82252

CONSTRUCTION PLANS FOR

LATERAL 29, MAIN 15

OF THE

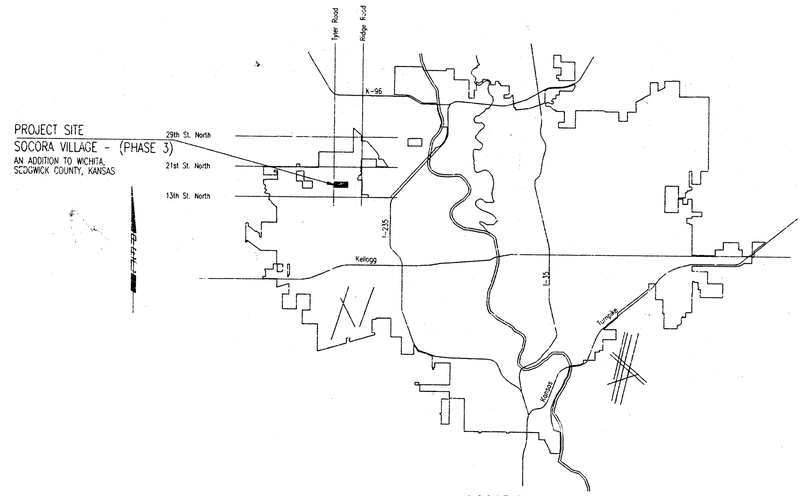
SOUTHWEST INTERCEPTOR SEWER

IN

THE CITY OF WICHITA,

SEDGWICK COUNTY, KANSAS

MICHAEL E. LINDEBAK, P.E.- CITY ENGINEER



LOCATION MAP

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AS BUILT
RDL
Booked
N-208
4/9/96

ROD R. YOUNG
LICENSED
KANSAS
PROFESSIONAL ENGINEER

INDEX CODE 742494

CITY OF WICHITA PROJECT NO. 468-76-245-82252-000-000-001

OCTOBER 1995

PLANS PREPARED BY

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

ENGINEERS

WICHITA, KANSAS

DSNR: TDS OPER: TLS SCALE: 1=1.00
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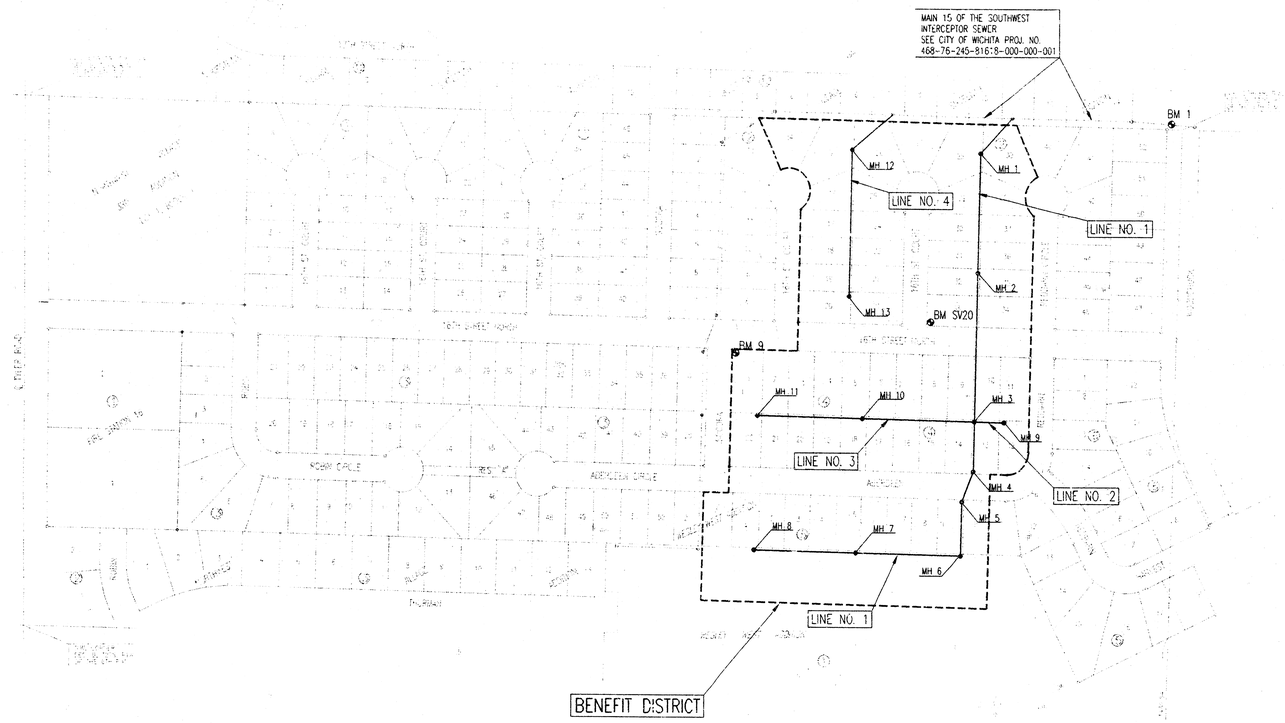
GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS TO COMPLY WITH CITY OF WICHITA SPECIFICATIONS AND STANDARDS.
2. ALL ELEVATIONS SHOWN ARE BASED ON CITY OF WICHITA DATUM.
3. THE CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH TO REMAIN OPEN OVERNIGHT AND WEEKENDS TO LESS THAN 50 FEET.
4. AT LEAST 48 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 FOLLOWING UTILITY COMPANIES TO LOCATE ANY EXISTING LINES WITHIN THE PROJECT AREA: K.G. & E.(ELECTRIC), PEOPLES NATURAL GAS, THE WICHITA WATER DEPARTMENT, MULTIMEDIA CABLEVISION, K.G.&E.(GAS), AND SOUTHWESTERN BELL TELEPHONE.
5. UNDERGROUND UTILITY SERVICE LINES AND OVERHEAD UTILITY CABLE 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.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR WILL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO THE LUMP SUM PRICE BID FOR "SITE RESTORATION".
7. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL MANHOLE COVERS.
8. UNLESS OTHERWISE SPECIFIED ON THE PLANS, MANHOLES MAY BE TYPE "P", "C", OR "D" MANHOLES. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS.
9. 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. AR19 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".
10. 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.
11. 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".
12. CONTRACTOR SHALL GRADE THE SANITARY SEWER ALIGNMENT TO THE PROFILE AND ELEVATIONS SHOWN ON THE EASEMENT GRADING PLAN. ALL COSTS FOR EASEMENT GRADING SHALL BE SUBSIDIARY TO THE LUMP SUM PRICE BID FOR "EASEMENT GRADING".
13. THE CONTRACTOR SHALL PREVENT ANY CONSTRUCTION DEBRIS FROM ENTERING THE EXISTING SANITARY SEWER DURING CONSTRUCTION.
14. THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY ABUTING THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF TEN (10) DAYS ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION.
15. ALL APPROVED EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE STOCKPILED WITHIN SOCORA 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.
16. CONTRACTOR IS REQUIRED TO MAINTAIN CONTINUOUS FLOW OF SEWAGE IN EXISTING MAINS AT ALL TIMES.
17. 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.
18. 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.
19. INTERURBAN TRAFFIC GENERATED OUTSIDE THE PROJECT AREA AND LOCAL BUSINESS OR RESIDENTIAL TRAFFIC GENERATED WITHIN THE PROJECT AREA ARE TO BE CARRIED THROUGH CONSTRUCTION AS FURTHER PROMULGATED BY PROJECT SPECIAL PROVISIONS.

Scale: 1"=150'



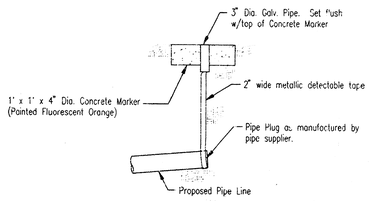
SEWER SERVICE TABLE

(See detail and notes, sheet no. 13)

NO.	SIZE	LOCATION: LOT NO.	LOCATION: BLOCK NO.	LOCATION: LINE "A"	LOCATION: STATION/DIRECTION	FOR INFORMATION ONLY: APPROXIMATE LENGTH 4" PIPE VERTICAL	FOR INFORMATION ONLY: APPROXIMATE LENGTH 4" PIPE HORIZONTAL	RECORD INFORMATION (TO BE COMPLETED BY PROJECT INSPECTOR): DISTANCE FROM NEAREST MANHOLE UPSTREAM	RECORD INFORMATION (TO BE COMPLETED BY PROJECT INSPECTOR): DISTANCE FROM NEAREST MANHOLE DOWNSTREAM	NO.
1	8"x4"	28	2	1	1+20/Rt.	12'	4'			1
2	8"x4"	38	2	1	1+85/LT.	11'	14'			2
3	8"x4"	29	2	1	1+95/Rt.	11'	4'			3
4	8"x4"	37	2	1	2+65/Lt.	10'	14'			4
5	8"x4"	30	2	1	2+70/Rt.	10'	4'			5
6	8"x4"	36	2	1	3+20/Lt.	9'	14'			6
7	8"x4"	31	2	1	3+25/Rt.	9'	4'			7
8	8"x4"	35	2	1	3+80/Lt.	8'	14'			8
9	8"x4"	32	2	1	3+85/Rt.	3'	4'			9
10	8"x4"	9	5	1	10+20/Lt	8'	14'			10
11	8"x4"	13	4	2	0+15/Rt.	3'	4'			11
12	8"x4"	10	4	2	0+20/Lt.	9'	14'			12
13	8"x4"	9	4	3	0+25/Rt.	9'	14'			13
14	8"x4"	14	4	3	0+30/Lt.	9'	4'			14
15	8"x4"	8	4	3	0+85/Rt.	9'	14'			15
16	8"x4"	15	4	3	0+90/Lt.	9'	4'			16
17	8"x4"	7	4	3	1+45/Rt.	9'	14'			17
18	8"x4"	16	4	3	1+50/Lt.	9'	4'			18
19	8"x4"	6	4	3	2+15/Rt.	8'	14'			19
20	8"x4"	17	4	3	2+15/Lt.	8'	4'			20
21	8"x4"	5	4	3	2+75/Rt.	9'	14'			21
22	8"x4"	18	4	3	2+80/Lt.	9'	4'			22
23	8"x4"	4	4	3	3+30/Rt.	9'	14'			23
24	8"x4"	19	4	3	3+35/Lt.	9'	4'			24
25	8"x4"	20	4	3	3+90/Lt.	8'	4'			25
26	8"x4"	3	4	3	3+95/Rt.	8'	14'			26
27	8"x4"	21	4	3	4+55/Lt.	8'	4'			27
28	8"x4"	2	4	3	4+60/Rt.	8'	14'			28
29	8"x4"	27	2	4	0+10/Lt.	9'	15'			29
30	8"x4"	26	2	4	0+40/Lt.	8'	9'			30
31	8"x4"	15	2	4	1+35/Rt.	11'	4'			31
32	8"x4"	25	2	4	1+90/Lt.	11'	14'			32
33	8"x4"	16	2	4	2+00/Rt.	11'	4'			33
34	8"x4"	17	2	4	2+75/Rt.	10'	4'			34
35	8"x4"	24	2	4	2+80/Lt.	10'	14'			35
36	8"x4"	23	2	4	3+30/Lt.	10'	14'			36
37	8"x4"	18	2	4	3+35/Rt.	10'	4'			37
38	8"x4"	22	2	4	3+90/Lt.	9'	14'			38
39	8"x4"	19	2	4	3+95/Rt.	9'	4'			39
40	4" Stub	21	2	4	4+47.4/SE	8'	14'			40
41	4" Stub	20	2	4	4+47.4/SW	8'	4'			41
42	8"x4"	14	2	See Sht. 8 Line No. 4		11'	17'			42

NOTES:

1. Vertical Riser Pipe shall be extended to 2' minimum above ground water elevation and 4' maximum below proposed ground elevation.
2. Service No 42 is to be installed on the existing 8" Sanitary Sewer Pipe (See Sht. 8)



BURIED PIPE PLUG & MARKER DETAIL

(PLUGGING & STAKING SHALL BE SUBSIDIARY TO THE LUMP SUM PRICE BID FOR SITE RESTORATION)

BENCH MARK LIST

DATUM ELEVATION: 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= CHIS. IN W. T/C WOODCHUCK AT S. END EXISTING PAVEMENT S. OF 17 TH. ST. SE OF NE CORNER LOT 52, BLK. 2, SOCORA VILLAGE. ELEV. = 158.57

BM 9= T-POST 5' S. & 5' E. NW COR. LOT 1, BLK.4, SOCORA VILLAGE. ELEV. = 165.33

BM SV20= T-POST 5' N. & 5' E. SW COR. LOT 33, BLK.2, SOCORA VILLAGE. ELEV. = 160.73

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ROD R. YOUNG LICENSED 13485 KANSAS PROFESSIONAL ENGINEER 12/2/95

No.	Revision	By	Date

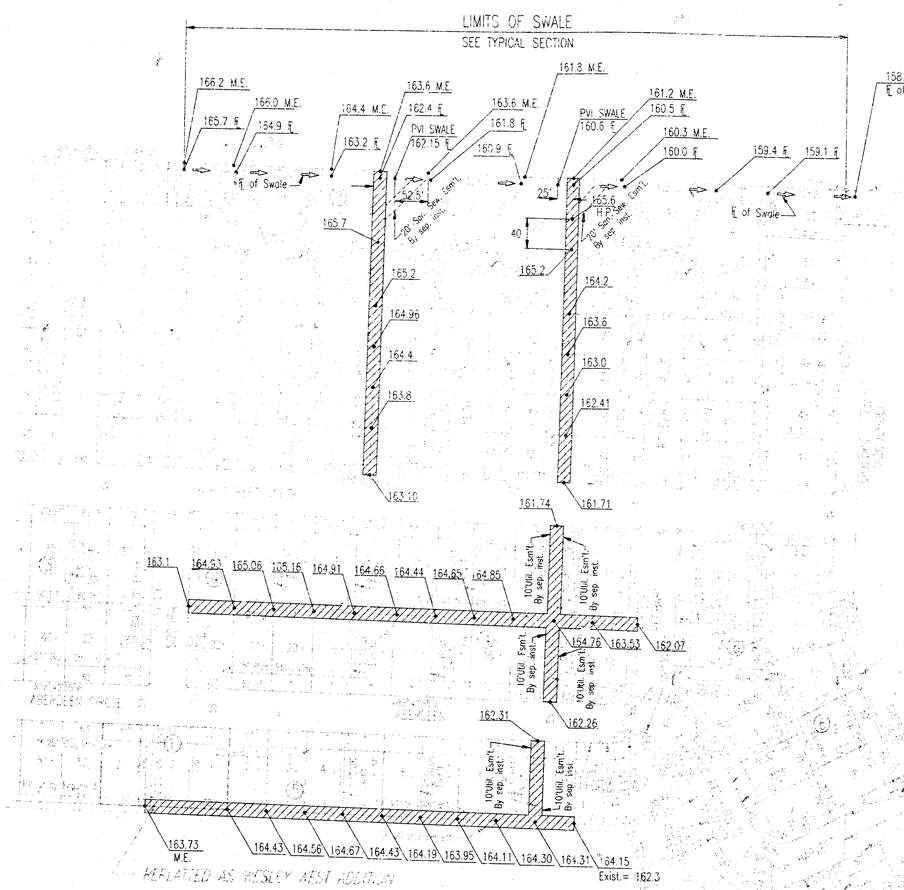
LATERAL 29, MAIN 15 OF THE SOUTHWEST INTERCEPTOR SEWER

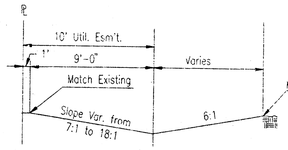
KEY MAP

MICHAEL E. LINDEBAK, P.E.- CITY ENGINEER
CITY OF WICHITA PROJECT NO. 468-76-245-82252-000-000-001

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

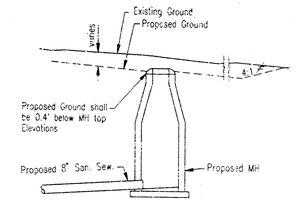
Designed by RRY, MDK	Job No. 34-95519-3	Sht. 2 of 13
Drawn by TDS	Date September 1995	





TYPICAL SECTION

SWALE



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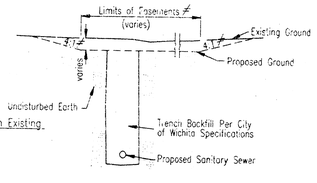
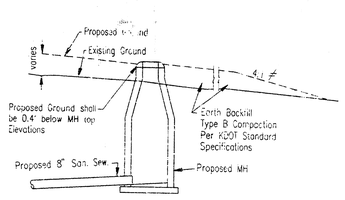


TYPICAL SECTION

"CUT" SITUATIONS



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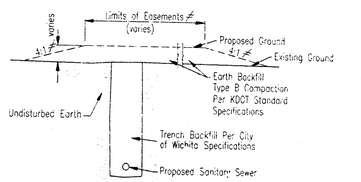

TYPICAL SECTION

"FILL" SITUATIONS

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.

Note:
Borrow material for easement grading may be obtained on site from Lots 14 to 22, Block 4, Socora Village Addition.
The Contractor shall take necessary precautions to assure that borrow excavation on these lots does not go below elevation 162.0.
If additional borrow material is required, it may be obtained from a site within the undeveloped portion of Socora Village Addition as directed by the developer. (Contact Mr. Larry Chambers of 263-3201).
All borrow areas shall be regraded as necessary to provide positive drainage and eliminate ponding.

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 530 C.Y. (Approximate)

Fill 2,600 C.Y. (Approximate)

SCALE: 1"=100'

o = 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.
43 FT. EAST AND 48 FT. NORTH OF
INTERSECTION OF CENTERLINE BOTH
ELEV.=167.929 CITY DATUM

ROD R. YOUNG LICENSED 1485 KANSAS PROFESSIONAL ENGINEER 10/27/95

No.	Revision	By	Date

LATERAL 29, MAIN 15 OF THE
SOUTHWEST INTERCEPTOR SEWER

EASEMENT GRADING PLAN

MICHAEL E. LINDEBAK, P.E.- CITY ENGINEER
CITY OF WICHITA PROJECT NO. 468-76-245-82252-000-000-001

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by	MDS, HDK	Job No.	34-95519-3	Sht. 3 of 13
Drawn by	TLS	Date	OCTOBER 1995	

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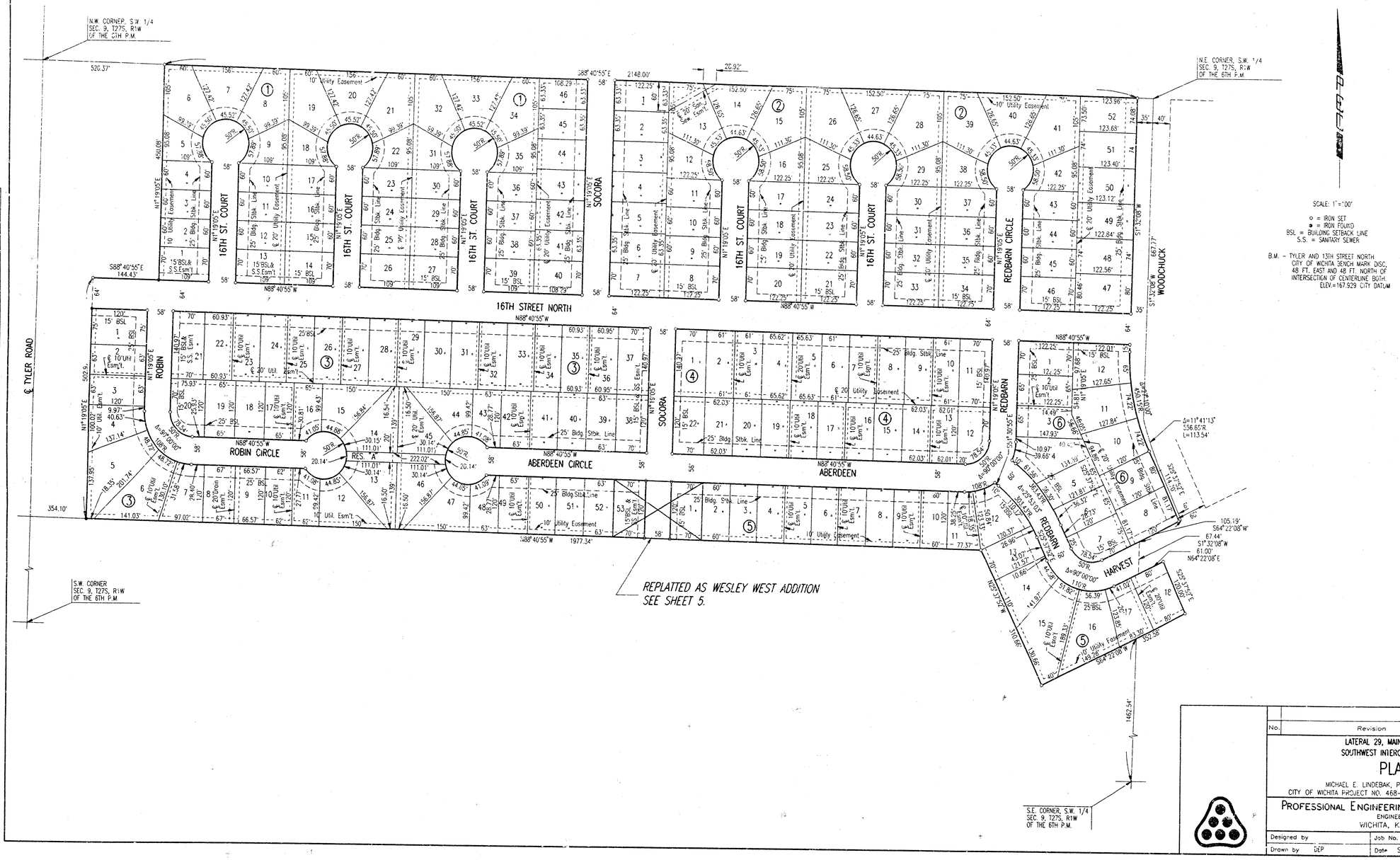
SOCORA VILLAGE

AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS



SCALE: 1"=100'

○ = 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

PLAN		BY	DATE
NOTE BOOK NO.	SURVEYED		
	PLOTTED		
	ALIGNMENT CHECKED		
	RT. OF WAY CHECKED		

No.	Revision	By	Date

LATERAL 29, MAIN 15 OF THE SOUTHWEST INTERCEPTOR SEWER

PLAT

MICHAEL E. LINDEBAK, P.E.- CITY ENGINEER
CITY OF WICHITA PROJECT NO. 468-76-245-82252-000-000-001

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by	Job No. 34-95519-3	Sht. 4 of 13
Drawn by DEP	Date September 1995	

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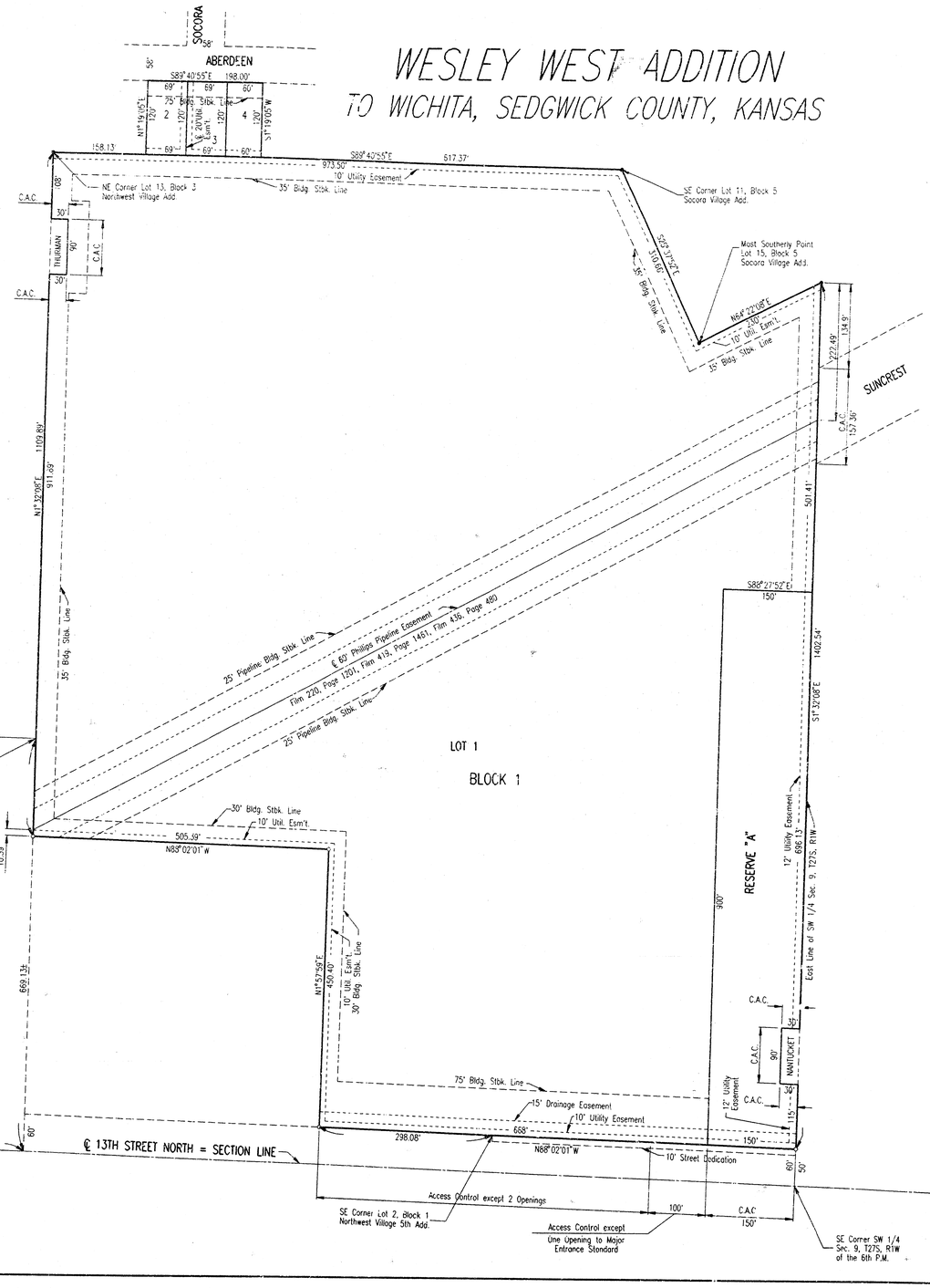
WESLEY WEST ADDITION
TO WICHITA, SEDGWICK COUNTY, KANSAS



SCALE: 1" = 100'

o = IRON SET
● = IRON FOUND

C.A.C. = COMPLETE ACCESS CONTROL

No.	Revision	By	Date

LATERAL 29, MAIN 15 OF THE
SOUTHWEST INTERCEPTOR SEWER

PLAT

MICHAEL E. LINDEBAK, P.E.- CITY ENGINEER
CITY OF WICHITA PROJECT NO. 468-76-245-82252-000-000-001

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by	Job No. 34-95519-3	Snt. 5 of 13
Drawn by DEP	Date September 1995	

Sta.0+00.0
Existing Concrete MH. Core MH Wall and install new 8" pipe. Grout pipe in place watertight, with non-shrink grout. Reshape MH invert to provide smooth flow.

CAUTION !!!
2" Gas (Peoples Nat. Gas)
Buried Electric (K.G.&E.)
Buried Telephone (SWB)
Buried CATV (Multimedia Cablevision)

Sta. 1+06.2
Const. MH 1
Standard MH

Sta. 3+71.3
Const. MH 2
Standard MH

CAUTION !!!
Proposed 8" Waterline
(By Others)

Sta. 7+01.3
Const. MH 3
Standard MH

Sta 8+11.3
Const. MH 4
Standard MH

CAUTION !!!
Proposed 8" Waterline
(By Others)

CAUTION !!!
Proposed 24" RCP SWS
(By Others)

Sta. 8+84.2
Const. MH 5
Standard MH

Sta. 10+04.2
Const MH 6
Standard MH

Remove and reset Fence as required

20' Util. Esm't. (By separate instrument)

LINE NO. 2
See sht. no. 7

CAUTION !!!
Proposed 30" RCP SWS
(By Others)

10' Utility Easement (By separate instrument)

10' Utility Easement (By separate instrument)

10' Utility Easement (By separate instrument)

10' Util. Esm't. (By sep. instru.)

10' Util. Esm't. (By sep. instru.)

10' Util. Esm't. (By sep. instru.)

40'

10'

5'

5'

5

PLAN | CHECKED / CHECKED | BY | DATE

PROFILE | CHECKED / CHECKED | BY | DATE

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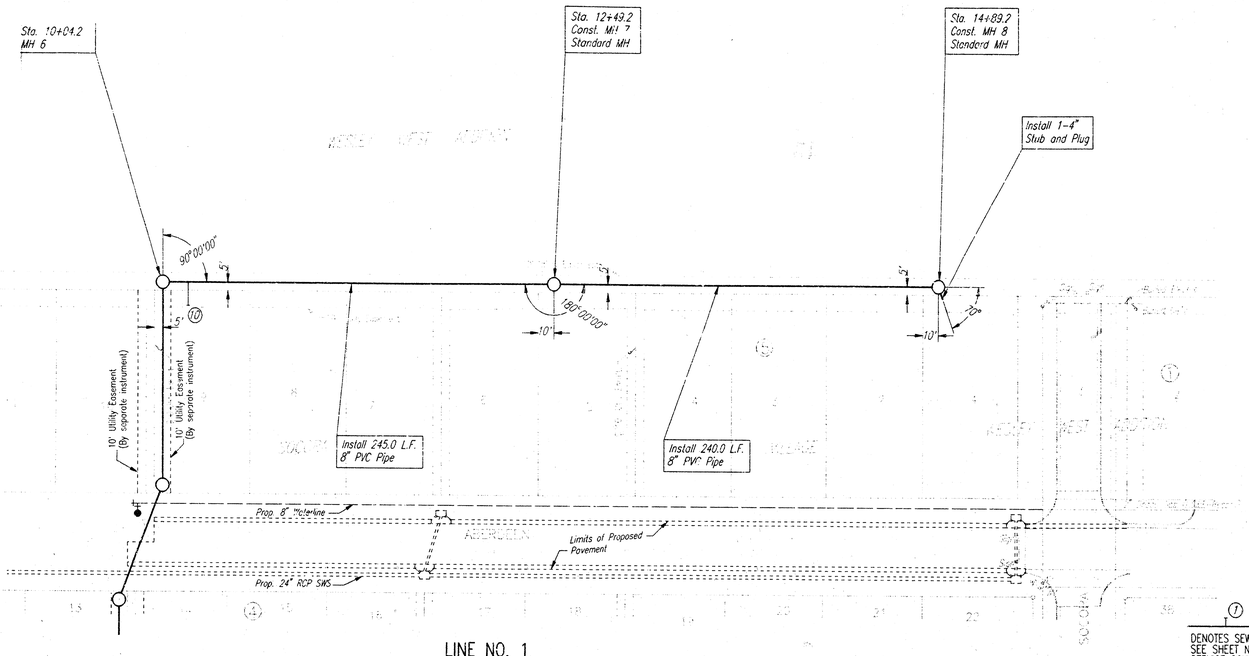
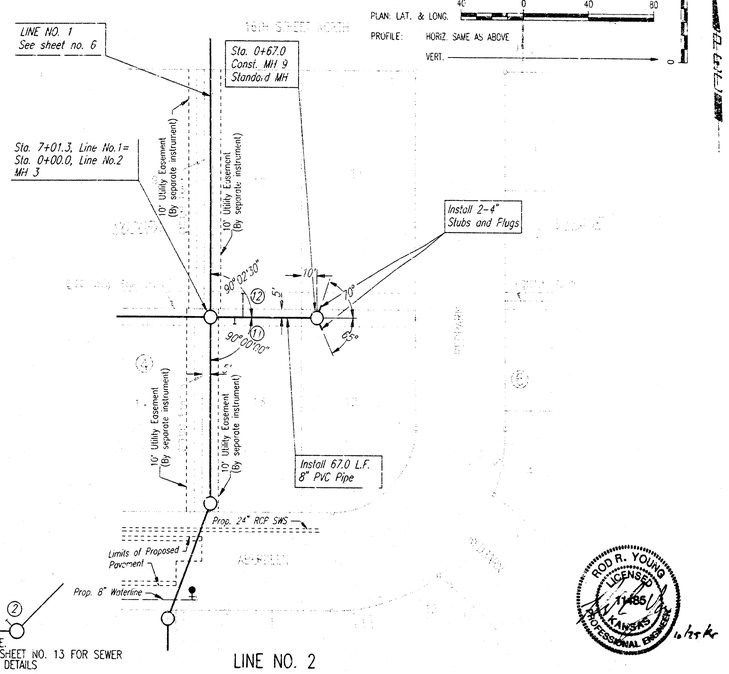
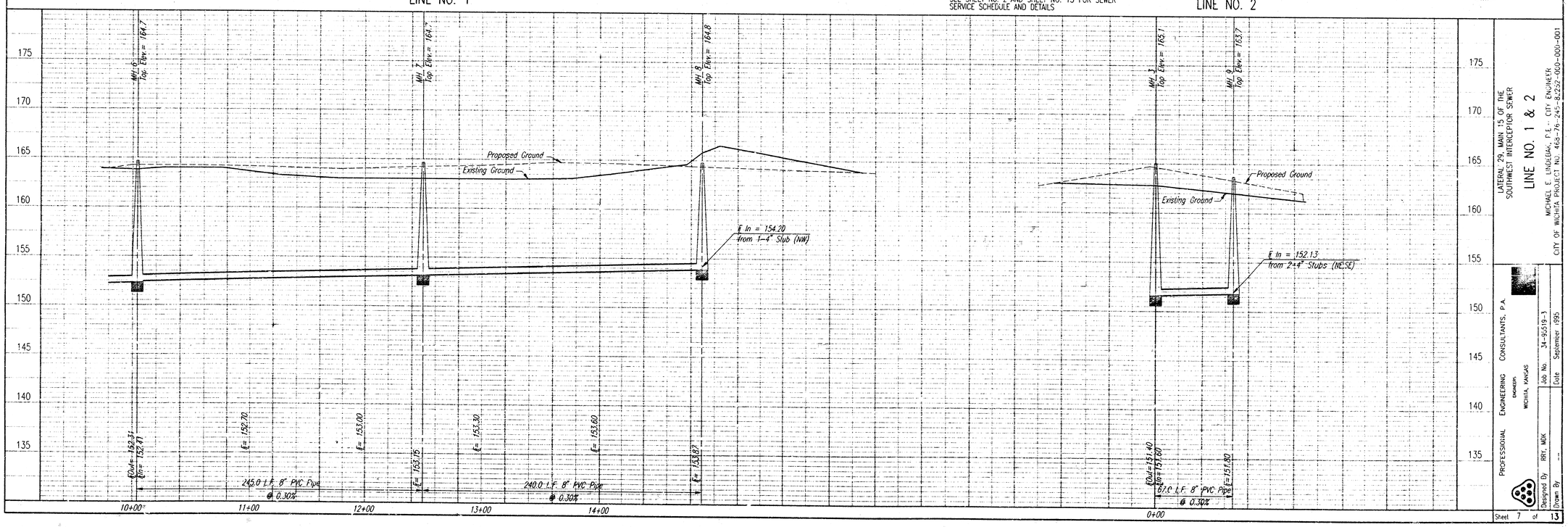


LINE NO. 1



DENOTES SEWER SERVICE. SEE SHEET NO. 2 AND SHEET NO. 13 FOR SEWER SERVICE SCHEDULE AND DETAILS

LINE NO. 2



LATERAL 29, MAIN 15 OF THE SOUTHWEST INTERCEPTOR SEWER

LINE NO. 1 & 2

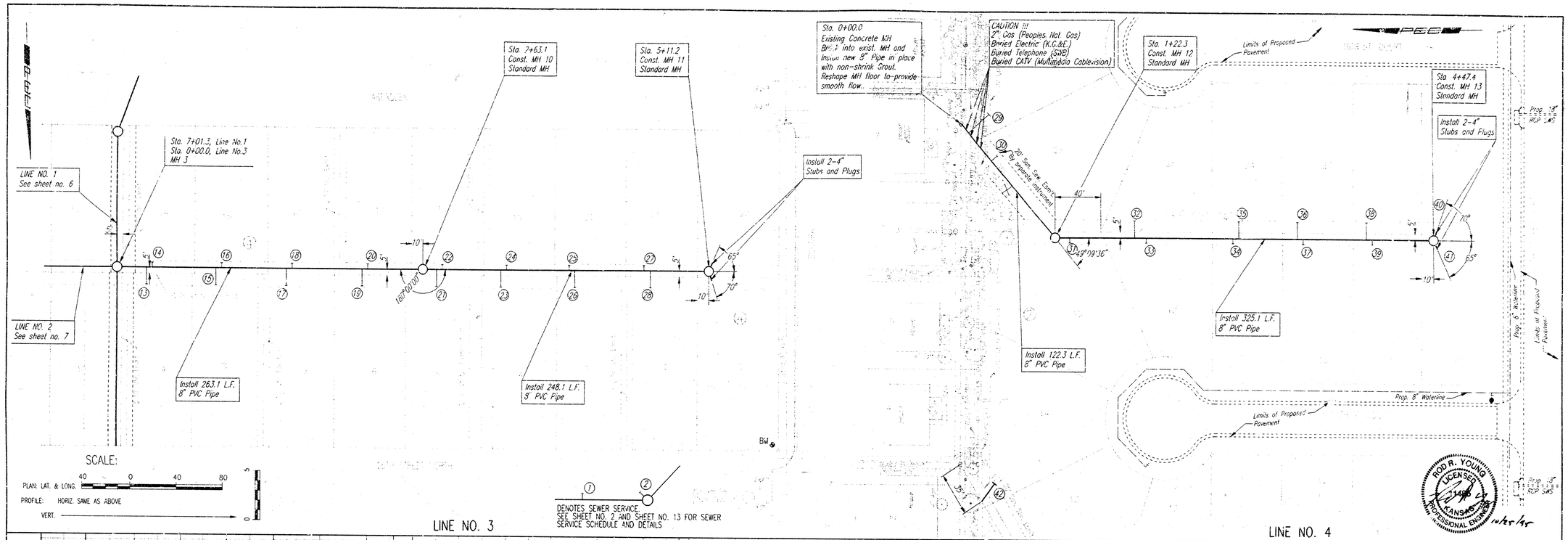
MICHAEL E. LINDEMAN, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 468-76-245-8232-000-001

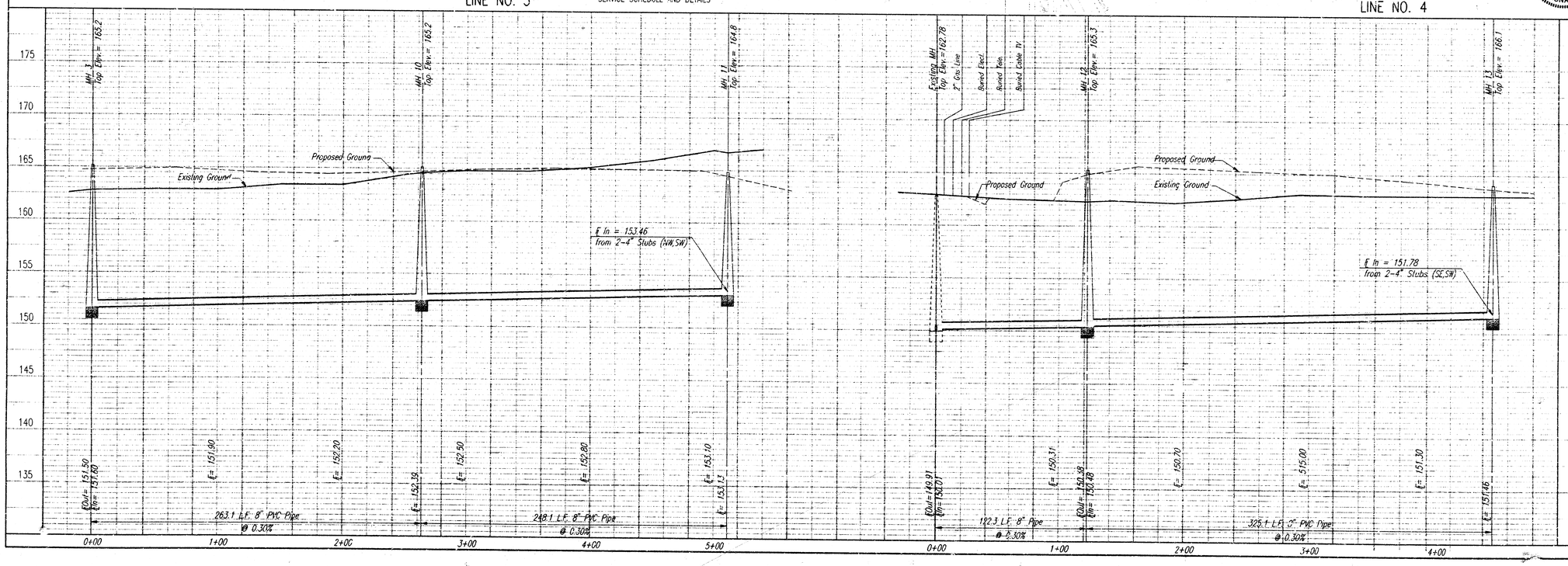
ROD R. YOUNG LICENSED 11485 KANSAS PROFESSIONAL ENGINEER 10/25/95

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Job No. 34-90519-3
Date September 1995
Designed By RRY, MDK
Drawn By ---

Sheet 7 of 13





PLAN | CHECKED | CHECKED | BY | DATE

PROFILE | CHECKED | CHECKED | BY | DATE

DSNR: TDS OPER: TLS SCALE: 1=40.00
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LATERAL 29, MAIN 15 OF THE SOUTHWEST INTERCEPTOR SEWER

LINES NO. 3 & 4

MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 468-76-245-82252-000-001

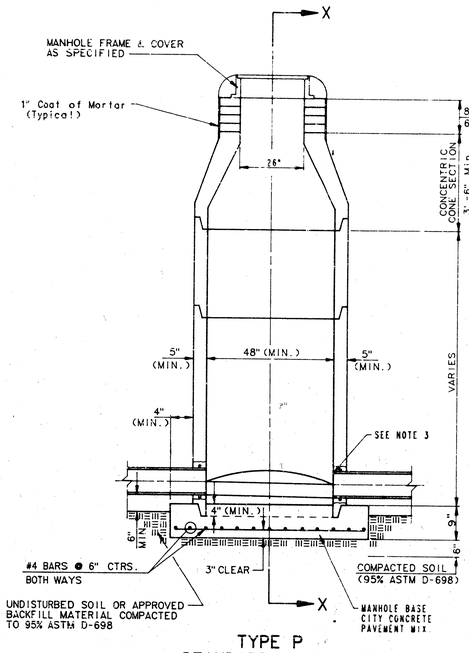
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed By RRY, MDK
Drawn By --
Job No. 34-95519-3
Date September 1995

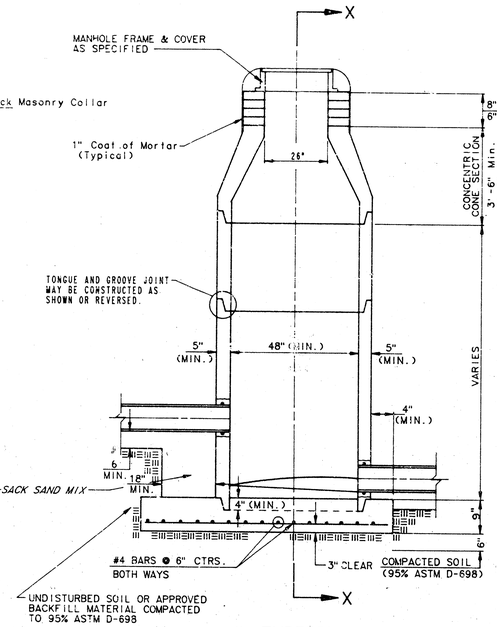
Sheet 8 of 13

SEWER APPURTENANCES DETAILS

ADOPTED AS STANDARD DESIGN
BY
CITY OF WICHITA



TYPE P
STANDARD MANHOLE



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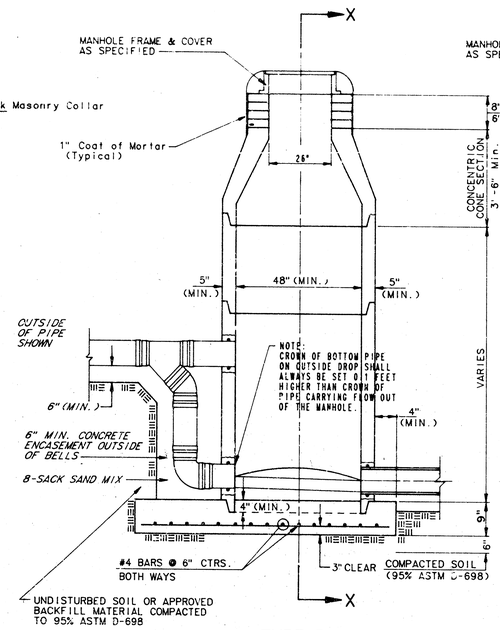
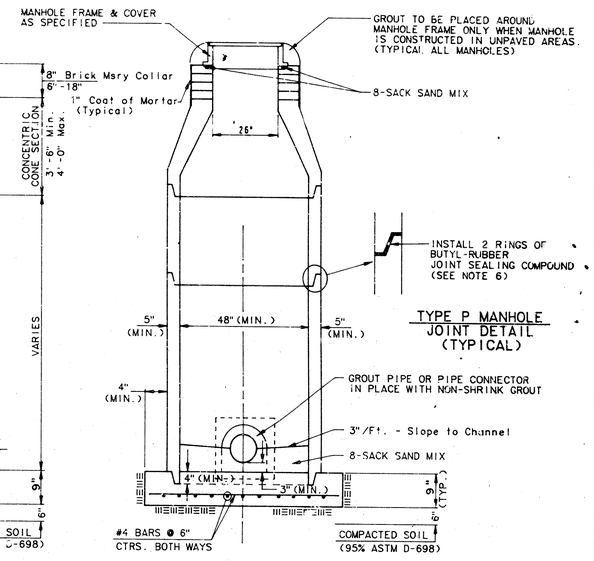
INSIDE DROP MANHOLE



TYPE P
OUTSIDE DROP MANHOLE

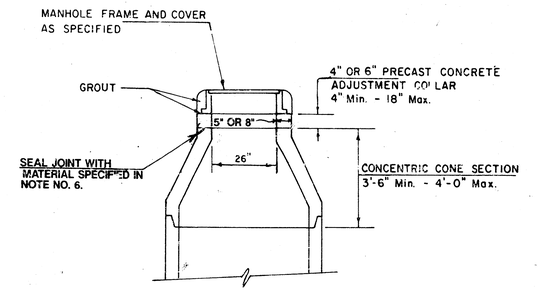


SECTION X
(TYPICAL)

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 TNEMEC SERIES 66 HI-BUILD EPOXOLINE, DRY THICKNESS OF 8 MILS (MIN.)
5. EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINUS 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 9" 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 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 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.



ALTERNATE CONSTRUCTION
IN UNPAVED AREAS

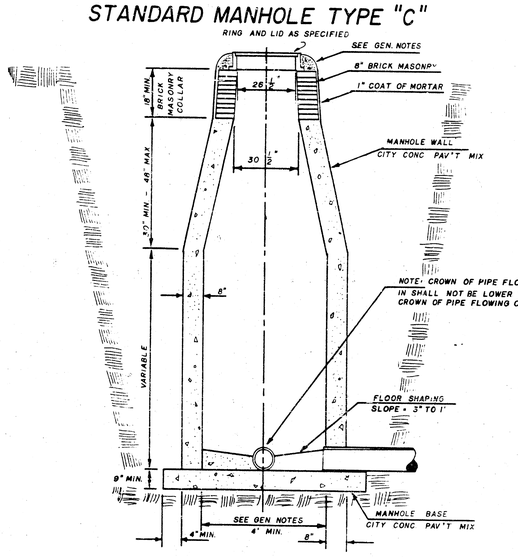
REVISED NOV. 1993
NOTE NO. 16 REVISED JAN. 1991
Revised 3-21-89
Revised 8-10-88
Revised: June 12, 1986

SEWER APPURTENANCES DETAILS

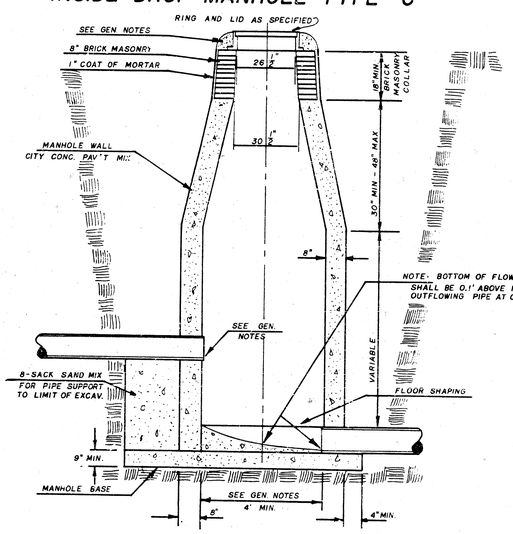
ADOPTED AS STANDARD DESIGN
BY

City of Wichita, Kansas

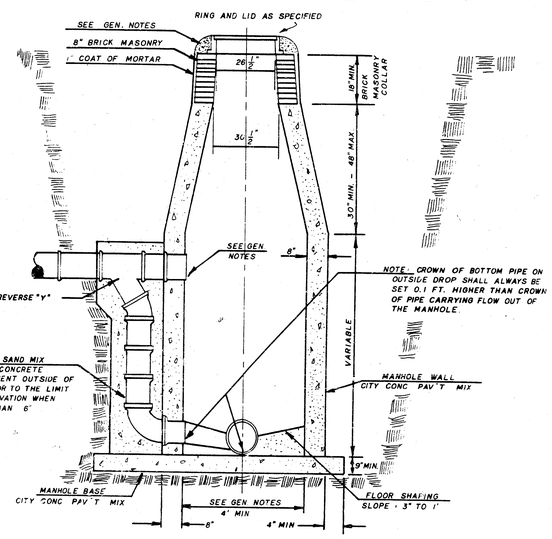
STANDARD MANHOLE TYPE "C"



INSIDE DROP MANHOLE TYPE "C"



OUTSIDE DROP MANHOLE TYPE "C"



GENERAL NOTES

1. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 6 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE WALLS AND 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. TYPE "C" MANHOLES CAN BE CONSTRUCTED ONLY WHERE PIPE SIZES ARE 8" OR SMALLER. THE INSIDE DIAMETER OF TYPE "C" MANHOLES SHALL BE 4'. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.

2. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASE. REINFORCING STEEL SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. REINFORCING STEEL SHALL BE PLACED 6" ABOVE THE BOTTOM OF THE MANHOLE BASE. COST OF FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.

3. AN OPENING SHALL BE CUT IN THE MANHOLE WALL FOR THE UPPER INLET PIPE FOR INSIDE AND OUTSIDE DROP MANHOLES. THE UPPER INLET PIPE SHALL BE GROUTED INTO THIS OPENING WITH NON-SHRINK GROUT. THE EXTERIOR OF THIS COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT.

4. 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 DRAWING 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.

5. 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.

6. 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.

7. 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.

8. STANDARD MANHOLES TYPE "C" AND STANDARD INSIDE DROP MANHOLES TYPE "C" SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES TYPE "C" SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.

JNL JAN. 1982

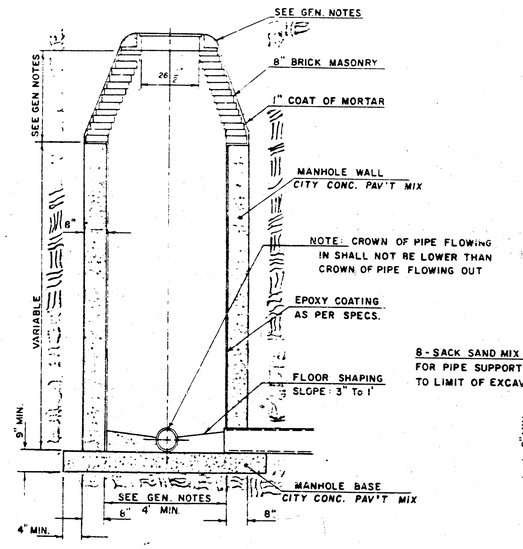
NOTE NO. 7 REVISED JAN. 1991

SEWER APPURTENANCES DETAILS

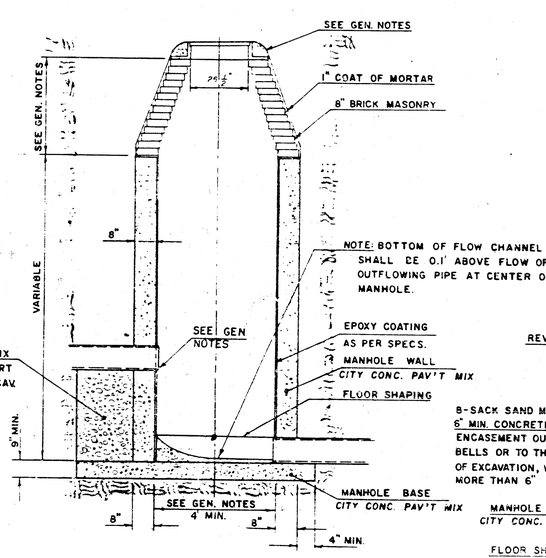
ADOPTED AS STANDARD DESIGN
BY

CITY OF WICHITA, KANSAS

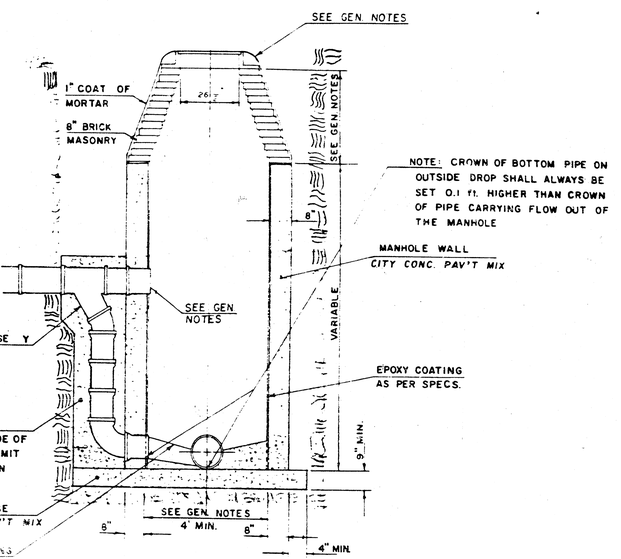
TYPE "D" MANHOLE



TYPE "D" INSIDE DROP MANHOLE



TYPE "D" OUTSIDE DROP MANHOLE



GENERAL NOTES

1. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE WALLS AND 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 PAVED AREAS.

   ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WALL WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE PROTECTED BY AN APPROVED EPOXY COATING. TYPE "D" MANHOLES MAY BE USED ON PIPE SIZES 8" TO 36" WHEN THE MANHOLE DEPTH EXCEEDS THE ACTUAL PIPE HEIGHT BY 1' PLUS THE OUTSIDE DIAMETER OF THE LARGEST PIPE IN THE MANHOLE.

   MANHOLES FOR TRUNK SEWERS WHERE PIPE SIZES ARE SMALLER THAN 42" SHALL HAVE A DIAMETER OF 4'. MANHOLES CONSTRUCTED WHERE THE PIPE SIZES ARE 42" OR LARGER SHALL HAVE A DIAMETER OF 5'. THE HEIGHT OF THE CURVED ON 5' DIAMETER MANHOLES SHALL BE 4'. MANHOLES HAVING A DIAMETER OF 5' SHALL HAVE CURVED 6' IN HEIGHT. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.

2. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASE. REINFORCING STEEL SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. REINFORCING STEEL SHALL BE PLACED 6" ABOVE THE BOTTOM OF THE MANHOLE BASE. COST OF FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.

3. AN OPENING SHALL BE CUT IN THE MANHOLE WALL FOR THE UPPER INLET PIPE FOR INSIDE AND OUTSIDE DROP MANHOLES. THE UPPER INLET PIPE SHALL BE GROUTED INTO THIS OPENING WITH NON-SHRINK GROUT. THE EXTERIOR OF THIS COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT. THE INTERIOR PLASTIC LINING SHALL BE SEALED AROUND THE INLET PIPE OPENING IN SUCH A MANNER THAT WILL EFFECTIVELY MAINTAIN THE INTEGRITY OF THE PROTECTIVE PLASTIC LINER.

4. 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 CHANNEL SHALL BE FORMED TO MATCH THE CROWN OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN ON THE DRAWINGS. EXCEPT AS INDICATED ON MANHOLES FOR INSIDE DROP CONNECTIONS, FLOW CHANNELS SHALL BE CONSTRUCTED AS SHOWN ON THE DRAWINGS. MANHOLE FLOORS SHALL HAVE A SLOPE OF 1 INCH PER FOOT IN ALL DIRECTIONS TOWARD THE FLOW CHANNEL. WHERE THE FLOW CHANNEL CURVES, THE FLOOR SHALL SLOPE FROM THE OUTSIDE WALL TOWARD THE FLOW CHANNEL AT A RATE OF 1 INCH PER FOOT. THE FLOOR SHALL BE FINISHED SMOOTH AND TROWELED TO A HARD DENSE FINISH. [illegible] FOR THE FLOOR SHALL BE A MINIMUM OF 3 INCHES THICK. MANHOLE BENCHES SHALL BE CONSTRUCTED AT THE SIDES OF THE MANHOLE. BENCHES SHALL BE SLOPED AT 1 INCH PER FOOT AWAY FROM THE FLOW CHANNEL AND SHALL BE FORMED TO THE SAME SLOPE AS THE FLOOR WHICH FORMS THE FLOW CHANNEL.

5. PIPES INSTALLED WITHIN THE EXCAVATED HOLE FOR THE MANHOLE SHALL BE ENCASED WITH CONCRETE FROM THE OUTSIDE OF THE MANHOLE EXCAVATION. WHEN CLAY PIPE IS USED, THE CONCRETE SHALL BE PLACED AFTER THE FIRST JOINT OUTSIDE THE MANHOLE. THE CONCRETE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. ANY OF CONCRETE WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.

6. 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.

7. 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.

8. STANDARD MANHOLES TYPE "D" AND STANDARD INSIDE DROP MANHOLES TYPE "D" SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES TYPE "D" SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.

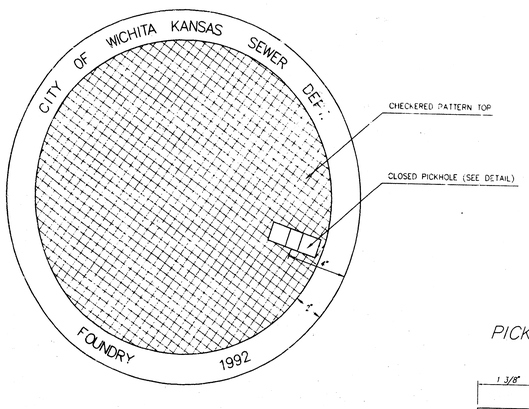
NOTE NO. 7 REVISED JAN. 1991

APRIL 1987

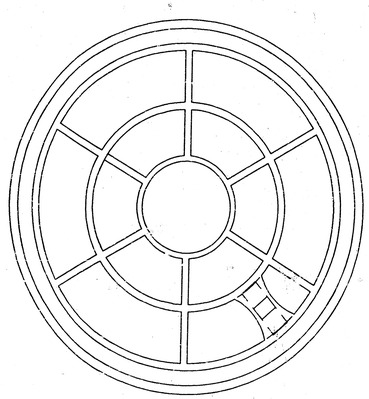
MANHOLE FRAME AND COVER DETAIL

ADOPTED AS STANDARD DESIGN BY
CITY OF WICHITA, KANSAS

MANHOLE COVER
Weight = 180 Lbs.

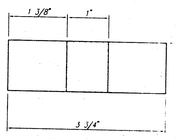


TOP VIEW

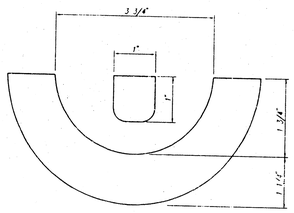


BOTTOM VIEW

PICKHOLE DETA

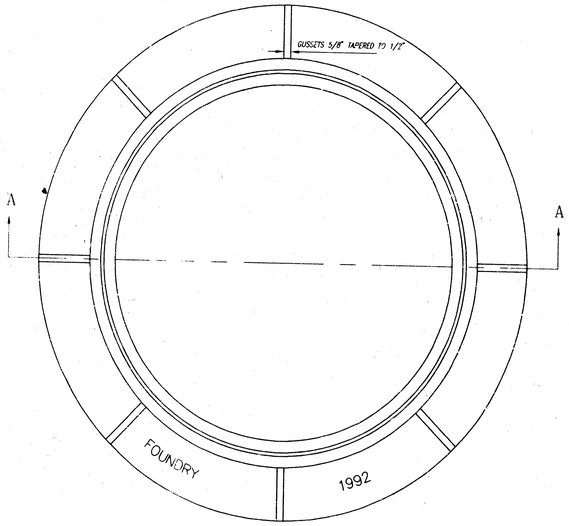


TOP VIEW

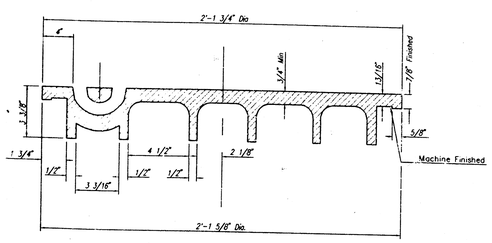


SECTION VIEW

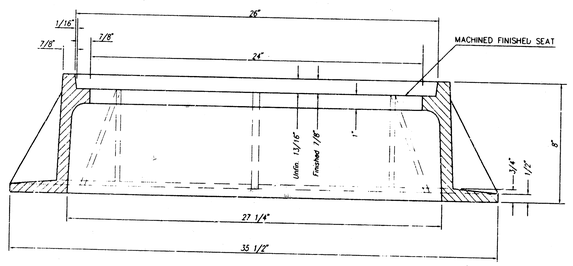
MANHOLE FRAME
Weight = 240 Lbs.



TOP VIEW



SECTION 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 FOUNDARY 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
ADOPTED AS STANDARD DESIGN BY
CITY OF WICHITA, KANSAS

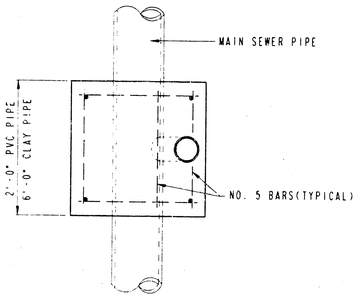
CITY OF WICHITA, KANSAS
M. E. LINDEBAK – CITY ENGINEER

REVISED 6/27/95

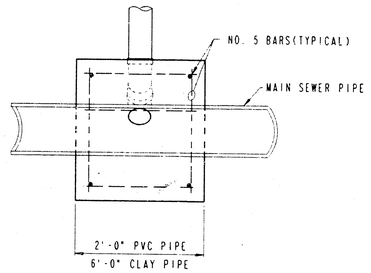
PROJ. NO. 468-76-245- -000-000-001

SHEET 12 OF 13

VERTICAL RISER DETAILS
ADOPTED AS STANDARD DESIGN
BY
CITY OF WICHITA, KANSAS
OCTOBER 1992



TYPICAL PLAN VIEW



TYPICAL SECTION X-X

PLAN | CHECKED | BY | DATE
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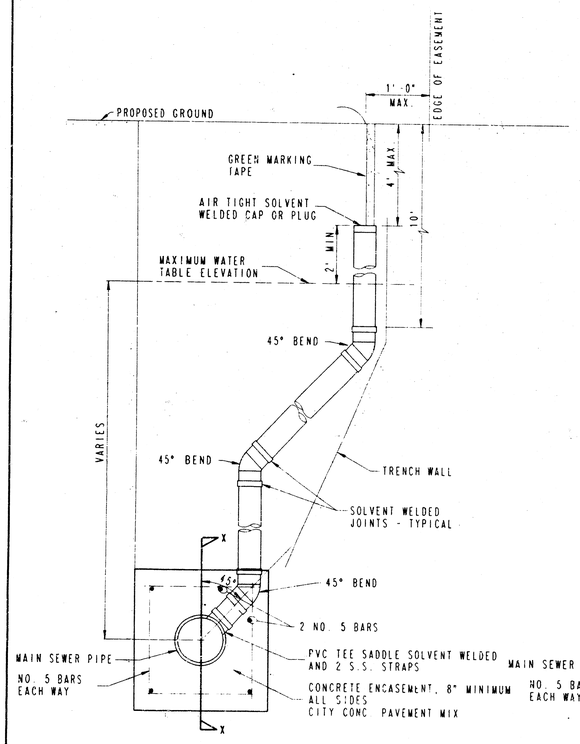
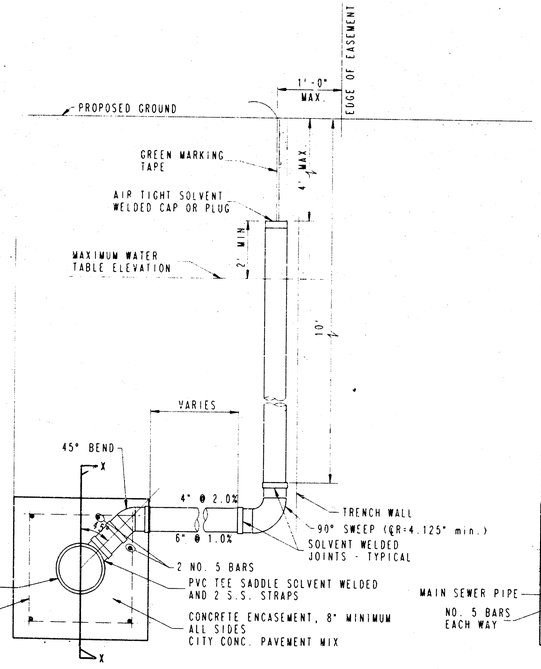
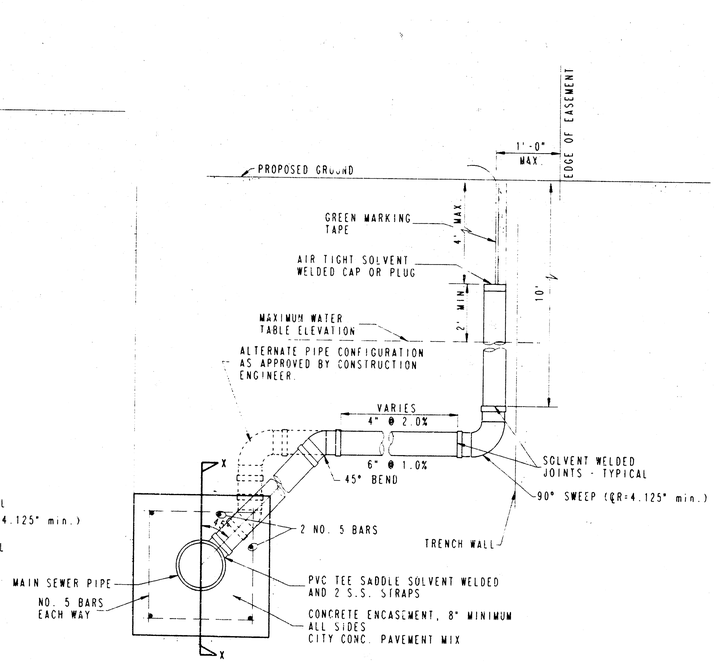


METHOD "A"



METHOD "B"



METHOD "C"

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 developed property shall be approved by the property owner and the Construction Engineer.

2. PIPE STUBS. Pipe stubs shall be installed in manholes where locations of manholes will provide satisfactory service 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 ENCASEMENT. 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 at 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 Pipe Bedding Type 1 or 2. The bedding shall be placed and compacted from the depth of the sanitary sewer main 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 wall 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 built per plan elevations, 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 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"

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