CONSTRUCTION PLANS

SANITARY SEWER EXTENSIONS

FOUNTAINS 2ND ADDITION

TO

THE CITY OF WICHITA, KANSAS

LATERAL 133, WAR INDUSTRIES SEWER

MICHAEL E. LINDEBAK, P.E. – CITY ENGINEER
PROJECT NO. 468-82599
INDEX CODE 742858

GENERAL NOTES:

1. Existing utility lines and their location, as shown on the plans, represent the best information obtainable for design. The contractor will be required to work around existing utilities within the right-of-way which do not conflict with proposed construction.

2. Rubble from the removal of miscellaneous structures and excess excavation which is to be wasted shall be the disposed of on sites to be provided by the Contractor. These sites shall be approved by the Engineer as to suitability, appearance and site location. Locations that, in the opinion of the Engineer, will leave an unsightly appearance will not be approved.

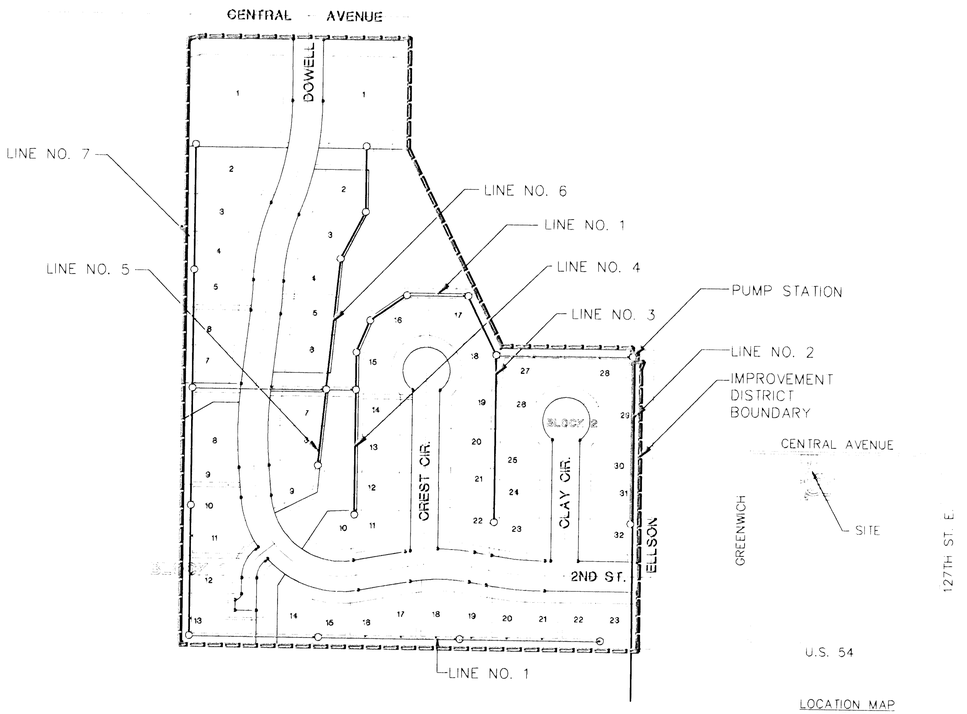
   All disposal sites must be approved by the Kansas Department of Health and Environment. Material either stockpiled or disposed of in a flood plain would require a Kansas State Board of Agriculture permit. Any material dumped in waters of the United States or wetlands is subject to U.S. Corps. of Engineers permitting regulations. Any material buried or stockpiled beyond approved construction limits would require additional archaeological investigations unless buried in a previously approved borrow location.

3. The Contractor shall be responsible for maintaining continuous flow of sewage through construction. Contractor's proposed method for maintaining sewage flow shall be approved by the Engineer. Cost of maintaining flow of sewage through construction will not be paid for directly and this cost shall be considered as subsidiary to the other pay items of the work.

4. 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 or a licensed professional engineer in accordance with state laws.

5. Trees and shrubs in public right-of-way which are in direct conflict with proposed new construction shall be removed by the Contractor with the Engineer's approval. Trees and shrubs which are not in direct conflict with the proposed new construction shall be saved and protected from damage.

6. Temporary seeding (Rye Grass) of all disturbed areas shall be applied at a rate of 200 lbs./acre.



LOCATION MAP
No Scale

INDEX

BENCH MARKS

(M.S.L. Datum)

1. Top of iron in thimble at intersection of Central & Greenwich Elev. 1376.44
2. Railroad spike in PP 462'± E. of NW. Cor. Lot 1, Block 1. Elev. 1379.42
3. 3-40d nails in base of 10" elm tree 1330'± S. and 462'± E. of the NW. Cor. of Lot 1, Block 1. Elev. 1379.17

SEPTEMBER 1996

PLANS PREPARED BY

POE & ASSOCIATES OF KANSAS, INC.

9-31-96

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 INCH = 40 FT.
5 0
1 INCH = 5 FT. (Vert.)

CLAY CIRCLE
CREST CIRCLE
DOWELL
LINE NO. 1
LINE NO. 2
LINE NO. 3
LINE NO. 4
LINE NO. 5
LINE NO. 6
LINE NO. 7

4" PVC Force Main "By Others"
Sta. 0+70 Install 4" Riser
Sta. 2+10 Install 4" Riser
Pump Canister Set and Submersible Outfall (By Others)
Sta. 0+00 Line No. 1
Sta. 0+00 Line No. 2
Wet Well "By Others"
N 4344.02, E 5947.94
Pumping Station

Sta. 2+89.33 Line No. 1
Sta. 0+00 Line No. 3
Constr. Std. MH Type "P" or "C" w/Outside Drop for Line No. 3
N 4343.34, E 5658.61

Sta. 4+27.41
Constr. Std. MH Type "P" or "C"
N 4477.21, E 5603.79

Sta. 5+57.69
Constr. Std. MH Type "P" or "C"
N 4466.89, E 5467.30

Sta. 6+52.18
Constr. Std. MH Type "P" or "C"
N 4412.53, E 5390.01

Sta. 8+04.67 Line No. 1
Sta. 0+00 Line No. 4
Constr. Std. MH Type "P" or "C"
N 4265.64, E 5362.01

Sta. 8+67.69 Line No. 1
Sta. 0+00 Line No. 5
Sta. 0+00 Line No. 6
Constr. Std. MH Type "P" or "C"
N 4265.43, E 5298.98

Sta. 7+25.36
Constr. Std. MH Type "P" or "C"
N 4344.95, E 5361.94

Sta. 11+51.51 Line No. 1
Sta. 0+00 Line No. 7
Constr. Std. MH Type "P" or "C"
N 4264.83, E 5015.16
Match Point

Remove

Contr. to Grade Easements as Shown in the Easement Grading Plan (Provide Temporary Opening Through Fill to Drain Lots)

Riser Summary			
Station	Size	Flowline	Top Riser
0+70	4"	1355.28	1363.5
2+10	4"	1355.84	1365.0

LINE NO. 1

Existing Ground
Finished Ground
24" RCP
Top MH 1370.0
Top MH 1368.8
Top MH 1368.9
Top MH 1368.9
Line No. 2 FL 1360.50
Line No. 3 FL 1362.50
Line No. 4 FL 1360.72
Line No. 5 & 6 FL 1361.07
Line No. 7 FL 1362.21
Prop. 8" Water Line
Flowable Fill Sta. 9+97.7 to Sta. 10+36.9, Top Elev. 1368.0

289.33 L.F. 8" Pipe @ 0.40% Grade
138.08 L.F. 8" Pipe @ 0.40% Grade
130.28 L.F. 8" Pipe @ 0.40% Grade
94.49 L.F. 8" Pipe @ 0.40% Grade
73.18 L.F. 8" Pipe @ 0.40% Grade
79.30 L.F. 8" Pipe @ 0.40% Grade
63.02 L.F. 8" Pipe @ 0.40% Grade
233.82 L.F. 8" Pipe @ 0.40% Grade

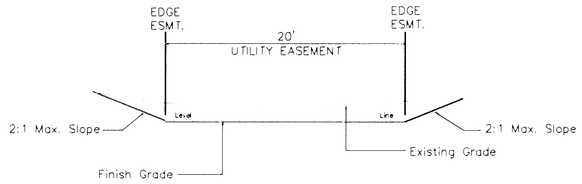
Station	Sta. 0+00 Line No. 1 Sta. 0+00 Line No. 2 Wet Well "By Others"	Sta. 2+89.33 Line No. 1 Sta. 0+00 Line No. 3 Constr. Std. MH Type "P" or "C" With Outside Drop	Sta. 4+27.41 Constr. Std. MH Type "P" or "C"	Sta. 5+57.69 Constr. Std. MH Type "P" or "C"	Sta. 6+52.18 Constr. Std. MH Type "P" or "C"	Sta. 7+25.36 Constr. Std. MH Type "P" or "C"	Sta. 8+24.67 Line No. 1 Sta. 0+00 Line No. 4 Constr. Std. MH Type "P" or "C"	Sta. 8+67.69 Line No. 1 Sta. 0+00 Line No. 5 Sta. 0+00 Line No. 6 Constr. Std. MH Type "P" or "C"	Sta. 11+51.51 Line No. 1 Sta. 0+00 Line No. 7 Constr. Std. MH Type "P" or "C"
1375									
1370									
1365									
1360									
1355									
1350									
1345									
	1355.00	1355.16 Out 1356.26 In	1356.81 Out 1356.91 In	1357.43 Out 1357.53 In	1357.91 Out 1358.01 In	1358.30 Out 1358.40 In	1358.72 Out 1358.82 In	1359.07	1359.60 Out 1360.31 In
	0+00	1+00	2+00	3+00	4+00	5+00	6+00	7+00	8+00	9+00	10+00	11+00

1355.20 1355.40 1355.60 1355.80 1356.00 1356.50 1356.70 1357.00 1357.20 1357.40 1357.70 1358.20 1358.50 1359.00 1359.20 1359.40 1359.60 1359.80 1360.00

POE & ASSOCIATES OF KANSAS, INC.
Consulting Engineers
5940 E. Century, Suite 200 ■ Wichita, KS 67208 ■ 316 685 4174

ENGINEER
ENGR. TECH K. Henderson
CAD TECH S. Schmidt
DATE September 1995
SHEET 2 of 12

FOUNTAINS 2ND ADDITION
Lateral 133, War Industries Sewer
LINE NO. 1
CITY OF WICHITA, KANSAS
Project No. 468-82599
Index Code 742858



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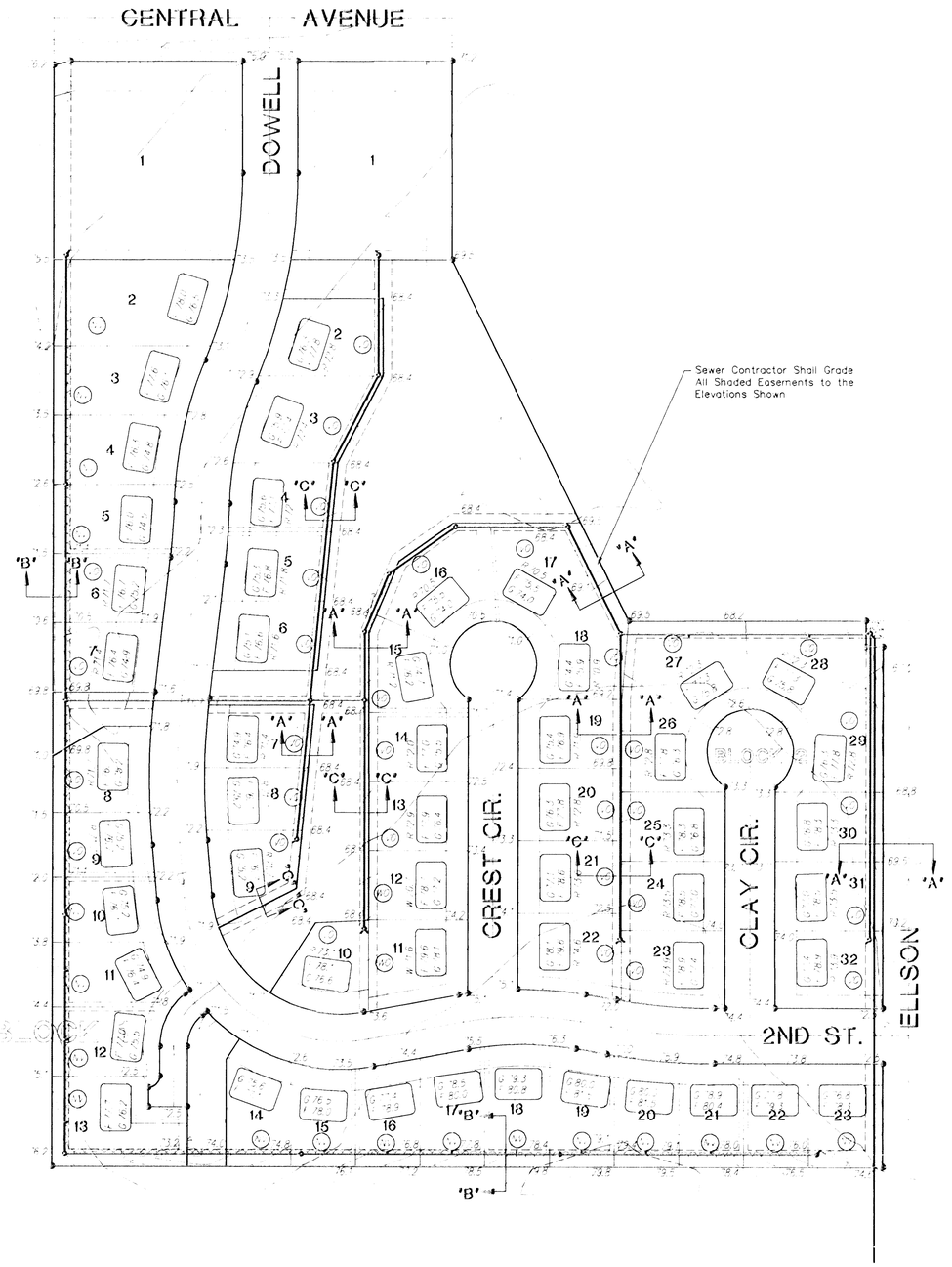

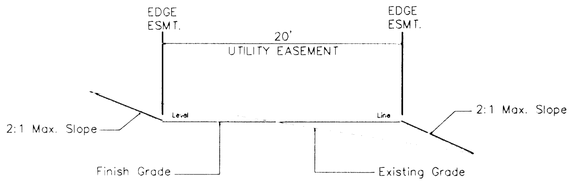

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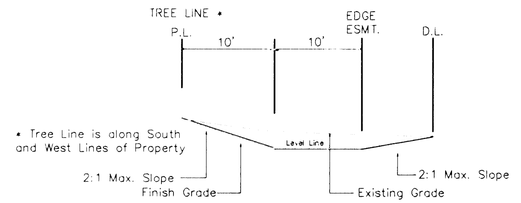
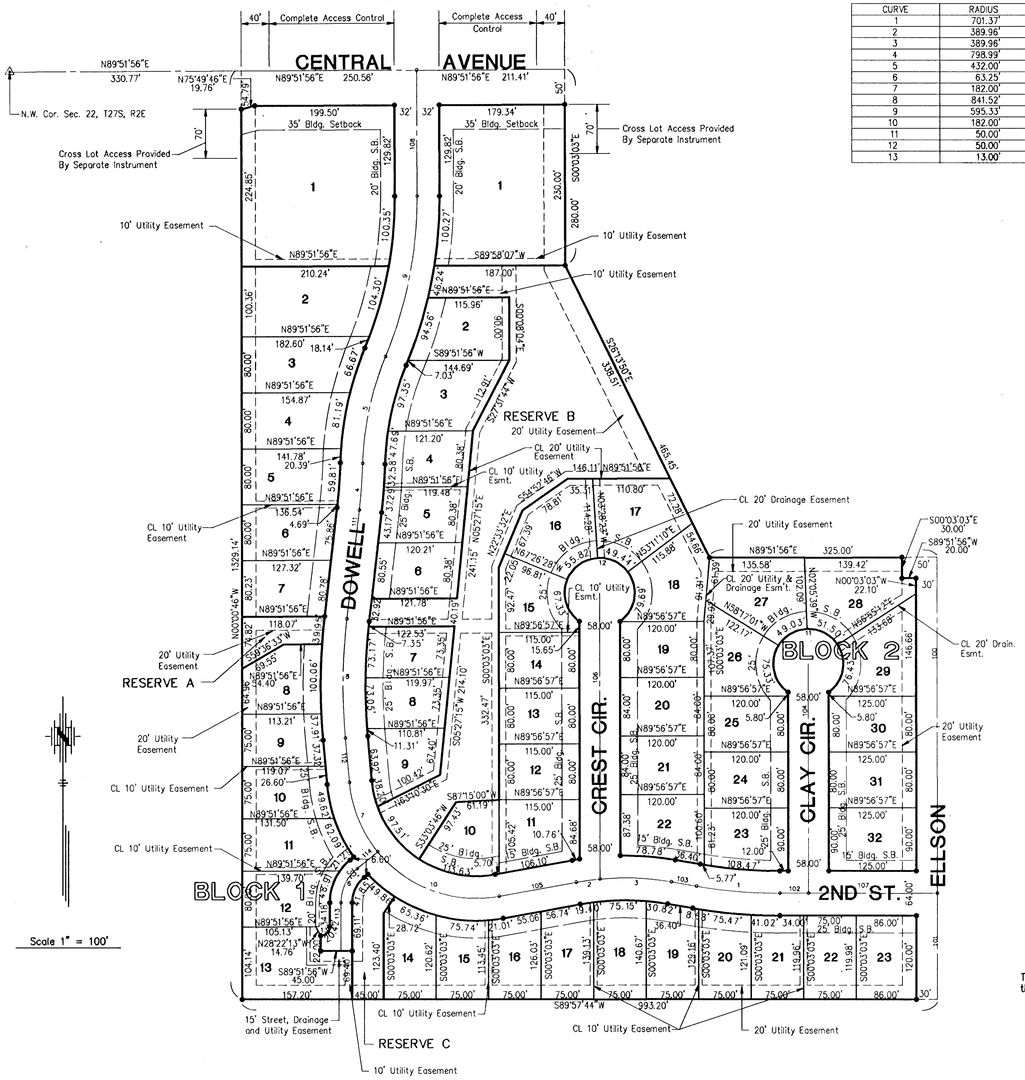


SECTION "B" - "B"
No Scale

POE & ASSOCIATES OF KANSAS, INC.
Consulting Engineers
1940 E. Harry, Suite 200 ■ Wichita, KS 67208 ■ 316 685-4174

ENGINEER	FOUNTAINS 2ND ADDITION
ENG TECH	LATERAL 133, WAR INDUSTRIES SEWER
CAD TECH	EASEMENT GRADING PLAN
DATE September 1996	CITY OF WICHITA, KANSAS
SHEET 11 of 12	Project No. 468-82599
	Index Code 742858



CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
1	701.37'	119.71'	60.00'	119.56'	S85°09'40"E	09°46'45"
2	389.96'	34.22'	17.12'	34.20'	S82°10'26"W	05°01'38"
3	389.96'	102.37'	51.48'	102.08'	N87°47'31"W	15°02'27"
4	798.99'	67.19'	33.61'	67.17'	N04°09'28"E	04°49'05"
5	432.00'	156.65'	79.20'	155.79'	N12°08'13"E	20°46'35"
6	63.25'	56.02'	30.00'	54.21'	S25°19'27"W	50°45'00"
7	182.00'	108.63'	55.99'	107.02'	S22°12'08"E	34°11'51"
8	841.52'	171.40'	86.00'	171.11'	S00°43'54"W	11°40'13"
9	595.33'	235.44'	119.28'	233.91'	N11°11'43"E	22°39'34"
10	182.00'	193.89'	107.29'	184.85'	S69°49'13"E	61°02'20"
11	50.00'	252.29'	35.60'	58.00'	S89°56'57"W	289°05'56"
12	50.00'	252.29'	35.60'	58.00'	S89°56'57"W	289°05'56"
13	13.00'	20.42'	13.00'	18.38'	N44°56'57"W	90°00'00"

LINE	DIRECTION	DISTANCE
100	S00°03'03"E	480.80'
101	S00°03'03"E	152.01'
102	N89°56'57"E	41.00'
103	S80°16'18"E	36.40'
104	S00°03'03"E	328.53'
105	N79°39'37"E	111.80'
106	S00°03'03"E	409.70'
107	N89°56'57"E	184.00'
108	N00°08'04"W	179.82'
111	S06°34'00"W	156.64'
112	S05°06'13"E	63.92'
113	S00°03'03"E	69.14'
114	S50°41'57"W	38.00'

Benchmarks
(M.S.L. Datum)

1. Top of iron in thimble at intersection of Central & Greenwich Elev. 1376.44
2. Railroad spike in PP 462'± E. of NW. Cor. Lot 1, Block 1. Elev. 1379.42
3. 3–40d nails in base of 10" elm tree 1330'± S. and 462'± E. of the NW. Cor. of Lot 1, Block 1. Elev. 1379.17

This is to certify that this instrument was filed for record in the Register of Deeds Office at 3:00, A.M.–P.M. on the 20th day of June, 1996.

#1535759

Pat Kettler
Pat Kettler, Register of Deeds

Phyllis Hernandez
~~Ed Resa, Chief~~ Deputy
PHYLLIS HERNANDEZ

THE FOUNTAINS 2ND ADDITION

TO WICHITA, SEDGWICK COUNTY, KANSAS

20.09 ck

STATE OF KANSAS, COUNTY OF SEDGWICK: SS.

I, Kenny E. Hill, being a duly licensed Land Surveyor in said County and State, do hereby certify that I have been in responsible charge of surveying and platting "THE FOUNTAINS 2ND ADDITION" to Sedgwick County, Kansas, being a replat of "The Fountains" and being described as follows:

Commencing at the Northwest corner of the Northwest Quarter (NW1/4) of Section 22, Township 27 South, Range 2 East of the Sixth Principal Meridian Sedgwick County, Kansas, thence bearing N 89° 51'56" E along the North line of said Northwest Quarter (NW1/4) of the Northwest Quarter (NW1/4) a distance of 330.77 feet to the point of beginning; thence continuing on a bearing of N 89°51'56" E along said North line a distance of 461.97 feet; thence bearing S 00°03'03" E a distance of 280.00 feet; thence bearing S 26°13'50" E a distance of 465.45 feet; thence bearing N 89°51'56" E a distance of 325.00 feet to a point on the East line of said Northwest Quarter (NW1/4) of the Northwest Quarter (NW1/4); thence bearing S 00°03'03" E a distance of 632.81 feet to a point on the South line of said Northwest Quarter (NW1/4) of the Northwest Quarter (NW1/4); thence bearing S 89°57'44" W along said South line a distance of 993.20 feet; thence bearing N 00°00'46" W a distance of 1329.14 feet to the point of beginning. Previously dedicated easements are hereby vacated by virtue of KSA 512–b.

The accompanying plat is a true and correct exhibit of property surveyed.
Dated this 17TH day of MAY, 1996.

KENNY E. HILL LICENSED L.S. 884 KANSAS LAND SURVEYOR

Kenny E. Hill, L.S. 884

KNOW ALL MEN BY THESE PRESENTS:

That we, the undersigned, have caused the land described in the Surveyor's Certificate to be platted into lots, blocks, streets and reserves. The streets are hereby dedicated to and for the use of the public. Easements are hereby granted as indicated for the construction and maintenance of drainage and utilities. Reserves A, B and C shall permit drainage, sidewalks, utilities, landscaping and playground equipment or recreational improvements. The reserves shall be owned and maintained by a property owners association its successors and assigns. The minimum low opening elevation for the homes built on lots adjacent to Reserve "A", "B", or "C" is 1370.5 M.S.L. Datum (183.1 City of Wichita Datum). All abutters' rights of access to or from Central Avenue over and across the North line of Lot 1, Block 1, except the West 40 feet, and Lot 1 Block 2, except the East 40', are hereby granted to the City of Wichita.

Klepper Industries, Inc.
Donald L. Bales, President

Karl Solomon
Barbara J. Solomon

STATE OF KANSAS, COUNTY OF SEDGWICK: SS.

This instrument was acknowledged before me on this 17th day of May, 1996, by Karl Solomon and Barbara J. Solomon husband and wife.

CAROL R. BARNES Notary Public - State of Kansas My Appt. Expires 1-29-2000

My Appointment Expires: _____

Notary Public
CAROL R. BARNES

STATE OF KANSAS, COUNTY OF SEDGWICK: SS.

This instrument was acknowledged before me on this 17th day of May, 1996, by Donald L. Bales, President of Klepper Industries, Inc.

CAROL R. BARNES Notary Public - State of Kansas My Appt. Expires 1-29-2000

My Appointment Expires: _____

Notary Public
CAROL R. BARNES

This plat of THE FOUNTAINS 2ND ADDITION to Wichita, Kansas has been submitted to and approved by this WICHITA–SEDGWICK COUNTY METROPOLITAN AREA PLANNING COMMISSION, Wichita, Kansas.

Dated this 11th day of April, 1996.

SEAL

WICHITA SEDGWICK COUNTY METROPOLITAN AREA PLANNING COMMISSION

Susan Osborne–Howes, Chairman

Marvin S. Krout, Secretary

This Plat approved and all dedications shown heron, are accepted by the City Council of the City of Wichita, Kansas,, this 11th day of JUNE, 1996.

THE CITY OF WICHITA SEDGWICK COUNTY, KANSAS

Bob Knight, Mayor

Pat Burnett, ~~Deputy~~ City Clerk

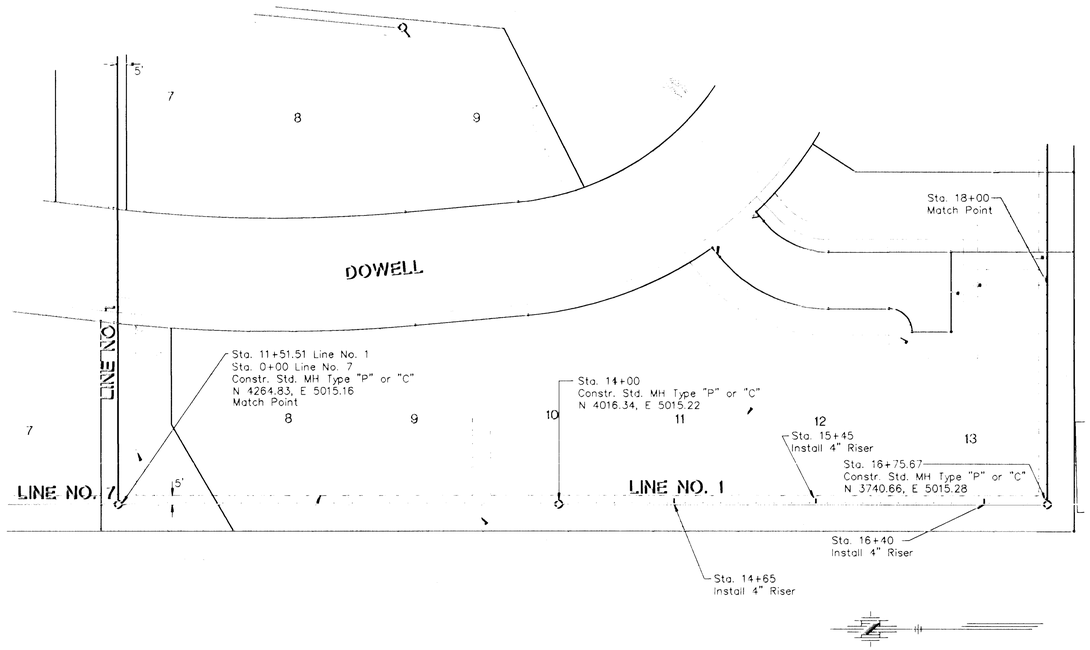
Entered on transfer record this 20th day of June, 1996.

Susan E. Crockett-Spoon, County Clerk
Brent W. Shelton, Chief Deputy

THE FOUNTAINS 2nd ADDITION
LATERAL 133, WAR INDUSTRIES SEWER
C.O.W. PROJ. No. 468-82599
INDEX CODE 742868

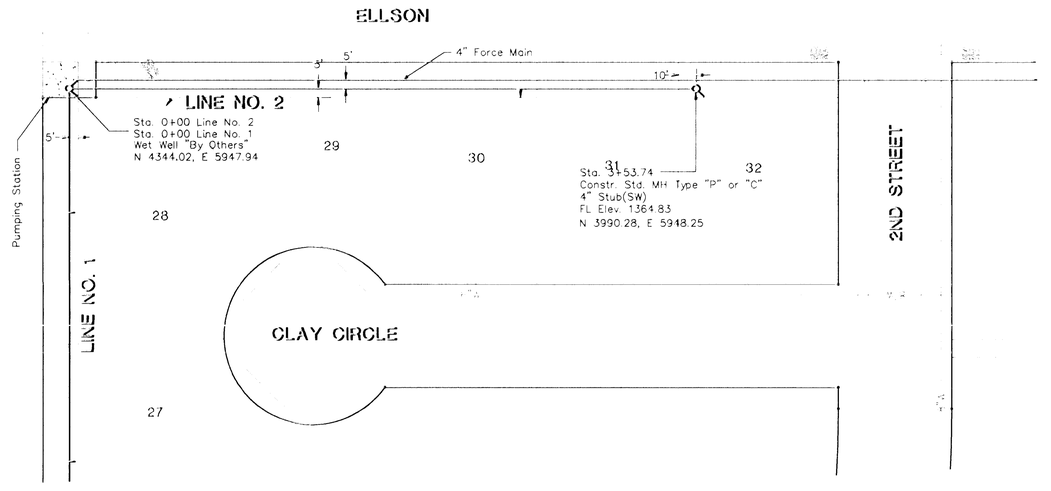
Sheet 12 of 12

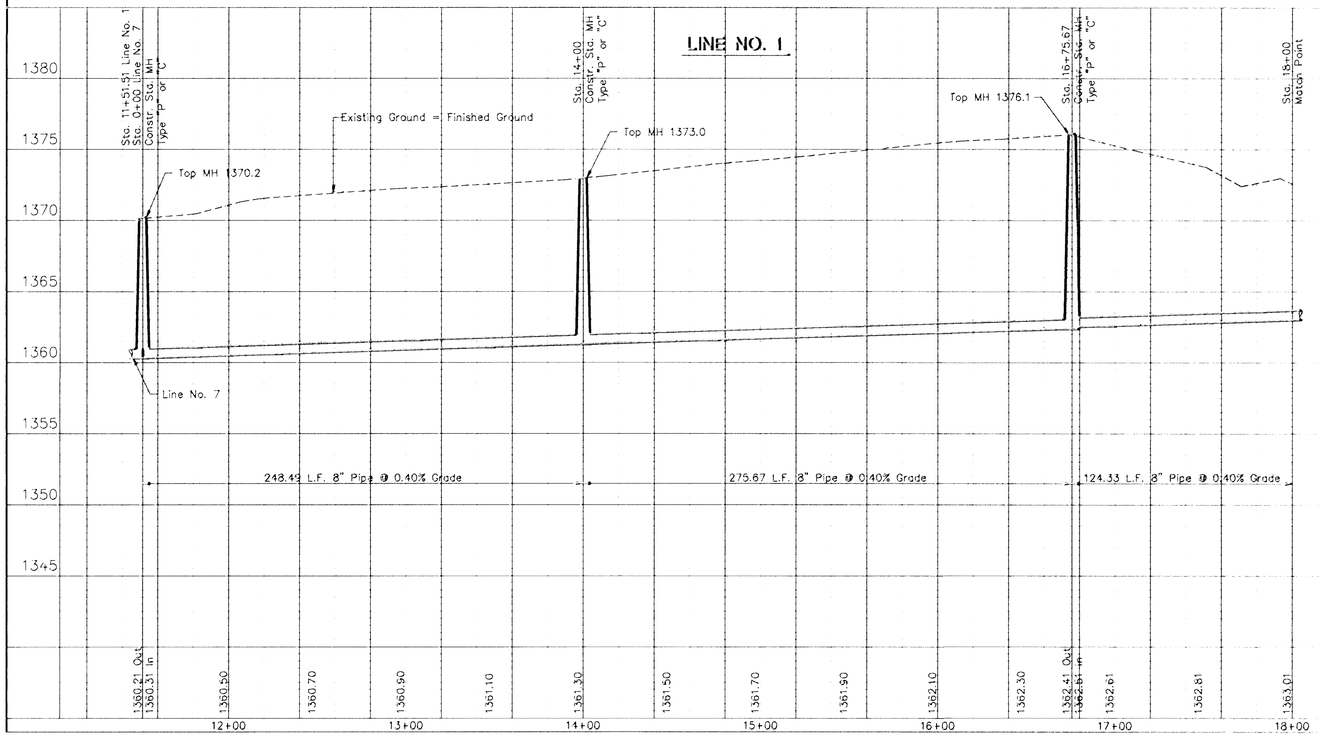
PC66-4

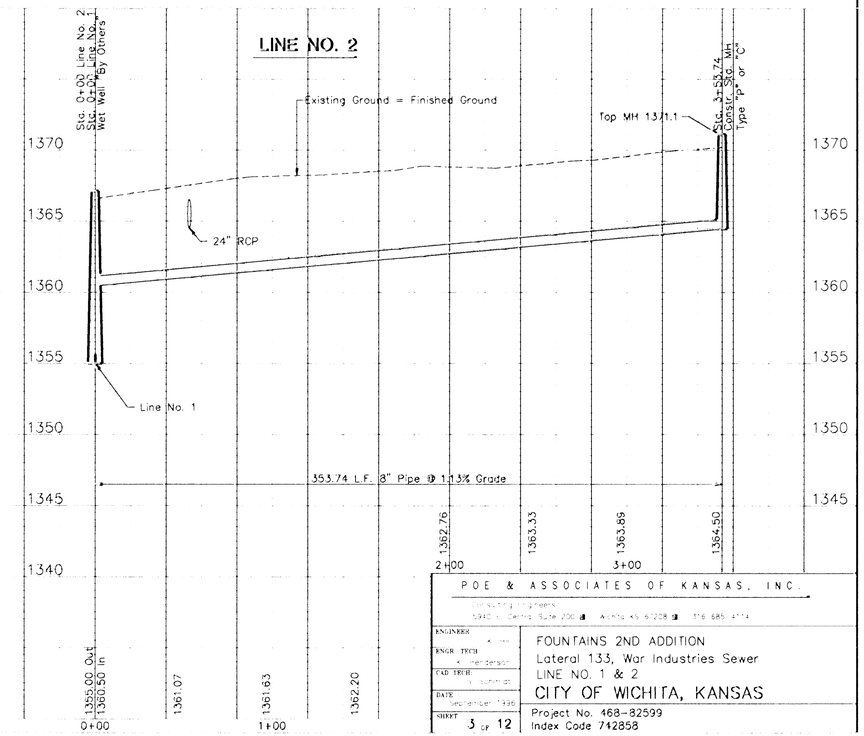


Riser Summary			
Station	Size	Flowline	Top Riser
14+65	4"	1361.56	1370.0
15+45	4"	1361.88	1371.0
16+40	4"	1362.26	1372.0

GRAPHIC SCALE
40 0 20 40 80
(N. FEET)
1 INCH = 40 FT.
5 0
1 INCH = 5 FT.
(Vert.)



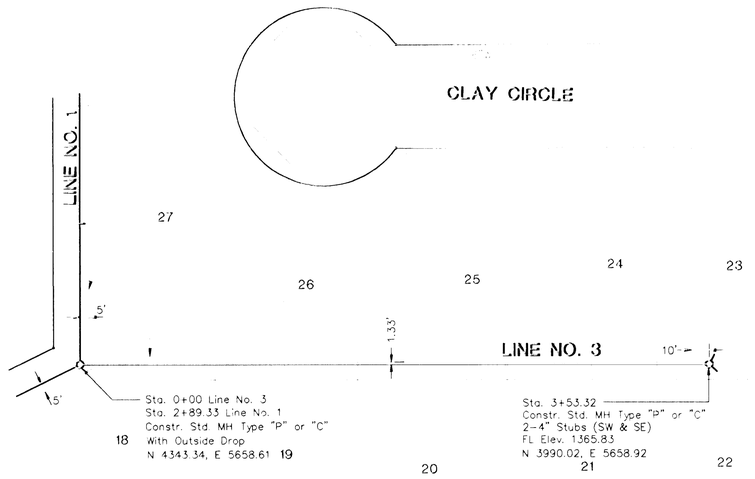




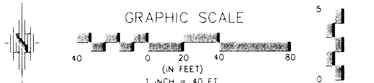
POE & ASSOCIATES OF KANSAS, INC.
Consulting Engineers
5940 E. Central, Suite 200 ■ Wichita, KS 67208 ■ 316 685 4774

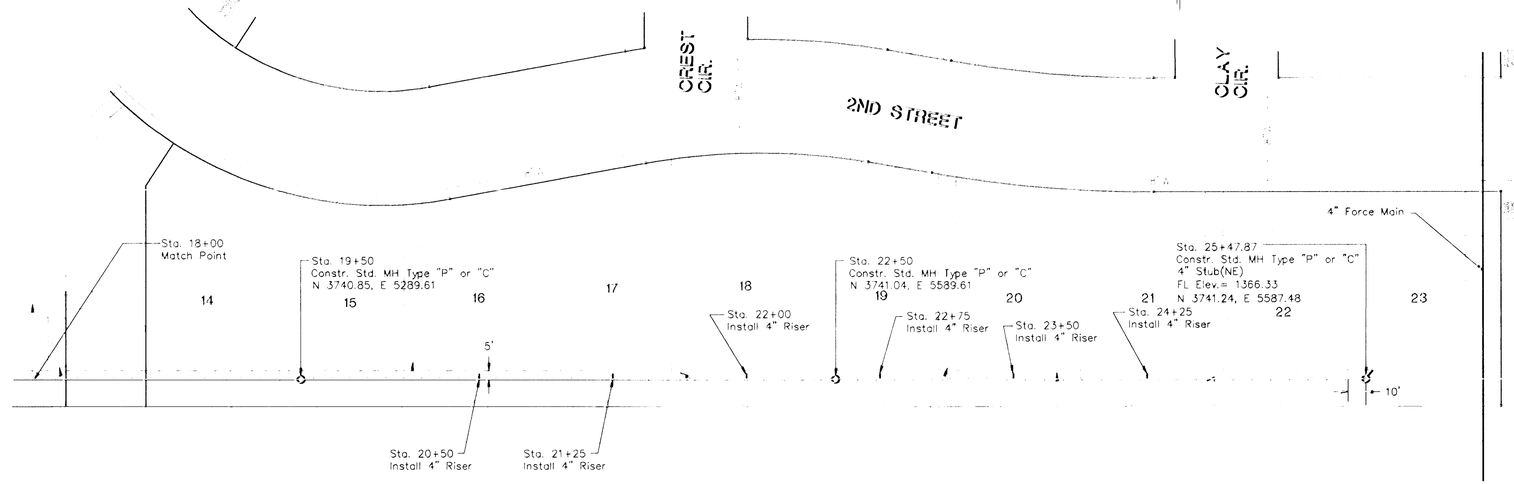
ENGINEER
ENGR TECH
CAD TECH
DATE September 1996
SHEET 3 OF 12

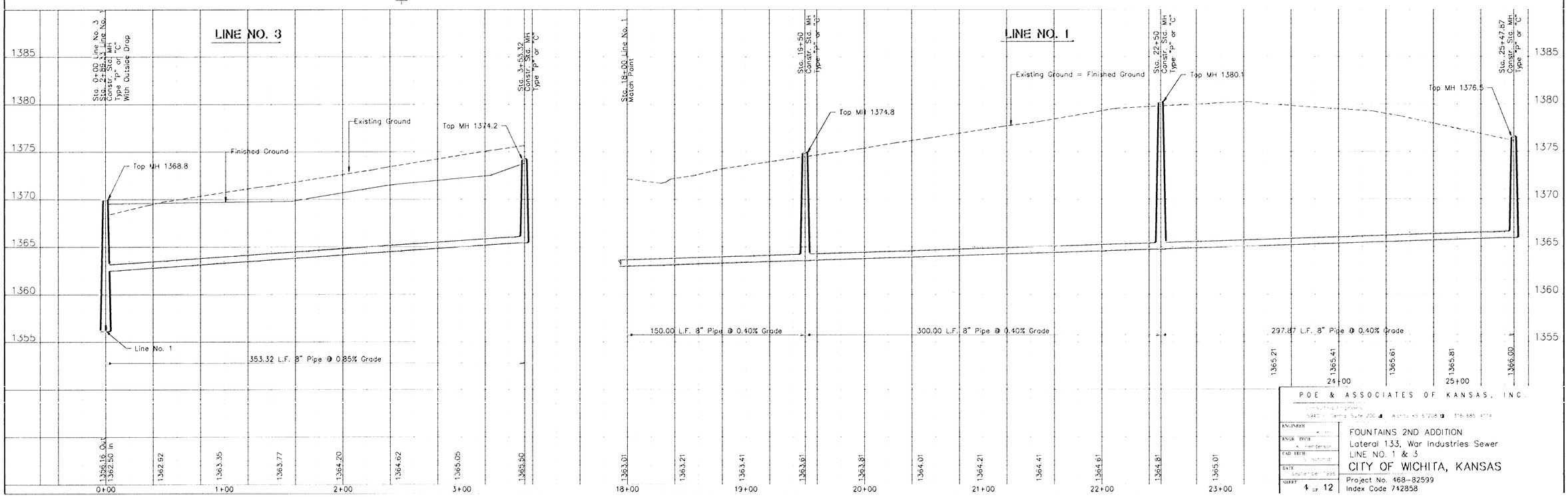
FOUNTAINS 2ND ADDITION
Lateral 133, War Industries Sewer
LINE NO. 1 & 2
CITY OF WICHITA, KANSAS
Project No. 468-82599
Index Code 742858



Riser Summary			
Station	Size	Flowline	Top Riser
20+50	4"	1364.00	1373.0
21+25	4"	1364.30	1374.0
22+00	4"	1364.60	1376.0
22+75	4"	1364.90	1376.0
23+50	4"	1365.20	1376.0
24+25	4"	1365.50	1376.0







POE & ASSOCIATES OF KANSAS, INC.
Consulting Engineers
9400 E. Harry Suite 200 ■ Wichita, KS 67207 ■ 316 685 4774

ENGINEER	K. Henderson
ENGR. TECH.	K. Henderson
CAD TECH.	Scott Hill
DATE	September 1995
SHEET	4 OF 12

FOUNTAINS 2ND ADDITION
Lateral 133, War Industries Sewer
LINE NO. 1 & 3
CITY OF WICHITA, KANSAS
Project No. 468-82599
Index Code 742858

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 INCH = 40 FT.
5 0
1 INCH = 5 FT. (Vert.)

CENTRAL AVE.

Sta. 3+90.43
Constr. Std. MH Type "P" or "C"
N 4641.91, E 5377.45

Contractor to Grade Easements as Shown in the Easement Grading Plan (Provide Temporary Opening Through Fill to Drain Lots)

LINE NO. 1

Sta. 0+00 Line No. 4
Sta. 8+04.67 Line No. 1
Constr. Std. MH Type "P" or "C"
N 4265.64, E 5362.01

Sta. 2+64.16
Constr. Std. MH Type "P" or "C"
2-4" Stubs(SE & SW)
FL Elev.= 1363.30
N 4001.48, E 5362.24

LINE NO. 4

Sta. 5+29.35
Constr. Std. MH Type "P" or "C"
4" Stub(NW)
FL Elev.= 1363.72
N 4780.83, E 5377.13

LINE NO. 3

Remove

Sta. 2+77.78
Constr. Std. MH Type "P" or "C"
N 4542.01, E 5325.39

LINE NO. 5

Sta. 0+00 Line No. 5
Sta. 0+00 Line No. 6
Sta. 8+67.69 Line No. 1
Constr. Std. MH Type "P" or "C"
N 4265.49, E 5298.98

Sta. 1+61.77
Constr. Std. MH Type "P" or "C"
4" Stub(SW)
FL Elev.= 1363.83
N 4104.46, E 5283.61

LINE NO. 6

2ND ST. N.

DOWELL

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

LINE NO. 4

Sta. 0+00 Line No. 4
Sta. 8+04.67 Line No. 1
Constr. Std. MH Type "P" or "C"
Top MH 1368.8
Finished Ground
Existing Ground
Sta. 2+64.16
Constr. Std. MH Type "P" or "C"
Top MH 1368.8
Line No. 1
264.16 L.F. 8" Pipe @ 1.61% Grade

1358.72 Out	1359.52	1360.33	1361.13	1361.94	1362.74	1362.97	
1358.72 In							
0+00		1+00		2+00			

LINE NO. 5

Sta. 0+00 Line No. 5
Sta. 0+00 Line No. 6
Sta. 8+67.69 Line No. 1
Constr. Std. MH Type "P" or "C"
Top MH 1368.8
Finished Ground
Existing Ground
Sta. 1+61.77
Constr. Std. MH Type "P" or "C"
Top MH 1368.8
Top MH 1368.8
Line No. 1
161.77 L.F. 8" Pipe @ 2.06% Grade

1359.07 Out	1360.20	1361.23	1362.26	1362.50	
1359.17 In					
0+00		1+00			

LINE NO. 6

Sta. 0+00 Line No. 5
Sta. 0+00 Line No. 6
Sta. 8+67.69 Line No. 1
Constr. Std. MH Type "P" or "C"
Top MH 1368.8
Existing Ground
Finished Ground
Sta. 2+77.78
Constr. Std. MH Type "P" or "C"
Top MH 1368.8
Sta. 3+90.43
Constr. Std. MH Type "P" or "C"
Top MH 1368.8
Top MH 1371.7
Sta. 5+29.35
Constr. Std. MH Type "P" or "C"
Line No. 1
277.78 L.F. 8" Pipe @ 1.08% Grade
112.65 L.F. 8" Pipe @ 0.40% Grade
138.92 L.F. 8" Pipe @ 0.40% Grade

1356.07 Out	1359.71	1360.25	1360.80	1361.34	1361.88	1362.15 Out	1362.37	1362.57	1362.73 Out	1362.83 In	1363.07	1363.27	1363.39
1359.17 In						1362.28 In						
0+00		1+00		2+00		3+00			4+00			5+00	

1375 1370 1365 1360 1355 1350 1345

P O E & A S S O C I A T E S O F K A N S A S, I N C.
5940 E. Central, Suite 200 ■ Wichita, KS 67208 ■ 316.685.4778

ENGINEER
ENGR. TECH
CAD TECH
DATE September 1995
SHEET 5 OF 12

FOUNTAINS 2ND ADDITION
Lateral 133, War Industries Sewer
LINE NO. 4,5 & 6
CITY OF WICHITA, KANSAS
Project No. 468-82599
Index Code 742858

GRAPHIC SCALE
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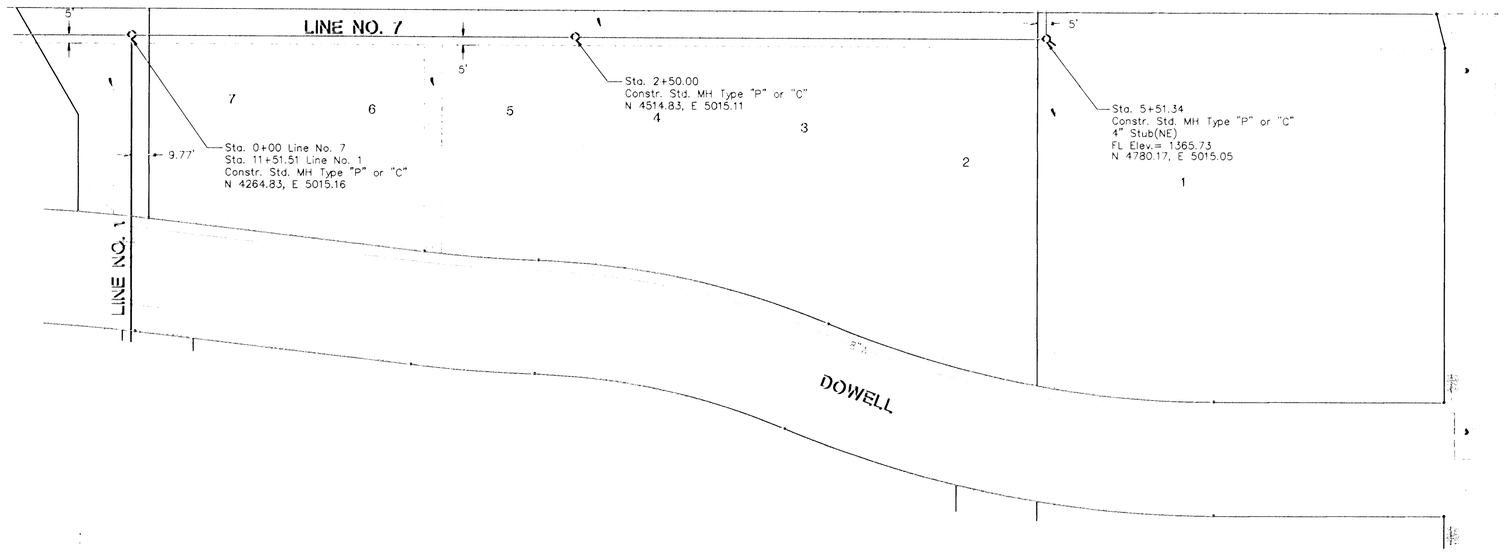
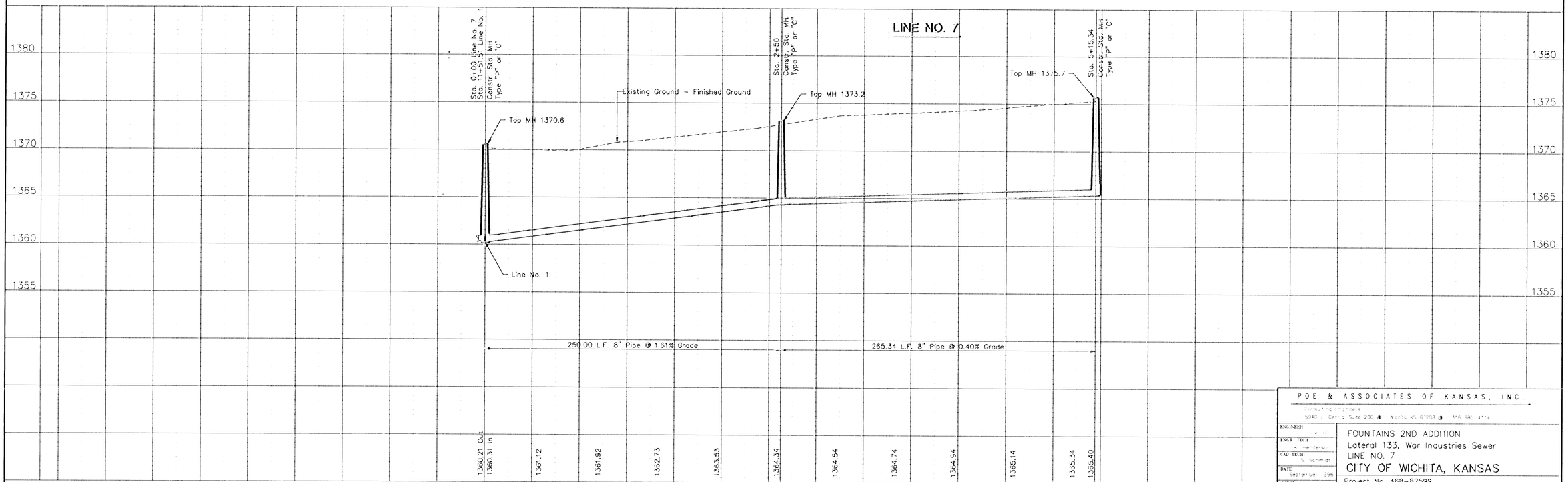
(IN FEET)
1 INCH = 40 FT.

5
0
1 INCH = 5 FT.
(Vert.)





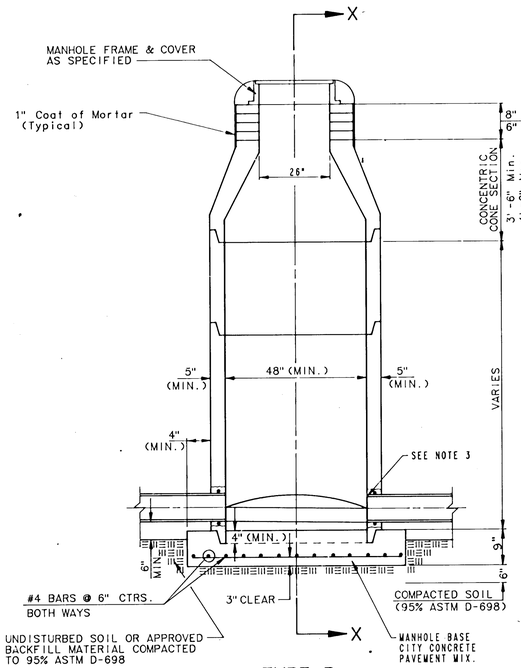
POE & ASSOCIATES OF KANSAS, INC.
Consulting Engineers
5940 E. Central, Suite 200 ■ Wichita, KS 67208 ■ 316.685.4174

ENGINEER	
ENGR. TECH	K. Henderson
CAD TECH	S. Schmidt
DATE	September 1996
SHEET	6 OF 12

FOUNTAINS 2ND ADDITION
Lateral 133, War Industries Sewer
LINE NO. 7
CITY OF WICHITA, KANSAS
Project No. 468-82599
Index Code 742858

SEWER APPURTENANCES DETAILS

ADOPTED AS STANDARD DESIGN
BY
CITY OF WICHITA



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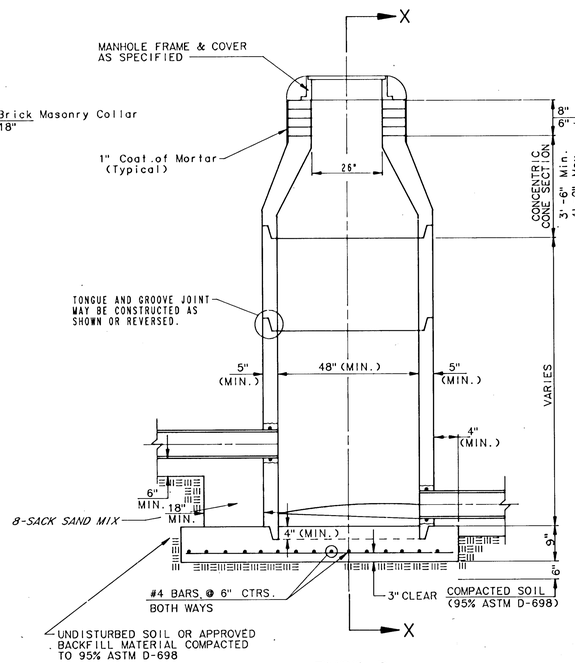

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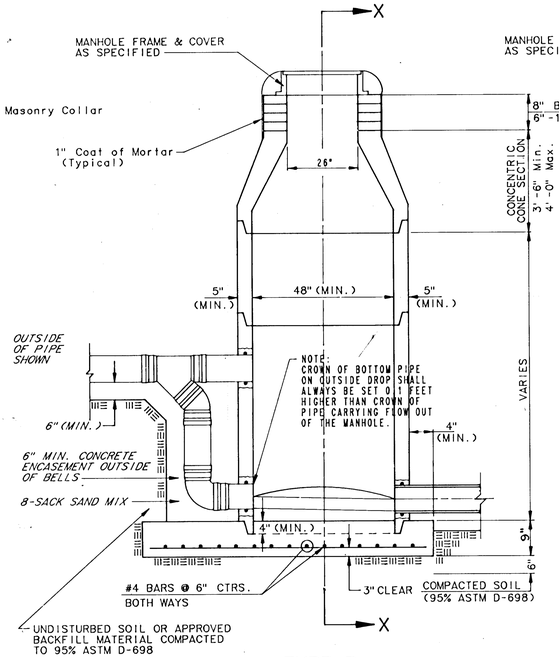

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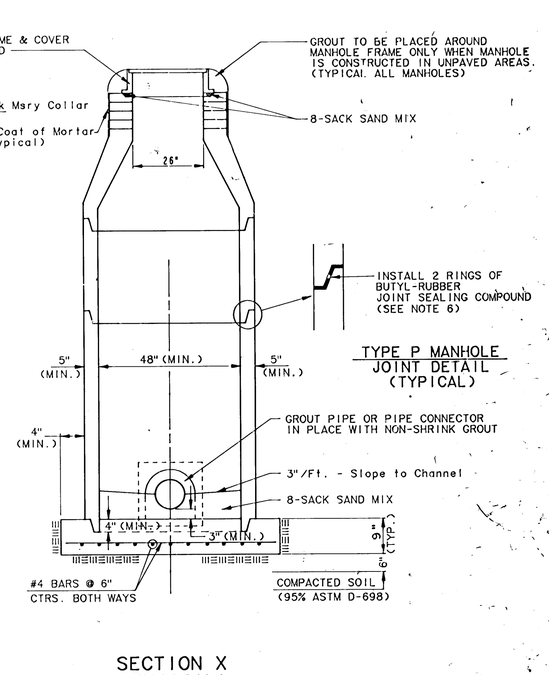


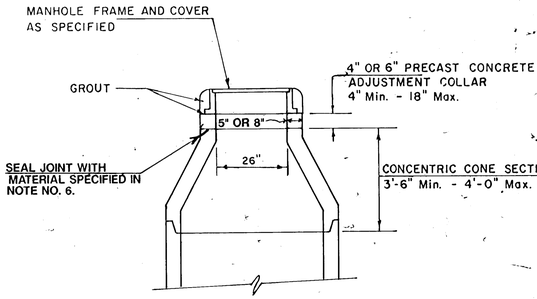
TYPE P MANHOLE
JOINT DETAIL
(TYPICAL)

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 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED AT LEAST 3" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
12. OPENINGS SHALL BE CUT INTO THE MANHOLE WALL WHEN OUTSIDE DROPS ARE CONSTRUCTED ON EXISTING MANHOLES. SUCH OPENINGS CUT INTO EXISTING MANHOLES SHALL BE AS SMALL AS PRACTICAL TO FACILITATE INSTALLING AND GROUTING THE NEW PIPE IN PLACE. WATERSTOP GASKETS SHALL BE USED WITH P.V.C. AND A.B.S. COMPOSITE PIPE. THE NEW PIPE SHALL BE GROUTED INTO THE OPENING USING AN APPROVED NONSHRINK GROUT FOR THE FULL MANHOLE WALL THICKNESS. THE EXTERIOR OF THE COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT. FLOOR OF MANHOLE SHALL BE MODIFIED TO FORM NEW FLOW CHANNEL FOR THE NEW CONNECTION AS INDICATED BY THE DRAWING. THIS WORK, INCLUDING MODIFICATION OF MANHOLE FLOOR, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR OUTSIDE DROP STACK CONSTRUCTED ON EXISTING MANHOLE.
13. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS EXCEPT FOR INSIDE DROP MANHOLES. FLOW CHANNELS FOR INSIDE DROP MANHOLES SHALL BE CONSTRUCTED AS INDICATED BY THE DRAWING. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO NEAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.
14. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE 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

THE FOUNTAINS 2nd ADDITION
LATERAL 133, WAR INDUSTRIES SEWER
C.O.W. PROJ. No. 468-82599
INDEX CODE 742858
Sheet 7 of 12
REVISED NOV. 1993
NOTE NO. 16 REVISED JAN. 1991
Revised 3-21-89
Revised 8-10-88
Revised: June 12, 1986

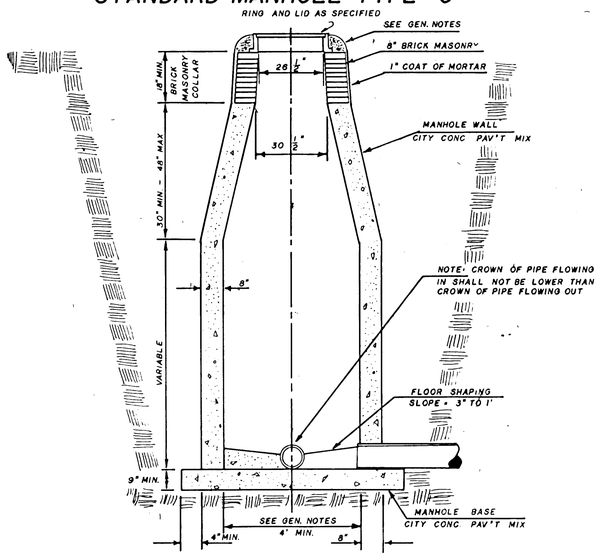
10 L 154

SEWER APPURTENANCES DETAILS

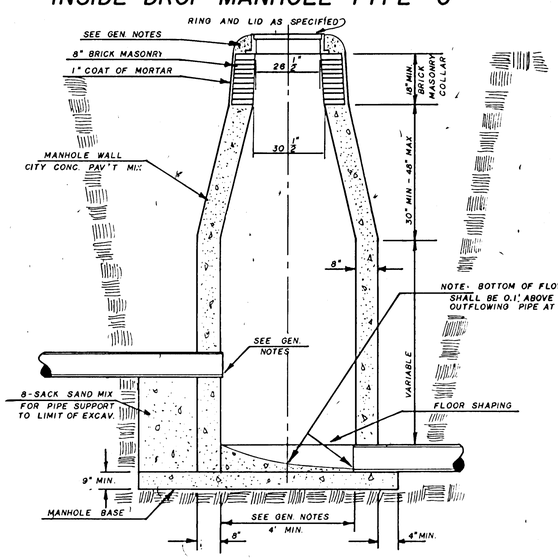
ADOPTED AS STANDARD DESIGN
BY

City of Wichita, Kansas

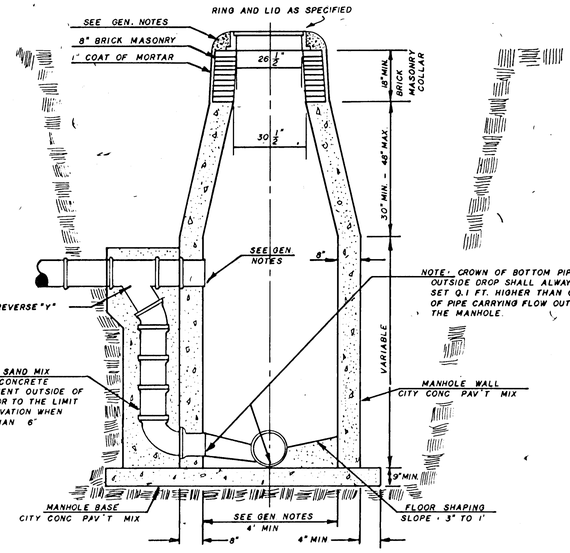
STANDARD MANHOLE TYPE "C"



INSIDE DROP MANHOLE TYPE "C"



OUTSIDE DROP MANHOLE TYPE "C"



GENERAL NOTES

1. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 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 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 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.

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.

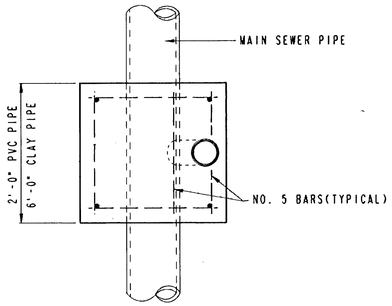
THE FOUNTAINS 2nd ADDITION
LATERAL 133, WAR INDUSTRIES SEWER
C.O.W. PROJ. No. 468-82599
INDEX CODE 742858

Sheet 8 of 12

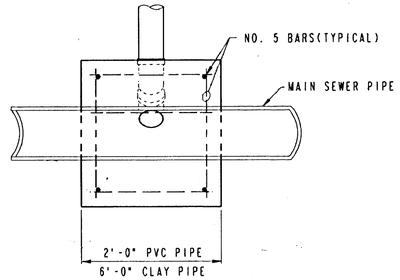
NOTE NO. 7 REVISED JAN. 1991

JNL JAN. 1982

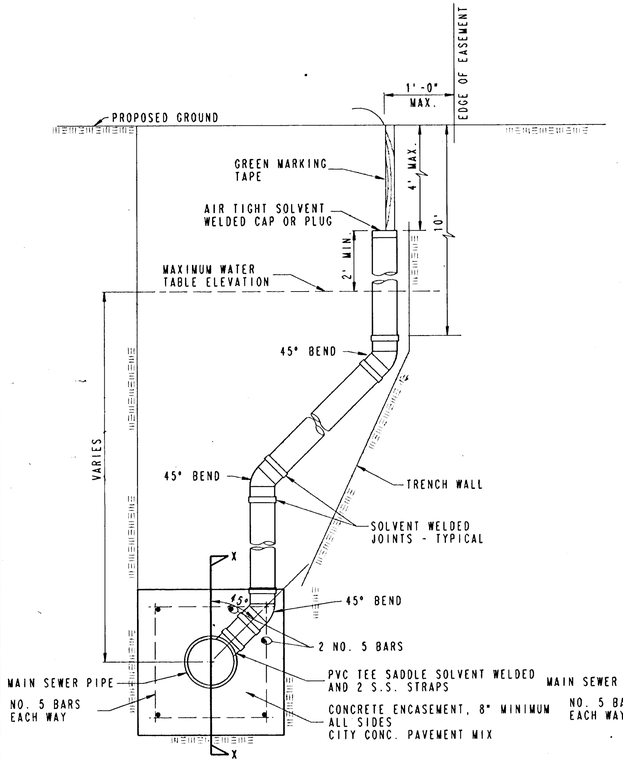
VERTICAL RISER DETAILS
ADOPTED AS STANDARD DESIGN
BY
CITY OF WICHITA, KANSAS
OCTOBER 1992



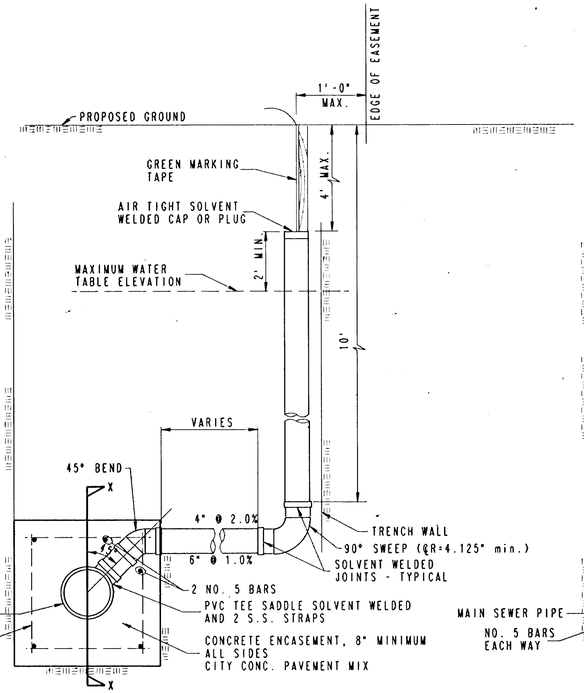
TYPICAL PLAN VIEW



TYPICAL SECTION X-X



METHOD "A"



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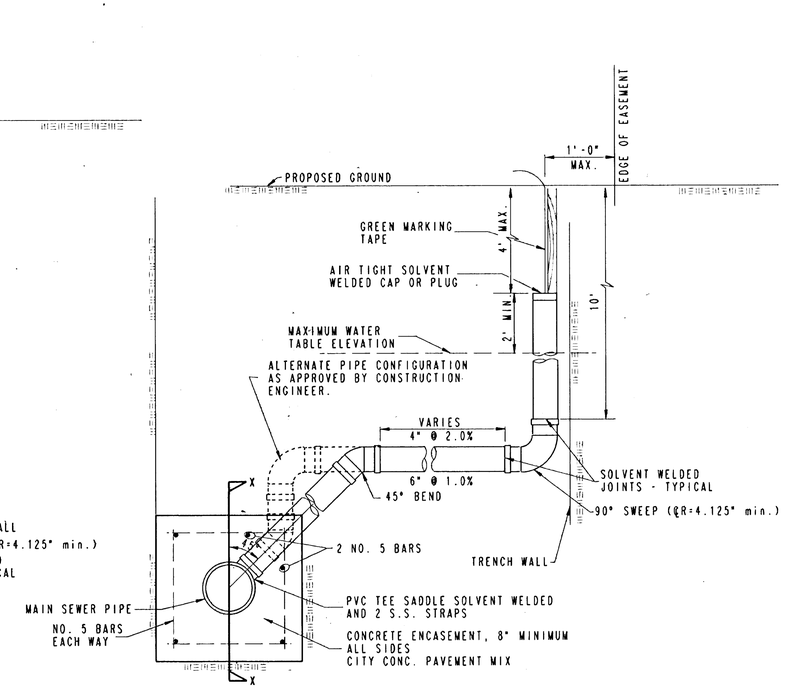


METHOD "C"

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 WATERIAL. 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 french 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.

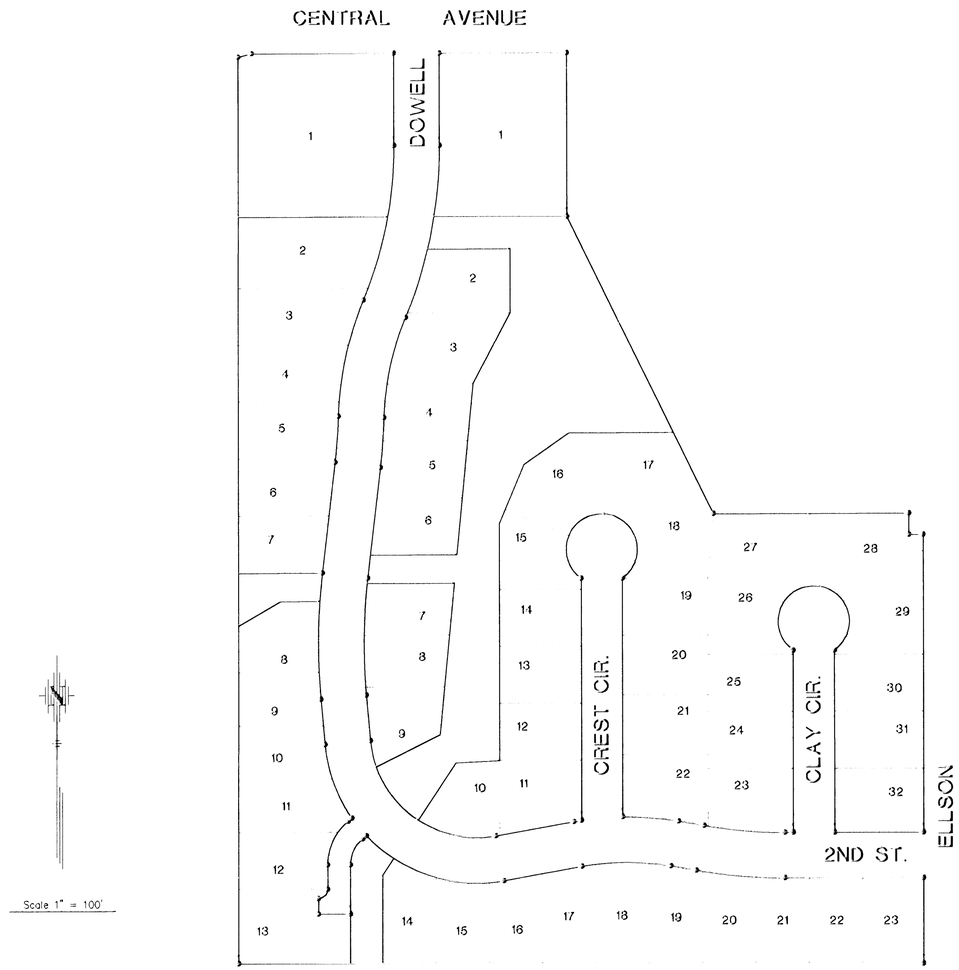
13. PAYMENT. "Sanitary sewer risers" shall be paid for at the contract unit price per each, which price shall be full compensation for all pipe, fittings, marking tape, length of wooden 2 x 4, reinforced concrete encasement, support during backfill, backfill, labor, site restoration, and any other items 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".

DATE
BY
PLAN CHECKED
CHECKED

THE FOUNTAINS 2nd ADDITION
LATERAL 133, WAR INDUSTRIES SEWER
C.O.W. PROJ. No. 468-82599
INDEX CODE 742858

10-J-I-11



Scale 1" = 100'

POE & ASSOCIATES OF KANSAS, INC.

ENGINEER	FOUNTAINS 2ND ADDITION
ENG. TECH	LATERAL 1.33, WAR INDUSTRIES SEWER
CAD TECH	COORDINATE POINTS LIST
DATE	CITY OF WICHITA, KANSAS
SHEET 10 OF 12	Project No. 468-82599
	Index Code