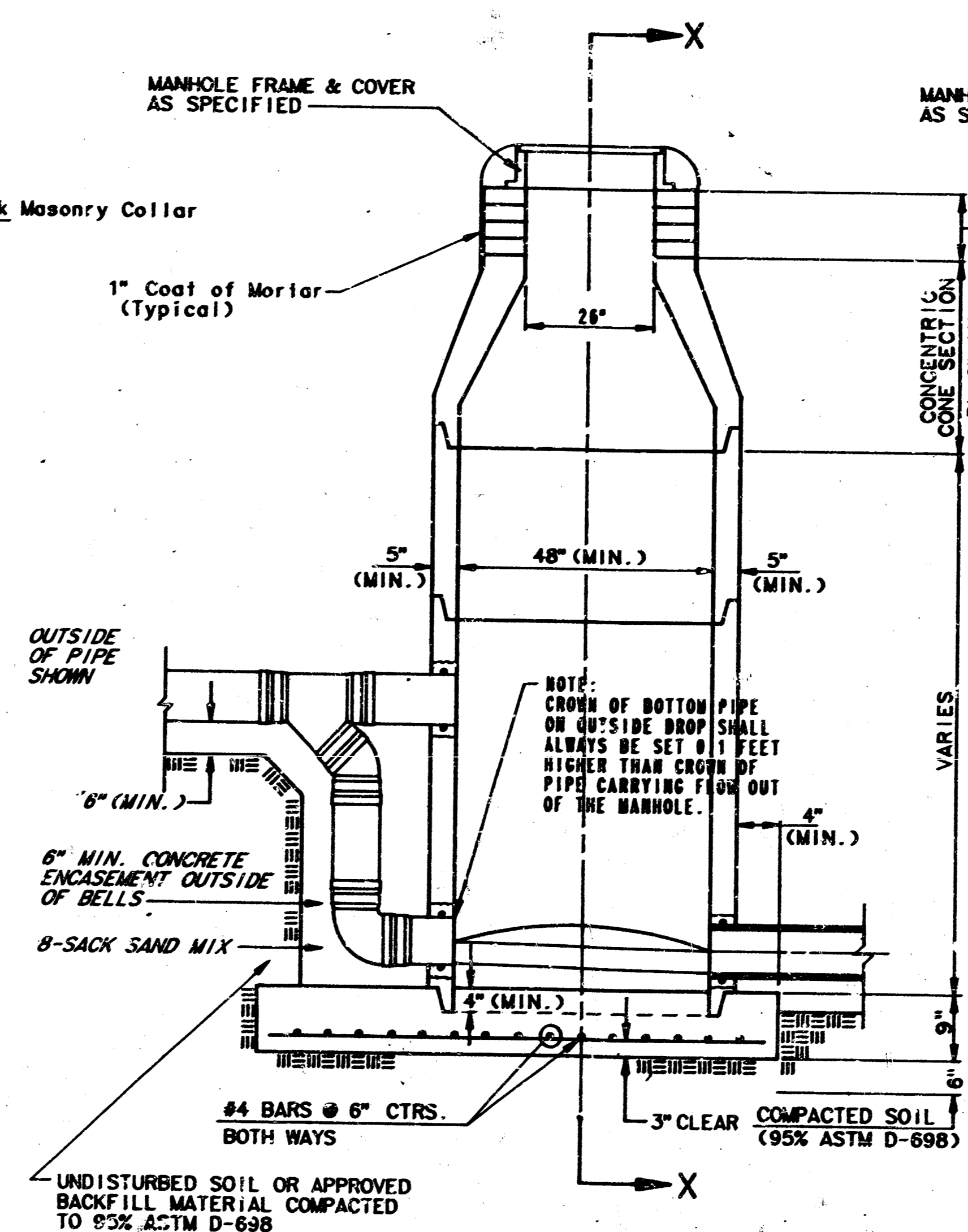
CITY OF WICHITA



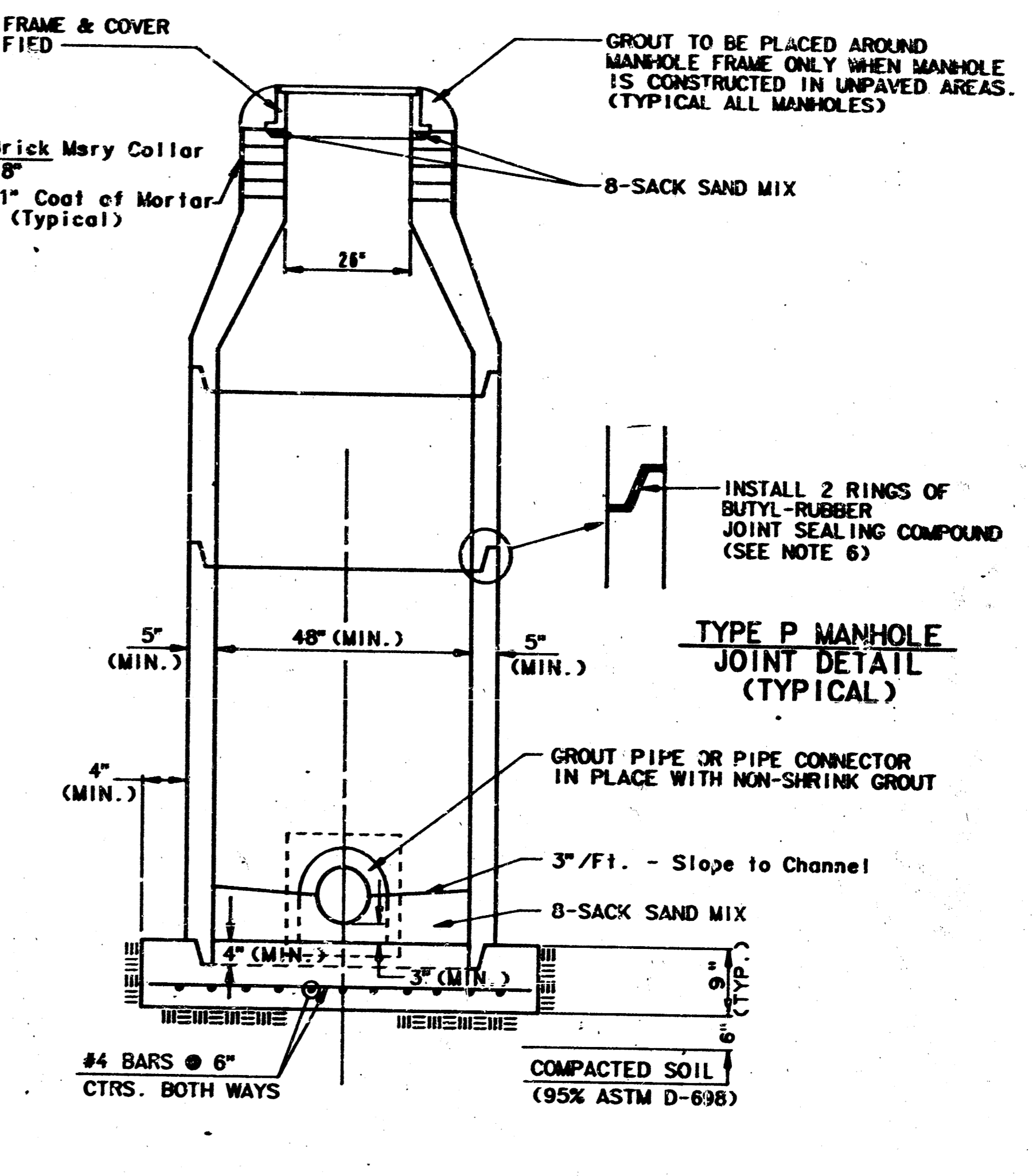
**TYPE P
STANDARD MANHOLE**



**TYPE P
INSIDE DROP MANHOLE**



**TYPE P
OUTSIDE DROP MANHOLE**



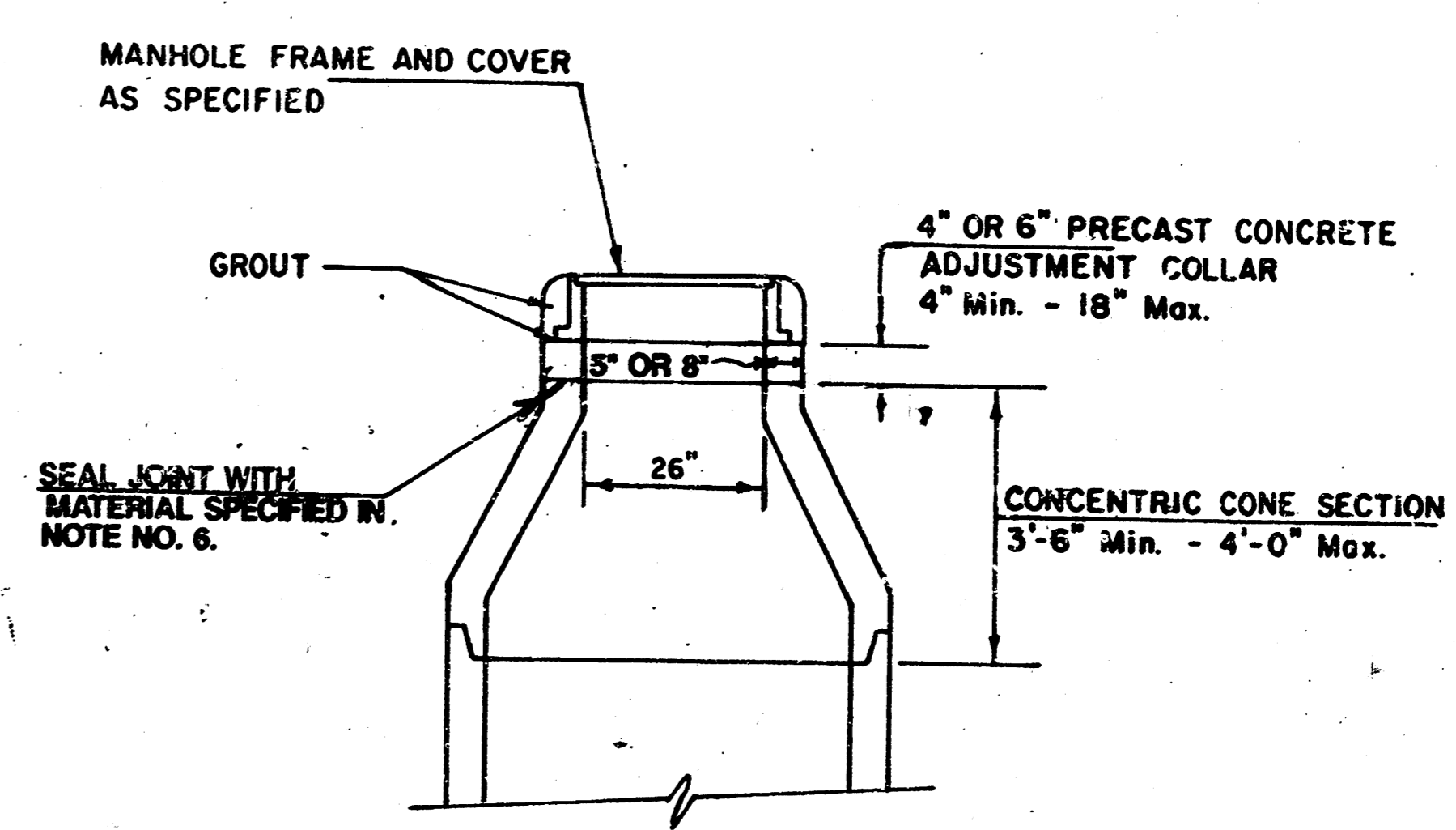
**SECTION X
(TYPICAL)**

GENERAL NOTES

- PRECAST MANHOLE NOTES**
1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISION 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 TREMCO SERIES 86 HI-BUILD EPOXYLINE, DRY THICKNESS OF 8 MILS (MIN.).
 5. EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARNA P-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 REMOVED TO NEAR 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 FREE FALL DROP INSIDE MANHOLES SHALL NOT EXCEED 2'. 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 4" 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.

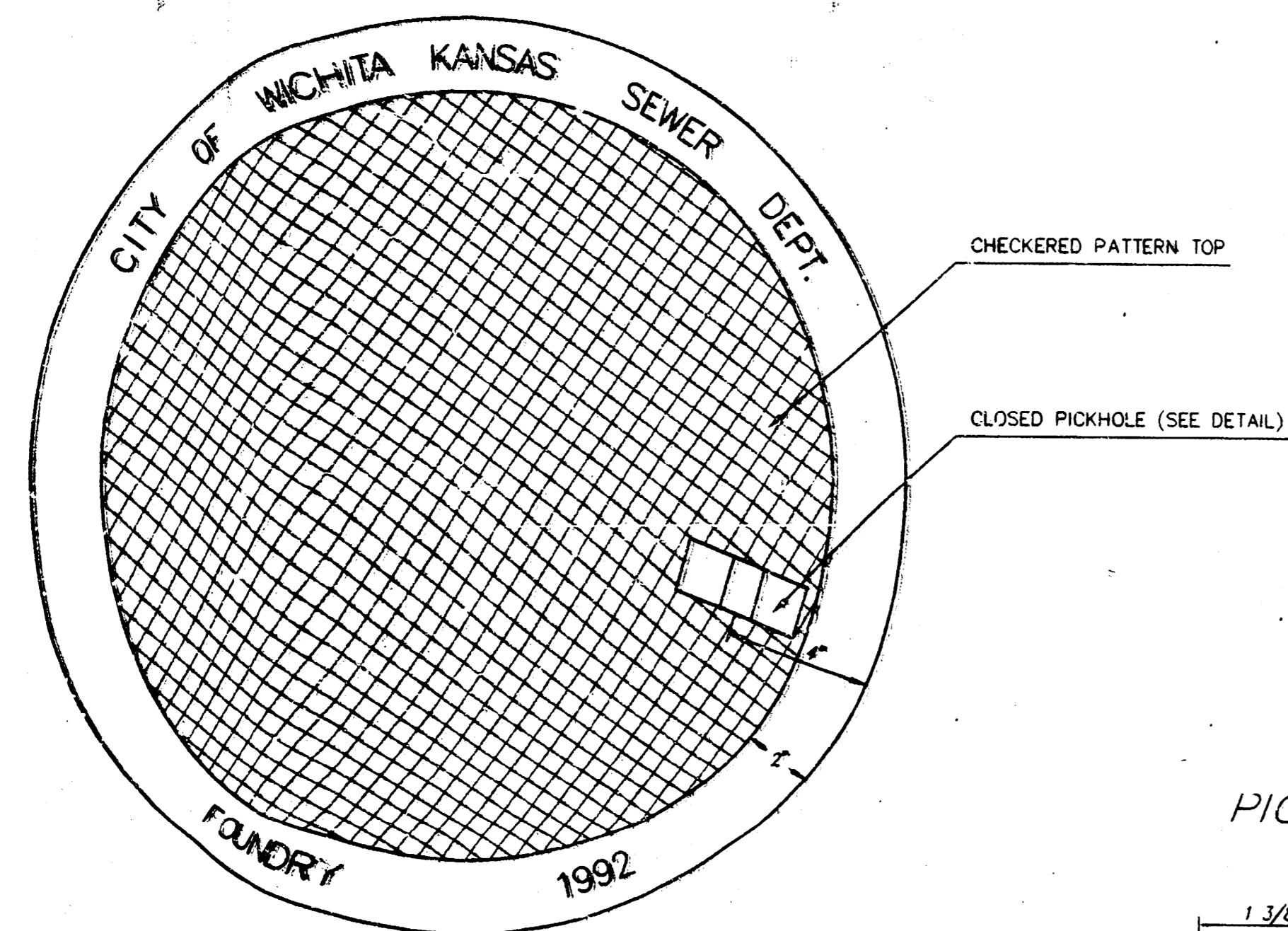


**ALTERNATE CONSTRUCTION
IN UNPAVED AREAS**

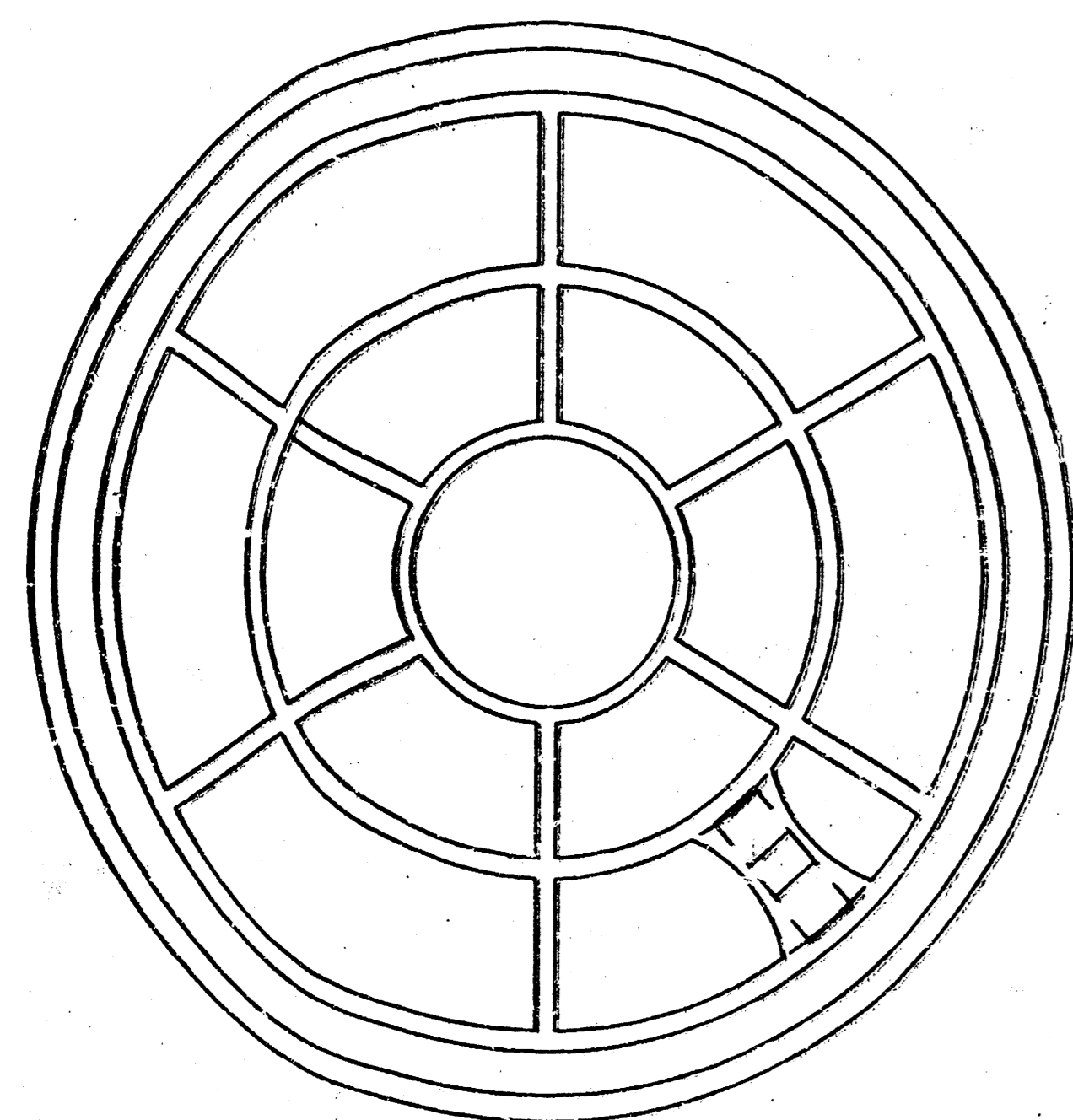
REVISED NOV. 1993
 NOTE NO. 16 REVISED JAN. 1991
 Revised 3-21-89
 Revised 8-10-88
 Revised: June 12, 1986

Sheet 9 of 11
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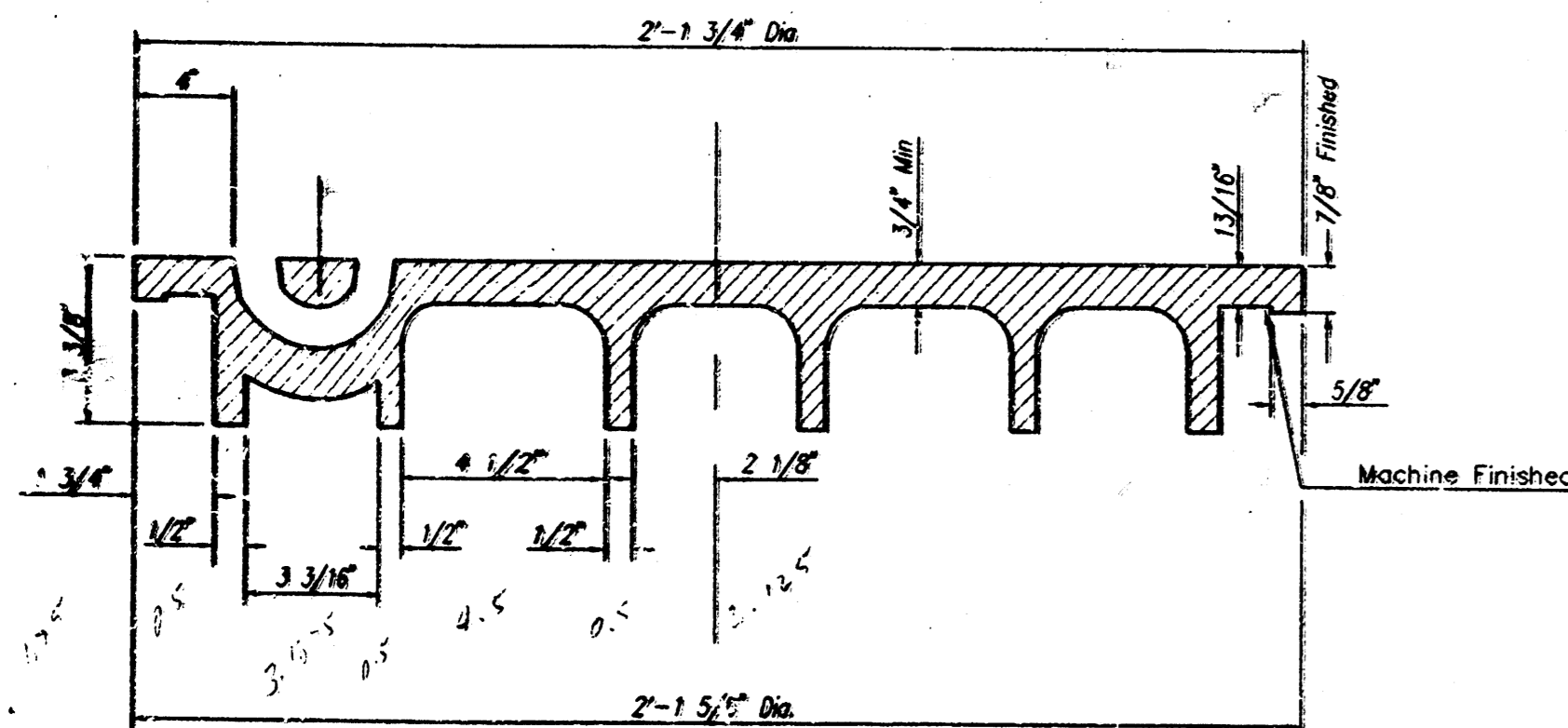
MANHOLE COVER
Weight = 180 Lbs.



TOP VIEW

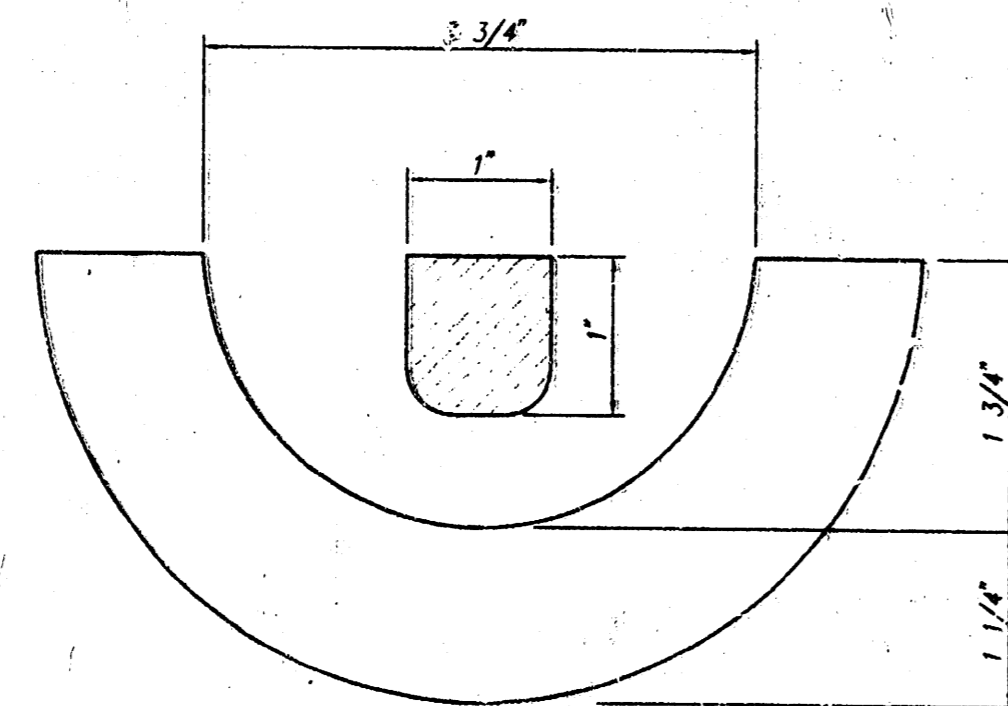
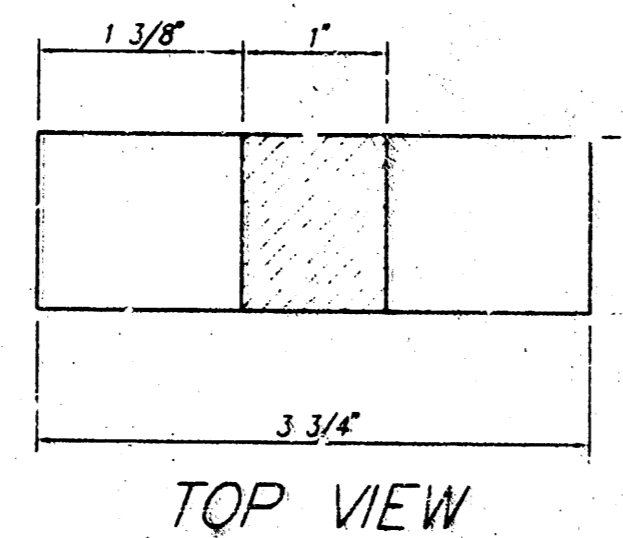


BOTTOM VIEW



SECTION VIEW

PICKHOLE DETAIL

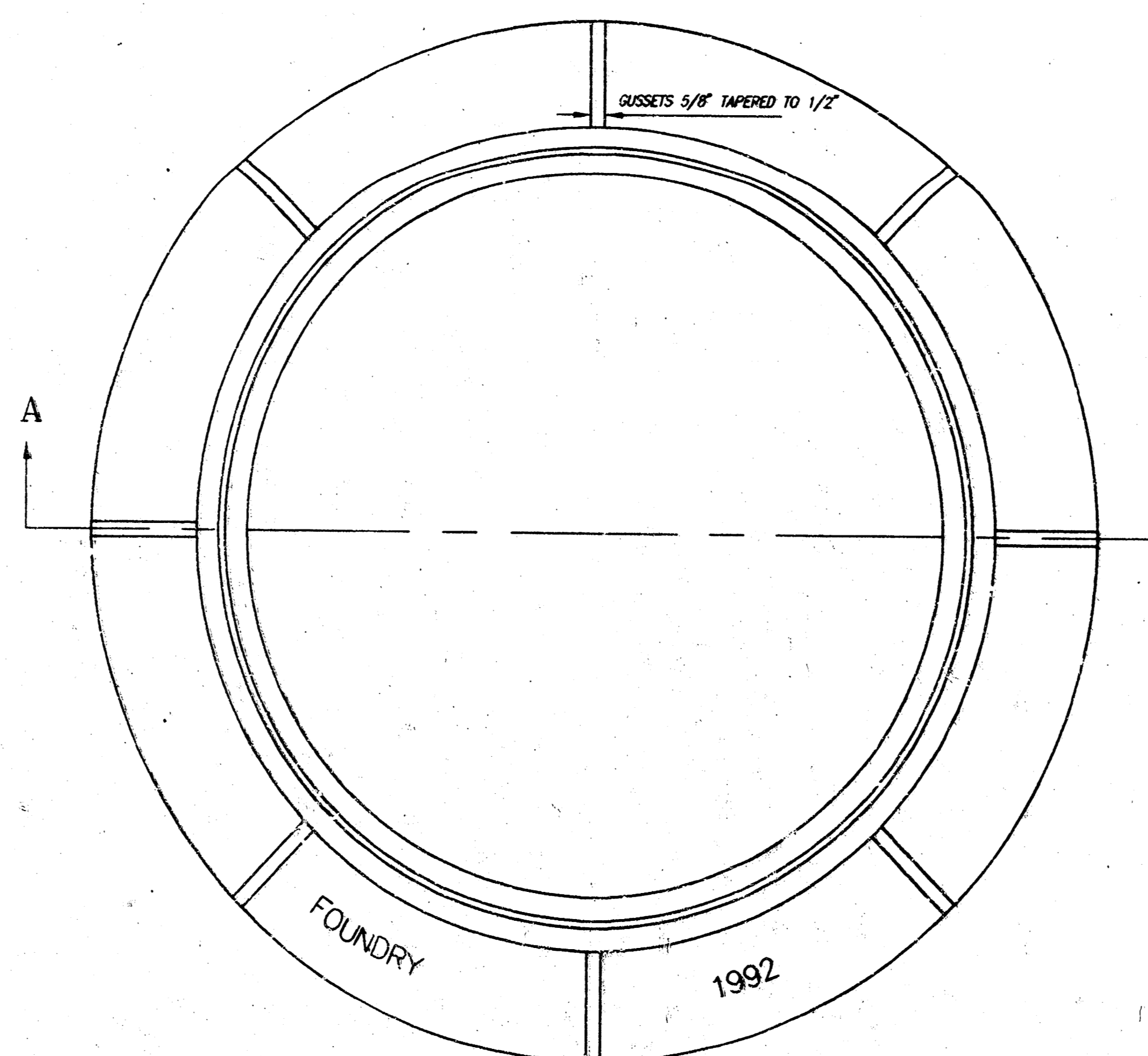


SECTION VIEW

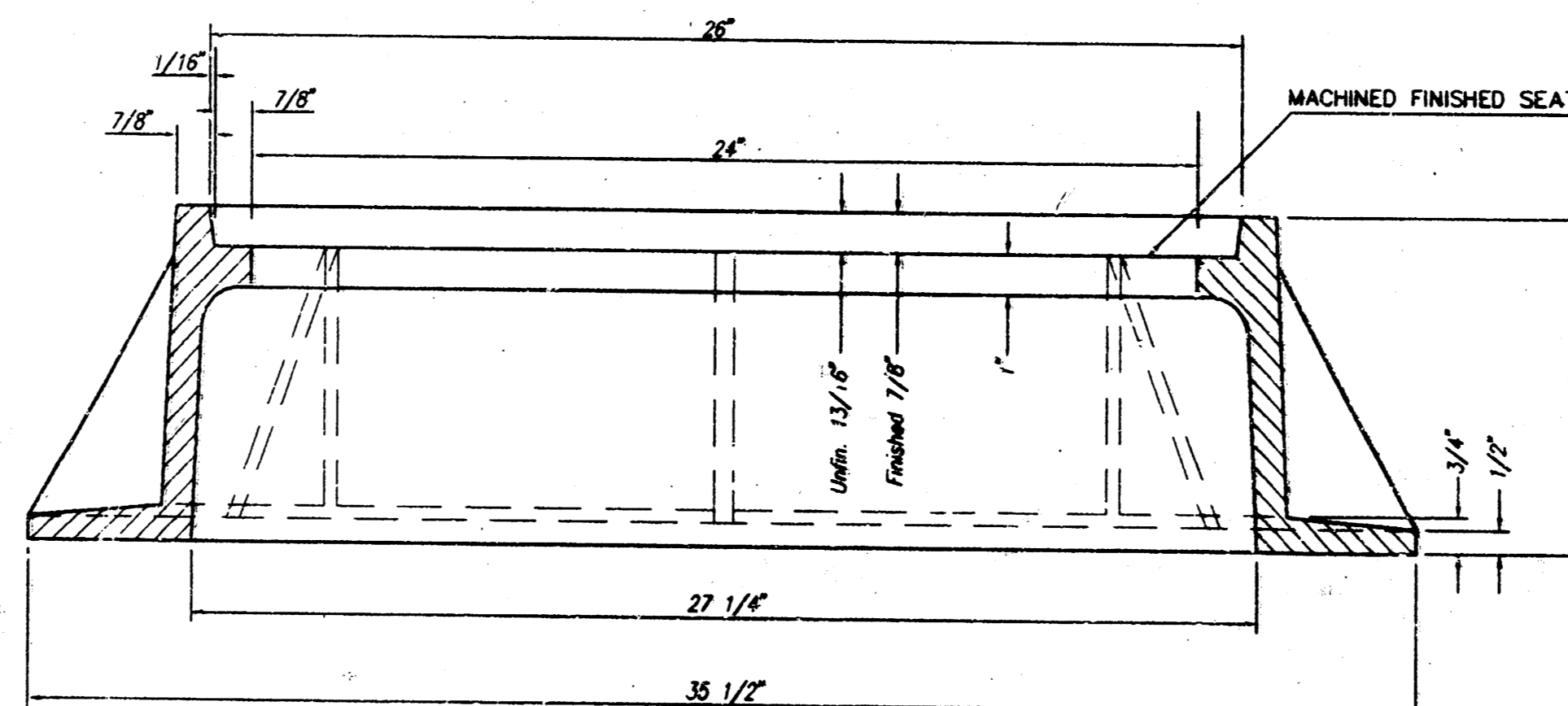
MANHOLE FRAME AND COVER DETAIL

ADOPTED AS STANDARD DESIGN BY
CITY OF WICHITA, KANSAS

MANHOLE FRAME
Weight = 240 Lbs.



TOP VIEW



SECTION A-A

GENERAL NOTES

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.

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.

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 AS THESE SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUMFERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.

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 BLOCKOUT SHALL NOT EXCEED THE AREA AS INDICATED ON THE DRAWING. POSITIONING OF SMOOTH BLOCKOUTS AND LETTERING MAY VARY FROM THAT SHOWN ON THE DETAILED DRAWING.

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.

TO INSURE CONFORMANCE TO TENSILE STRENGTH REQUIREMENTS ALL CASTINGS SHALL BE JULIAN HEAT DATED WITH THE FOLLOWING REQUIREMENTS:

TWO TEST BAR SPECIMENS MUST BE POURED WHEN PRODUCING CITY OF WICHITA CASTINGS. ONE OF THE TEST BAR SPECIMENS SHALL BE SENT TO AN INDEPENDENT LABORATORY FOR TENSILE STRENGTH VERIFICATION TESTING. A TEST REPORT SHALL ACCOMPANY EACH SHIPMENT OF CASTINGS. THE HEAT DATE(S) ON THE CASTINGS SHALL RESPOND TO THE TENSILE STRENGTH REPORT(S). THE TEST REPORT WILL BE PAID FOR BY THE SUPPLIER. THE REMAINING TEST BAR SPECIMEN WILL BE SHIPPED TO SEWER MAINTENANCE AT 715 W. HARRY, WICHITA, KANSAS 67213.

MANHOLE FRAME AND COVER DETAIL		REVISED
ADOPTED AS STANDARD DESIGN BY		6/27/98
CITY OF WICHITA, KANSAS		
M. E. UNDEBAK - CITY ENGINEER		
PROJ. NO.	468-76-245-82253-000-000-001	SHEET
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		OF
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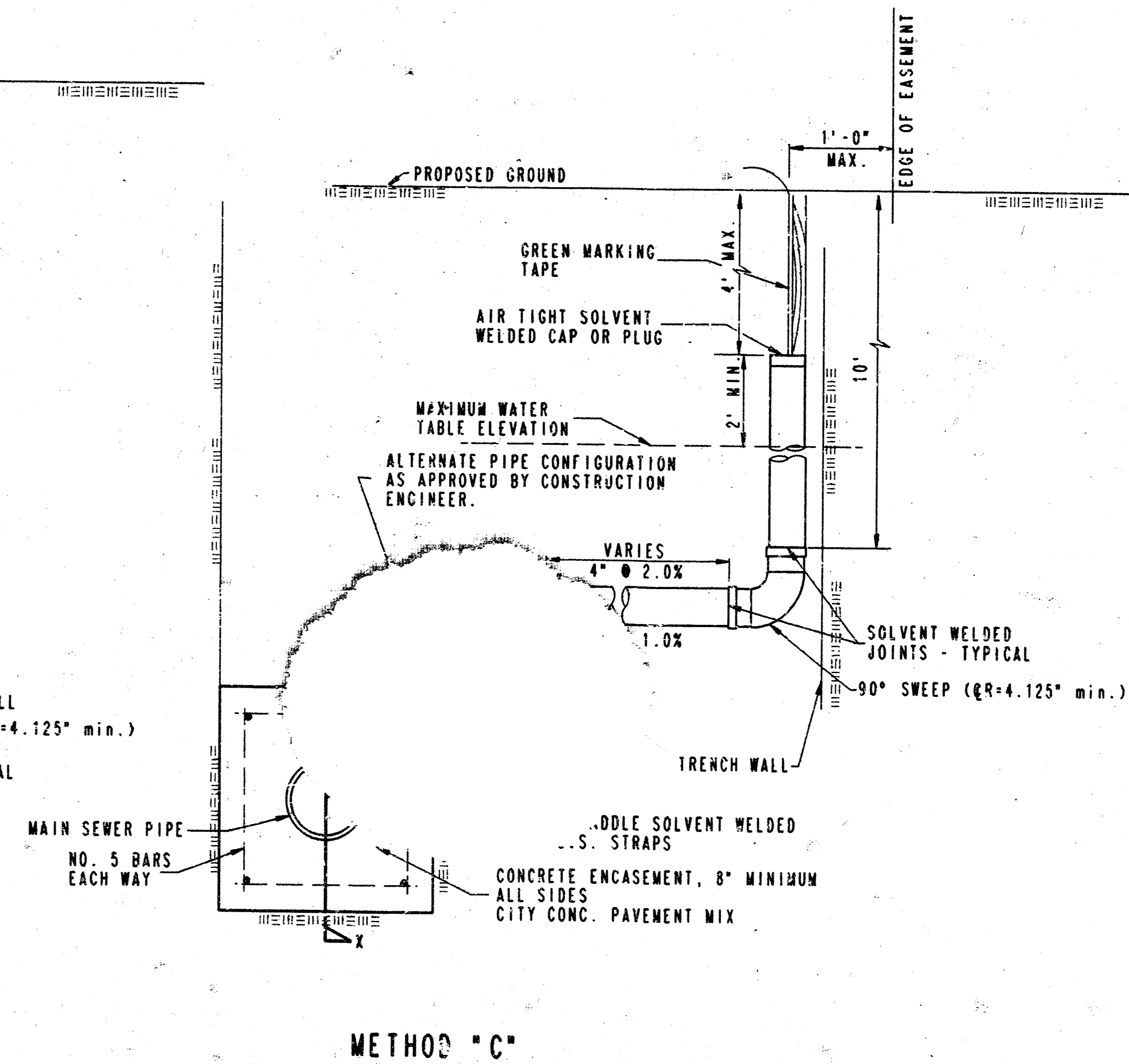
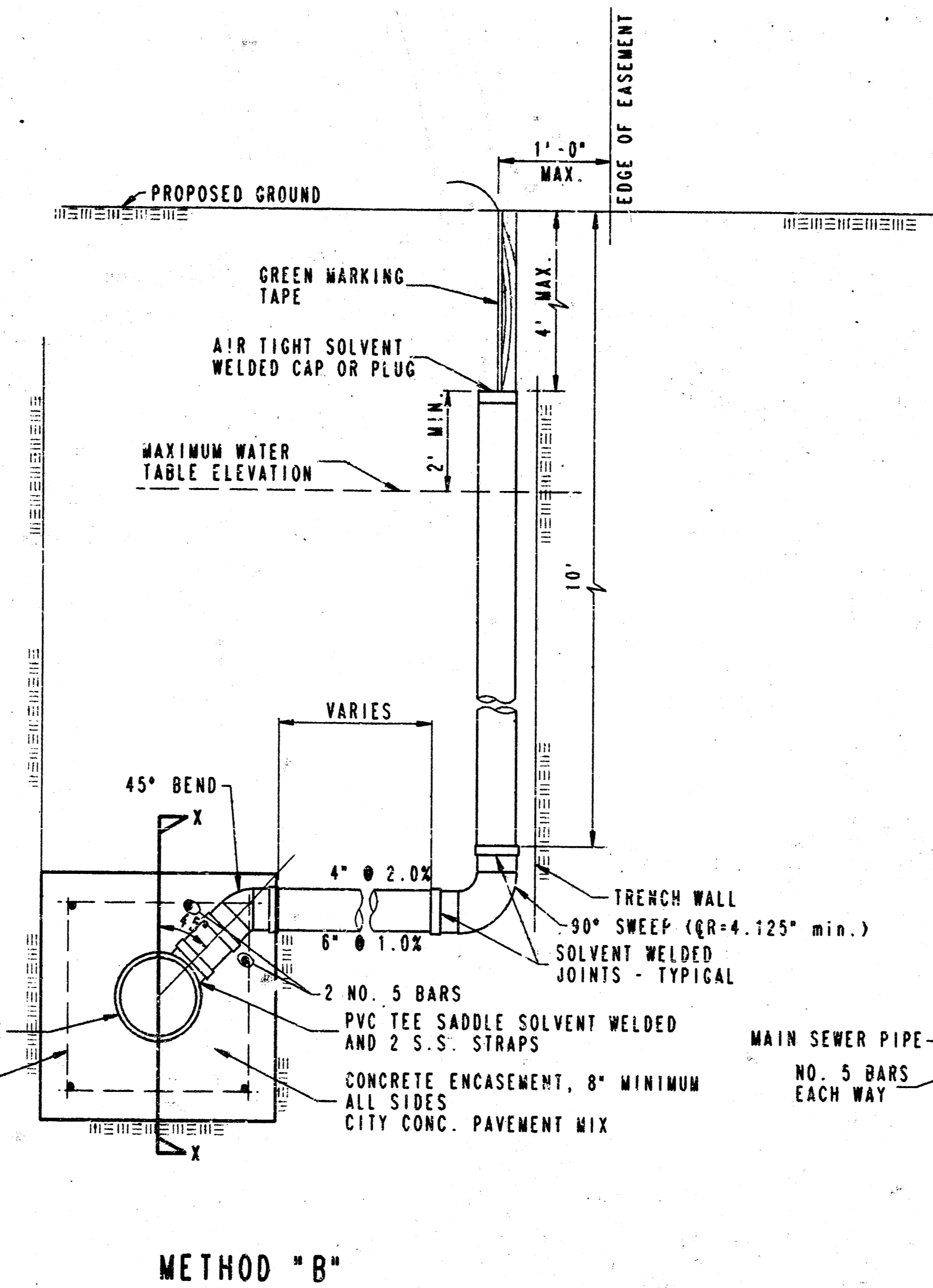
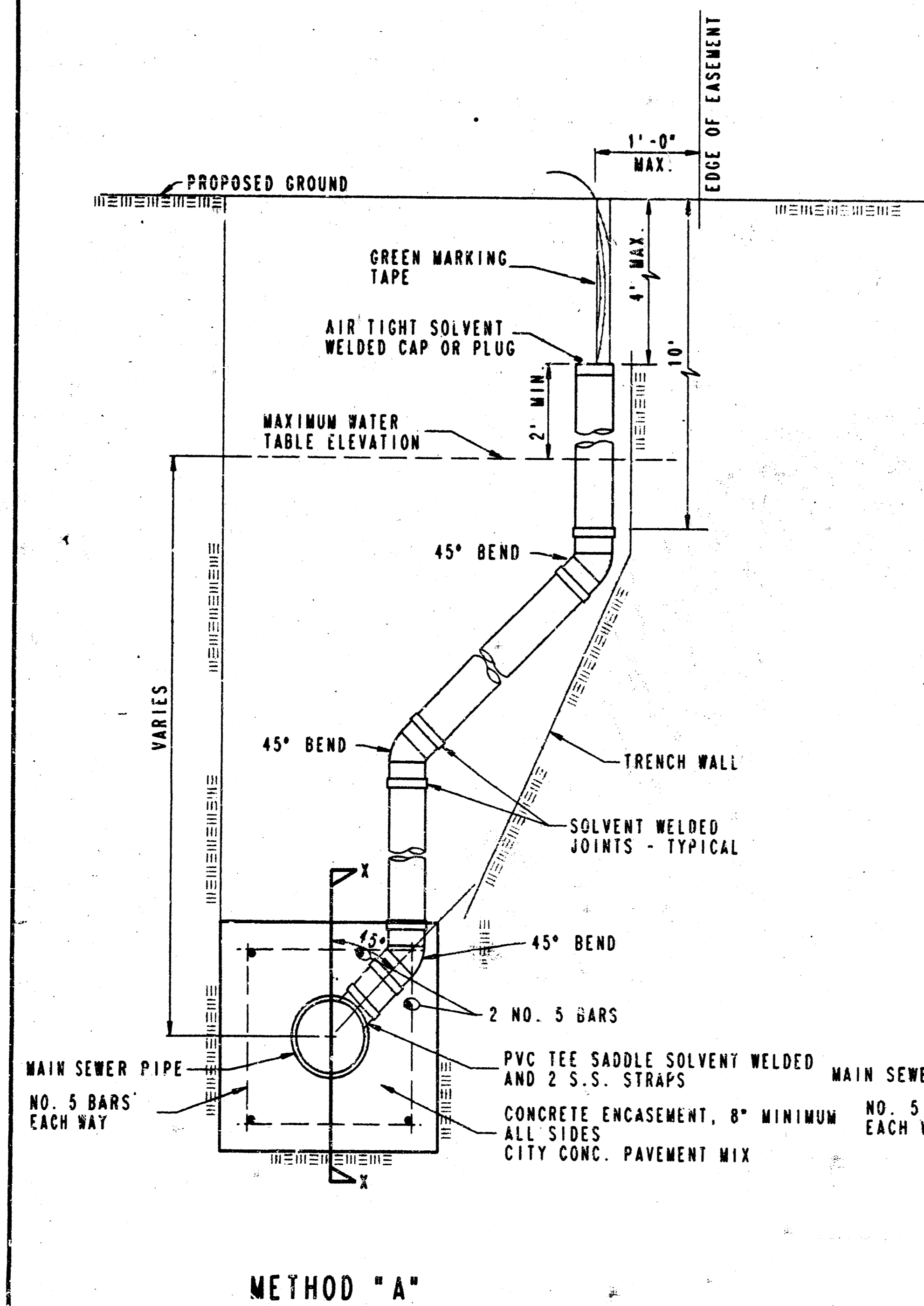
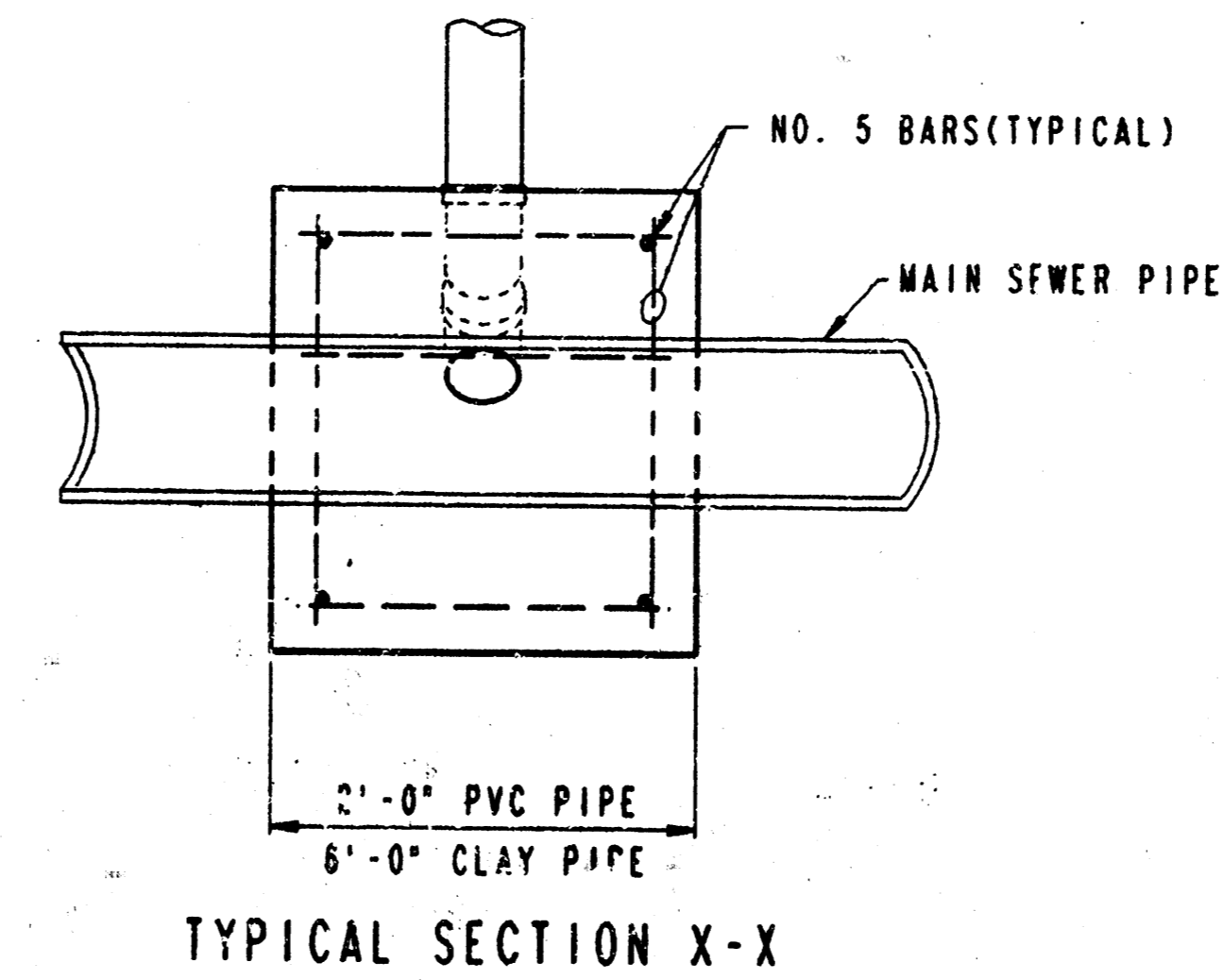
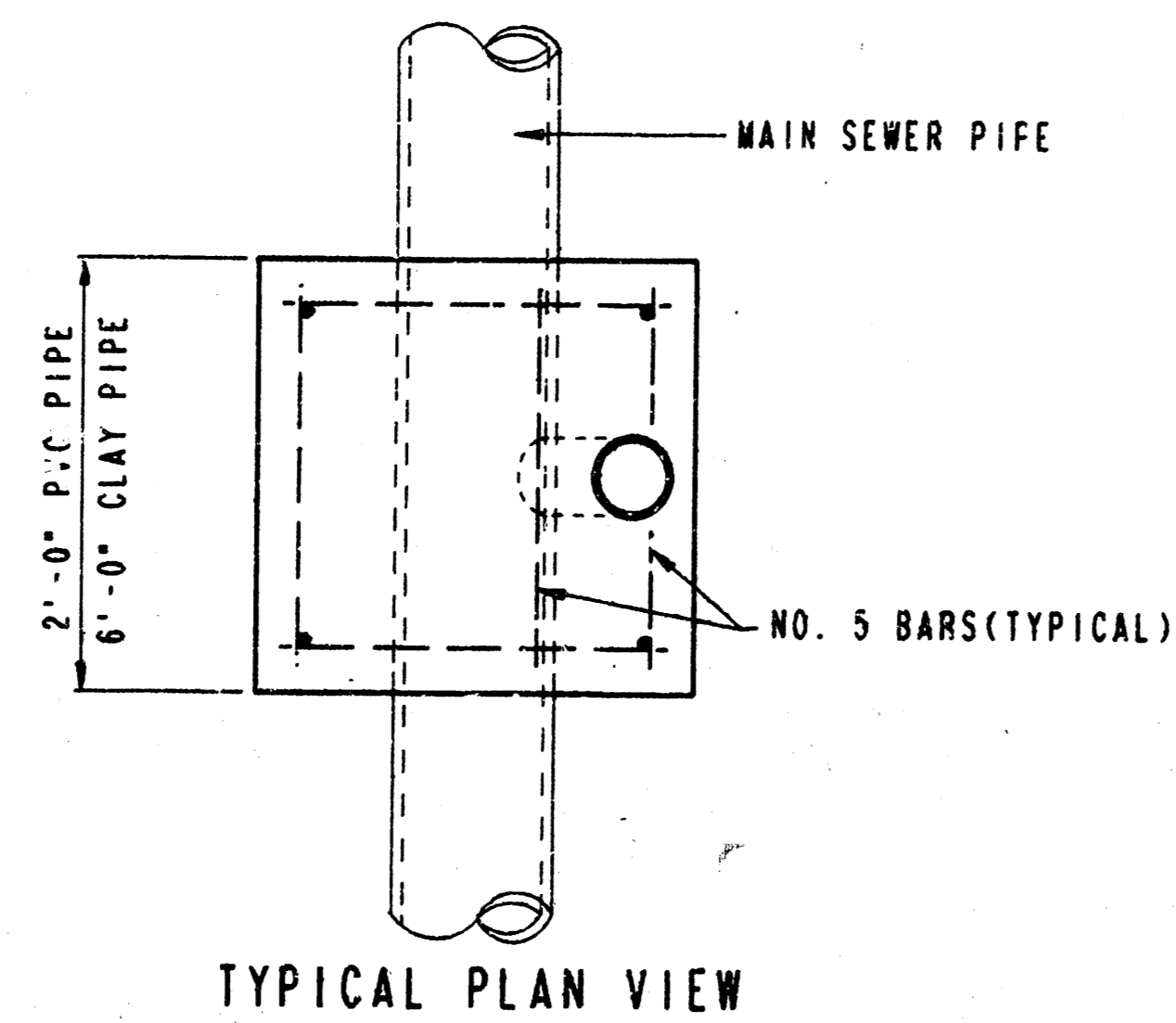
VERTICAL RISER DETAILS

ADOPTED AS STANDARD DESIGN

BY

CITY OF WICHITA, KANSAS

OCTOBER 1992



NOTE: RISER PIPE REQUIREMENTS AT MANHOLE STUBS SHALL BE SIMILAR TO THOSE SHOWN ABOVE.

GENERAL NOTES

1. **RISERS.** Risers shall be installed to serve all lots or tracts where the sanitary sewer main is below the water table. Risers shall also be installed to serve all lots and tracts where the sanitary sewer main depth is greater than 12 feet below the proposed ground elevation. Installation of risers because of field conditions shall be as approved by the Construction Engineer. The location of the risers to serve the developed property shall be approved by the property owner and the Construction Engineer.
2. **PIPE STUBS.** Pipe stubs shall be installed in manholes where connection as determined by the Construction Engineer. The vertical distance between the flowline of the manhole pipe stub and the flowline of the sanitary sewer main out of the manhole shall not exceed 2 feet. Risers shall be utilized at manhole pipe stubs as indicated in Note 1. Manhole pipe stubs shall be set such that the top of the stub is not lower than the top of the sanitary sewer main.
3. **SIZING.** Pipe stubs and risers shall be sized according to the plans and riser table where risers are indicated by the plans. Where risers or pipe stubs are required because of field conditions, the risers and stubs shall be six-inch diameter for commercial or industrial properties and 4" or 6" diameter for residential properties, based on lot size and sanitary sewer main depth. Sizing of risers and stubs shall be approved by the Construction Engineer prior to installation.
4. **RISER OR STUB MATERIAL.** Risers and stubs shall be constructed of SDR 35 PVC Pipe or Schedule 40 PVC Pipe, meeting the requirements of the latest revision of A.S.T.M. All pipe joints shall be solvent welded.
5. **REINFORCED CONCRETE ENCASUREMENT.** Riser connections to clay pipe sanitary sewers shall be reinforced concrete encased both ways from the riser centerline. The reinforced concrete encasement shall extend three feet from the riser centerline or stop of the first sanitary sewer pipe joint within three feet of the riser centerline. Riser connections to PVC sanitary sewer mains shall be reinforced concrete encased one foot each way from the riser centerline. The concrete encasement shall be reinforced using reinforcing steel as shown in the appropriate drawing. The concrete shall conform to the City Standard Specifications for concrete pavement.
6. **BEDDING.** Bedding around the sanitary sewer riser shall be compacted Bedding Type 1 or 2. The bedding shall be placed and compacted from the depth of the bedding down to the top of the sanitary sewer riser pipe. Compacted Pipe Bedding Type 1 or 2 shall be required for all risers whether constructed in vertical well or sloped wall trenches. Bedding material and construction practices shall be approved by the Construction Engineer prior to installation.
7. **SUPPORT OF RISERS.** Sanitary sewer riser pipe shall be supported during trench backfill. The riser pipe shall be held in a vertical position at all times until trench backfill and compaction has been completed. Contractor's methods for supporting and backfilling the riser pipe shall be approved by the Construction Engineer.
8. **PLUGGING.** The ends of the riser pipes and manhole stubs shall be plugged using an airtight solvent welded cap or plug. Cap or plug fittings shall be approved by the Construction Engineer prior to installation. Caps or plugs which do not provide an airtight seal will not be accepted.
9. **TOP OF THE RISER PIPE.** The top elevation of the sanitary sewer riser pipe shall be as indicated on the plans, unless otherwise directed by the Construction Engineer. Where riser elevations are not shown on the plans, the top of the risers shall be set at an elevation four feet below the proposed ground surface. If ground water is encountered, the top of the riser pipe shall be set at an elevation two feet (min.) above the maximum water table elevation, regardless of the riser elevation shown on the plans.
10. **MARKING.** Locations of the ends of the sanitary sewer riser pipe shall be marked by fastening green colored plastic tape to the end of the riser. The tape shall be supported by a length of wooden 2 x 4, extending from the top of the riser pipe to the proposed ground surface. The green tape shall be visible and extend one foot above the proposed ground surface. The green tape shall be 4 mil Polyethylene film with a minimum width of three inches, specifically manufactured for the purpose of identification of underground sewers.
11. **LOCATION MEASURES.** The project inspector shall record and document the location of all risers constructed as measured from the nearest manhole, indicating the direction from the manhole, the direction and distance from the main, riser size, and elevation of the top of the riser.
12. **RISER LOCATION.** The riser shall be located per plan if shown. If not shown on the plan, the riser shall be located at the center of the lot, within one foot of the property side of the easement for the lot being served. All riser locations shall be approved by the Construction Engineer prior to installation.
13. **PAYMENT.** "Sanitary sewer risers" shall be paid for at the contract unit price per each, which price shall be full compensation for all pipe, fittings, marking tape, length of wooden 2 x 4, reinforced concrete encasement, support during backfill, backfill, labor, site restoration, and any other items necessary to complete the work.
"Manhole stubs" shall be paid for at the contract unit price per each, which price shall be full compensation for all labor, material, and incidentals necessary to complete the work, including all pipe, fittings, reinforced concrete encasement, and all other items as required and listed for "Sanitary Sewer Risers".