SANITARY SEWER EXTENSION

SERVING

SOUTHGLEN ADDITION
TO WICHITA, KANSAS

PRIVATE PROJECT NO.
468-76-245-80001-000-000-115

MARCH 1987

APPROVED AS NOTED
By CITY ENGINEER OF WICHITA
Sanitary Sewers 5/6/87
Storm Sewers
Driveway Approaches
Water Mains
Paving

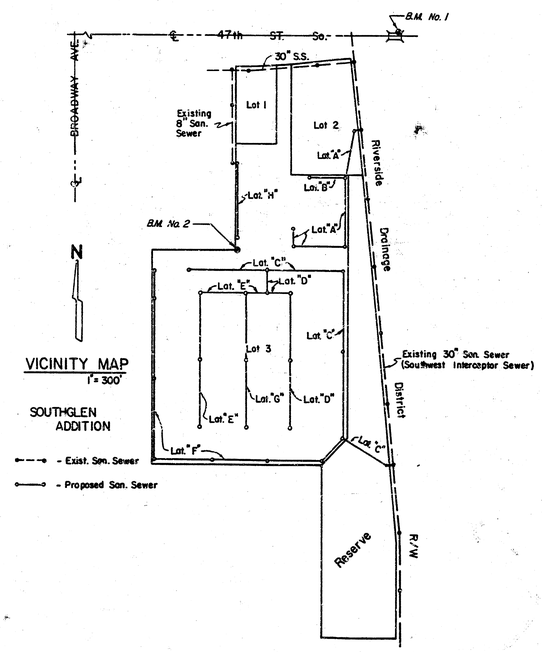
NOTE TO CONTRACTOR

This project will be constructed under the supervision of the CITY ENGINEER and conforming to the SPECIFICATIONS of the CITY OF WICHITA. The CONTRACTOR will pay the City of Wichita for all costs of plan review, inspection and booking per contract.

BENCHMARKS

B.M. No. 1 - "a" on Northeast Cor. RCBC Located Under 47th Street at Riverside Drainage Ditch. Elev. = 83.93 City Datum; 1271.33 M.S.L.

B.M. No. 2 - "+" on Top of North Curb of Conc. Flume at Southeast Cor. K-Mart Plaza Addn. Elev. = 79.94 City Datum; 1267.34 M.S.L.



SPECIAL NOTE:

THE FOLLOWING MANHOLES, ARE TO BE PROVIDED WITH MANHOLE LIDS SEALED WITH "O" RING TYPE GASKETS. CONTRACTOR SHALL FURNISH 2 GASKETS (ONE AS A SPARE) FOR EACH MANHOLE. GASKET SHALL NOT BE INSTALLED UNTIL FINAL INSPECTION AND FIELD MEASUREMENTS ARE COMPLETED.

LATERAL "A"; STA. 0+20
STA. 1+94.90
STA. 5+07.89

LATERAL "C", STA. 0+20
STA. 2+69.08
STA. 6+49.08
STA. 10+06.89

LATERAL "D"; STA. 2+11.00

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2	Plan & Profile - Laterals "A" & "B" & "C"
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5	Plan & Profile - Lateral "F"
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8-10	Standard Manhole Details
11	Utility Easement Plan

MOEHRING & ASSOCIATES
CONSULTING ENGINEERS
WICHITA

DON C. MOEHRING II LICENSED 3463 KANSAS PROFESSIONAL ENGINEER

1/11

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BEGIN Lateral "A"
STA. 0+00 - Begin Construction.
Connect To Existing 8" Stub West

STA. 45+98.0

STA. 42+97.7

DISTRICT R/W

DRAINAGE

RIVERSIDE

Existing 30" San. Sewer (Southwest Interceptor Sewer - Sub Main 2)

Existing M.H. STA. 48+98.7

9.53'

N.E. Cor. Lot 2, Sourhglen Add.

333.95'

142.89'

STA. 0+20 - Construct Std. Type "P" or "C" Manhole.

℄ 20' Utility Easement

63.37'

64.71'

STA. 1+94.90 - Construct Std. Type "P" or "C" Manhole.

STA. 0+00 - LAT. "B"

161°40'28"

140'

20' Utility Easement 76.99' 48' 15' 48'

90.60'

15' Util. Esm't

5' 5' 5'

LAT. "B"

3 4 ℄ 5 6 7

90' Drainage Easement Film 213, Pg. 353.

STA. 5+07.89 - Construct Std. Type "P" or "C" Manhole.

Identical Points

N

1" = 40' Horiz.
1" = 5' Vert.

15' Utility Easement

90' Drainage Film 213,

Easement Pg. 353.

STA. 7+47.90 - Construct Std. Type "P" or "C" Manhole.

120' 80.01' 79.99' 50'

48' 48' 48' 48' 48' 48'

50' Utility Easement (By Seperate Instrument)

103.27' 103.00'

℄ 20' Utility Easement by Seperate Instrument

1 2 3 4 5 6 7

STA. 8+40.9 Construct Std. Type "P" or "C" Manhole. END LAT. "A".

4" Stubs N.W. & N.E.

LATERAL "A"

LATERAL "A"

Top of Rim = 82.4
Top of Rim = 83.3
Proposed Finished Grade
Existing Ground
Top of Rim = 82.3

174.90 L.F. 8" P.V.C. @ 0.86%

312.99 L.F. 8" P.V.C. @ 0.30%

20 L.F. 8" P.V.C. @ 0.50%

FL. 30° Cur. Existing = 89.62
FL. Stub (W) = 77.46
FL. Out = 77.58
FL. In = 75.50

FL. 73.89

FL. Out (NE) = 74.52
FL. In (SW) = 74.80

FL. 74.82

FL. 75.12

FL. Out = 75.42
FL. In = 75.54

Future 8" Line
Future S.M.H.

Top of Rim = 82.3

Proposed Finished Grade

Top of Rim = 83.4

Top of Rim = 83.9

Existing Ground

2.66' Clear

1.34' Clear

240.01 L.F. 8" P.V.C. @ 0.30%

93 L.F. 8" P.V.C. @ 0.30%

FL. Out = 75.42
FL. In = 75.54

FL. 75.72

FL. 76.02

FL. Out = 178.26
FL. In = 76.38

FL. 76.52

FL. Out = 76.61
FL. Stub NW & N.E.

0 1 3 4 5 6 7 8

+20 +94.90 +0.89 +47.90 +40.9

PLAN
SURVEYED
PLOTTED
ADJOINMENT (FIELD)
PT. OF WAY (FIELD)
NOTE BOOK
NO.

PROFILE
SURVEYED
PLOTTED
GRADES (FIELD)
DRAWN
NOTE BOOK
SHEETING - NO. STAKES - DATE

STA. 0+00 - Begin Lat. "B"
= STA. 1+94.90 Lat. "A"

LAT. "A" (See Plan Above)

30.49' 35.02' 23.46' 12.04'

Δ = 89°44'30"
R = 30'
L = 46.99'

183.22' 118.69' 116.31'

3 2 1

70'

15' 106' 50' 100'

64.71' 329.71' 35'

5' ℄ 20' Utility Esm't

LAT. "A" (See Plan Above)

STA. 1+87 Construct Std. Type "P" or "C" Manhole. END LAT. "B".

4" Stub - S.W.

1" = 40' Horiz.
1" = 5' Vert.

N

Sub - Main 2
STA. 34+23.7

Existing 30" San. Sewer

1475'

STA. 48+98.7

STA. 0+00
LAT. "A"

STA. 0+00 - Begin Lat. "C" Connect To Existing 8" Stub. West.

STA. 0+20 - Construct Std. Type "P" or "C" Manhole.

℄ 20' San. Sewer Esm't by Seperate Instr.

30 L.F. City Std. Reinforced Conc. Encasement

Reserve For Drainage & Recreation

LATERAL "C"

STA. 2+69.08 - Construct Std. Type "P" or "C" Manhole

10' 4:1 Slope 4:1 Slope

97°28'21"

LAT. "C"

LAT. "F" (See Sheet 5)

25' 10' 98.4' 104.77' 50.16'

20' Utility Easement

106.39' 119.28' 119.58'

41 40 39 38

107.59' 42.96' 24.37' 20.66' 50'

LATERAL "B"

Existing Ground Profile

Top of Rim = 83.8

Top of Rim = 82.2

Proposed Finished Grade

187 L.F. 8" P.V.C. @ 1.12%

FL. "A" S.M.H. = 70.46
FL. Out = 70.60
FL. In = 70.80

FL. 71.72

FL. Out = 78.68
FL. In = 70.02

0 1 2

Top of Rim = 82.5

Proposed Finished Grade

Existing Ground Profile

Top of Rim = 80.0

F.E. Proposed Drainage Channel = 74.36

3.17'

30 L.F. City Std. Reinforced Concrete Encasement

249.08 L.F. 8" P.V.C. @ 0.30%

20 L.F. 8" P.V.C. @ 0.40%

F.E. Existing = 69.89
FL. In = 69.89
FL. Out = 69.97
FL. In = 70.07

FL. 70.31

FL. 70.61

FL. Out = 70.62
FL. In = 70.82
FL. In (SW) = 71.82

0 1 +41 +71 2

+69.08

Private Project No. 468-76-245-80001-000-000-115

Sheet 2 of 11

PLATE 2 - PLAN - PROFILE - F & S
LEADPRINT PAPER CO. S. F. CAL.
NO. 1000H-2

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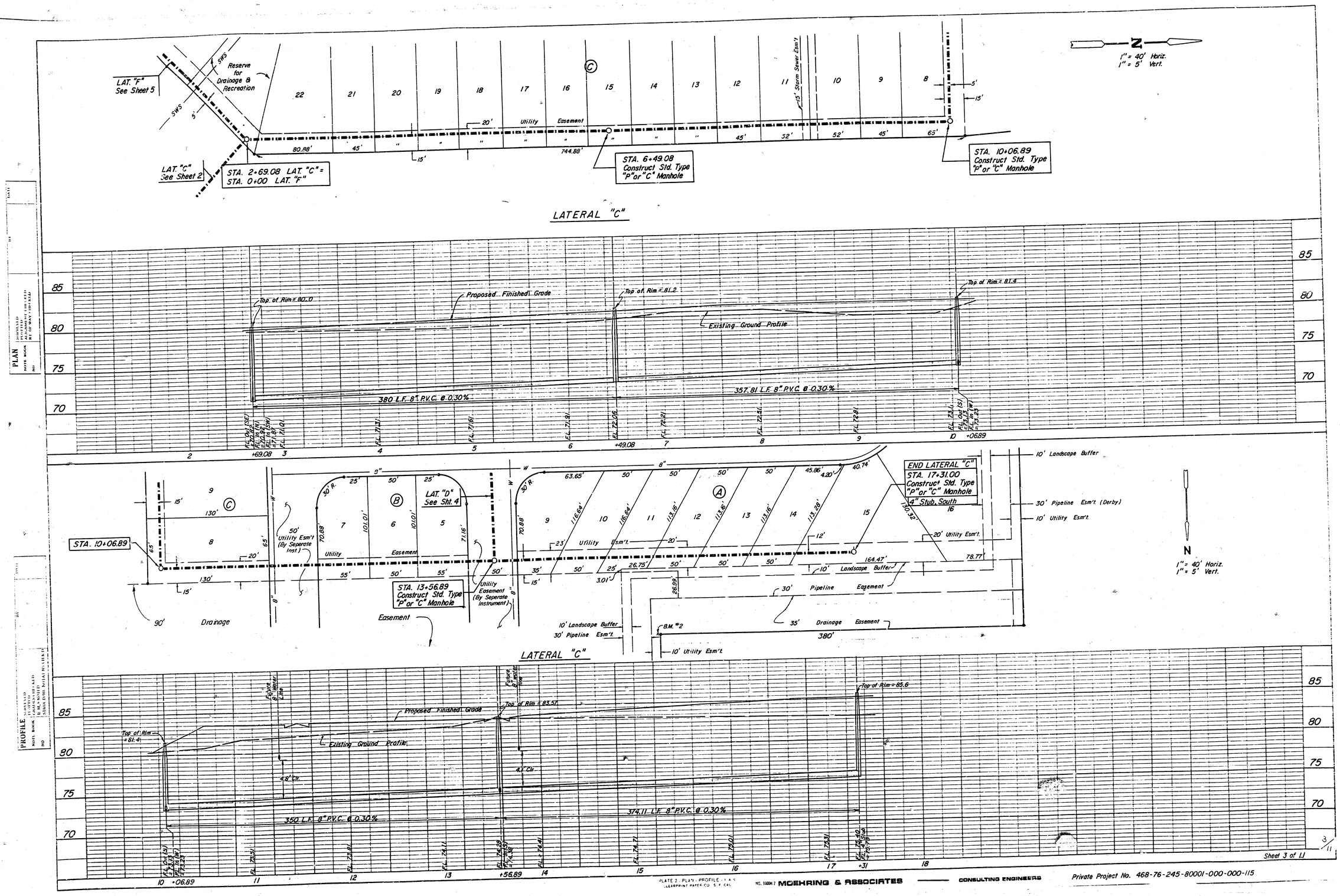

PLAN

PROFILE

Sheet 3 of 11

PLATE 2 - PLAN - PROFILE - F.A.S.
CLEARPRINT PAPER CO. S.F. CAL.

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PROFILE — SURVEYED / PLOTTED / NOTE BOOK / NO.

STA. 2+11.00 Construct Std. Type "P" or "C" Manhole

STA. 5+01.00 Construct Std. Type "P" or "C" Manhole

END LATERAL "D"
STA. 7+74.00 Construct Std. Type "P" or "C" Manhole
4" Stubs East & West

1" = 40' Hor.
1" = 5' Ver.

90' Drainage Easement

20' Util. Esm't

LAT. "C" See Sht. 3

STA. 10+87.88 LAT. "C" = STA. 0+00 LAT. "D"
BEGIN LATERAL "D"

Util. Esm't (By Seperate Instr.)

STA. 1+11.00 Construct Std. Type "P" or "C" Manhole

LATERAL "D"

LAT. "E" See Below

20' Utility Esmt

Top of Rim = 83.57
Top of Rim = 83.10
Top of Rim = 82.67
Top of Rim = 84.90
Top of Rim = 84.7
Future 8" Water Line
Future 24" S.W.S. F.L. = 72.48
Proposed Finished Grade
Existing Ground
1.55' Clear
111 L.F. 8" P.V.C. @ 0.30%
100 L.F. 8" P.V.C. @ 0.30%
290 L.F. 8" P.V.C. @ 0.30%
273 L.F. 8" P.V.C. @ 0.30%
F.L. Out (E) = 74.28
F.L. In (W) = 74.28
F.L. Out (N) = 74.21
F.L. In (E) = 74.21
F.L. In (W) = 74.21
F.L. Out (W) = 75.1
F.L. In (S) = 75.21
F.L. = 75.49
F.L. = 75.78
F.L. Out (N) = 76.08
F.L. In (S) = 76.08
F.L. = 76.38
F.L. = 76.68
F.L. Out (W) = 76.90
F.L. 4" Stubs E & W. = 77.23
0 1+11 2+11 3 4 5 6 7 +74
85 80 75 70

BEGIN LATERAL "E"
STA. 0+00 LAT. "E" = STA. 1+11.00 LAT. "D"

LAT "G" See Sht. 6

STA. 1+10.00 Construct Std. Type "P" or "C" Manhole

STA. 3+20.00 Construct. Std. Type "P" or "C" Manhole

STA. 6+10 Construct. Std. Type "P" or "C" Manhole

END LATERAL "E"
STA. 8+83.00 Construct Std. Type "P" or "C" Manhole
4" Stubs East & West

1" = 40' Hor.
1" = 5' Ver.

LAT. "D" See Plan Above

Util. Esm't (By Seperate Instr.)

50' Utility Easement (By Seperate Instr.)

IDENTICAL POINTS

LATERAL "E"

Top of Rim = 83.10
Top of Rim = 83.57
Top of Rim = 84.47
Top of Rim = 87.50
Top of Rim = 86.9
Future 8" Water Line
Future 8" S.W.S. F.L. = 72.73
Proposed Finished Grade
Existing Ground
3.14' Clear
110 L.F. 8" P.V.C. @ 0.30%
210 L.F. 8" P.V.C. @ 0.30%
290 L.F. 8" P.V.C. @ 0.30%
273 L.F. 8" P.V.C. @ 0.30%
F.L. Out (N) = 74.64
F.L. In (E) = 74.64
F.L. In (W) = 74.64
F.L. Out (E) = 74.94
F.L. In (W) = 74.94
F.L. In (S) = 75.24
F.L. = 75.24
F.L. = 75.41
F.L. Out (E) = 75.74
F.L. In (S) = 75.84
F.L. = 76.11
F.L. = 76.41
F.L. = 77.01
F.L. = 77.31
F.L. Out (W) = 76.79
F.L. In (S) = 76.79
F.L. Out (N) = 77.56
F.L. 4" Stubs E & W. = 77.89
0 1+10 2 3 +20 3 +20 4 5 6+10 7 8 +83 9
85 80 75 70

PLATE 2 - PLAN - PROFILE - J. A. S. BLUEPRINT PAPER CO. S. F. CAL. NO. 1004 2

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Sheet 4 of 11

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LATERAL "F"

STA. 1+34.34 - Construct Std. Type "P" or "C" Manhole

STA. 4+14.34 - Construct Std. Type "P" or "C" Manhole

STA. 6+71.00 - Construct Std. Type "P" or "C" Manhole.

STA. 9+39.34 - Construct Std. Type "P" or "C" Manhole.

S.W. Cor, Southglen Addition.

S. Line Lot 3, Southglen Add'n.

1" = 40' Horiz.
1" = 5' Vert.

N

STA. 0+00 - Begin Lat. "F" = STA. 2+69.08 Lat. "C"

LAT. "C" (See Sheet 3)

Reserved for Drainage & Recreation

18" Future S.W.S.

25' | 58.40' | 104.77' | 50.16' | 792.05' | 50.16' | 77.28' | 50'

10' Landscape Buffer

20' Utility Easement

5'

Lots: 41, 40, 39, 38, 37, 36, (A), 35, 34, 33, 32, 31, 30, 29, 28, 27

20.66' | 50' | 49.34' | 0.66'

PLAN — SURVEYED / PLOTTED / DRAWN / CHECKED / QUANTITIES CHECKED / R/W CHECKED / NOTE BOOK / NO.

Future 18" S.W.S.

Existing Ground

Proposed Finished Ground

Top of Rim = 80.0

Top of Rim = 83.4

Top of Rim = 85.2

Top of Rim = 86.1

Top of Rim = 87.0

131' Cl.

134.34 L.F. 8" P.V.C. @ 1.26%

280.00 L.F. 8" P.V.C. @ 0.30%

256.66 L.F. 8" P.V.C. @ 0.30%

268.34 L.F. 8" P.V.C. @ 0.30%

Fl. Out (SE) = 70.82
Fl. In (W) = 71.08
Fl. In (SW) = 71.87

Fl. 73.13 | Fl. 73.57 | Fl. 73.87 | Fl. 74.42 | Fl. 75.17 | Fl. 75.47 | Fl. 75.81 | Fl. 75.77 | Fl. 76.07 | Fl. 76.28 | Fl. 76.37 | Fl. 76.67 | Fl. 76.97 | Fl. 77.19

+34.34 | +71 | +38.34

0 1 2 3 4 5 6 7 8 9 10

85 80 75 70

PROFILE

STA. 9+39.34 - Construct Std. Type "P" or "C" Manhole

10' Landscape Buffer

10' Utility Esm't.

10' Landscape Buffer

939.77'

W. Line Lot 3, Southglen Add.

STA. 13+24.00 Construct Std. Type "P" or "C" Manhole

END LATERAL "F"
STA. 17+09.11 Construct Std. Type "P" or "C" Manhole
4" Stub East

1" = 40' Horiz.
1" = 5' Vert.

N

Lots: 28, 27, 26, 25, 24, 23, (A), 22, 21, 20, 19, 18, 17, 16, 15, 29

25' Fire Lane

30' Derby Pipeline Esm't.

145'

10' Landscape Buffer

20' Utility Esm't

110.9' | 50' | 23.91'

LATERAL "F"

Top of Rim = 86.9

Top of Rim = 85.9

Top of Rim = 85.8

Proposed Finished Grade

Existing Ground

384.56 L.F. 8" P.V.C. @ 0.30%

385.11 L.F. 8" P.V.C. @ 0.30%

Fl. Out (E) = 72.09
Fl. In (N) = 72.39

Fl. 72.37 | Fl. 72.67 | Fl. 72.97 | Fl. 73.27 | Fl. 73.57 | Fl. 73.87 | Fl. 74.17 | Fl. 74.47
Fl. 73.40 Stub East
Fl. 73.70

+34.34 | +24 | +09.11

9 10 11 12 13 14 15 16 17

85 80 75 70

PROFILE — SURVEYED / PLOTTED / DRAWN / CHECKED / QUANTITIES CHECKED / R/W CHECKED / NOTE BOOK / STRUCTURE NOTATIONS CHECKED / NO.

PLATE 2 - PLAN - PROFILE - F A S
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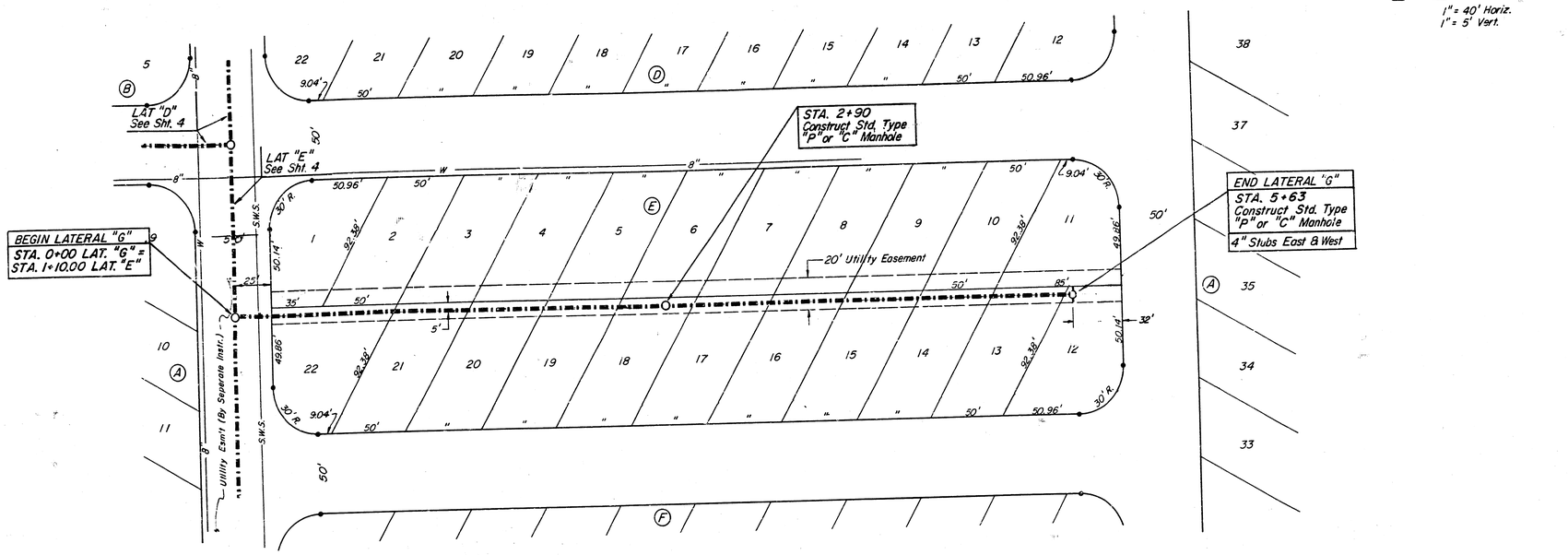

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N

1" = 40' Horiz.
1" = 5' Vert.

NOTE: Cost of Removal & Replacement of Asph. Conc. Pvmt.'t & Conc. Curb & Gutter, East of Existing M.H. at Sta. 0+00, to be Subsidiary to the Cost of Connection to Existing M.H.

SOUTHGLEN

BEGIN LATERAL "H"
STA. 0+00
Connect to Existing Manhole

STA. 0+20
Construct Std. Type "P" or "C" Manhole
4" Stub N.E.

END LATERAL "H"
STA. 3+42
Construct Std. Type "P" or "C" Manhole
4" Stub East

PART OF LOT 3

Lot 1

1 2 3 A 4 5 6 7 8

20' Utility Easement
15' Derby Pipeline Easement
30' Derby Pipeline Easement
10' Utility Easement
10' Unl. Esm't
10' Landscape Buffer
10' Landscape Buffer
10' Landscape Buffer
90' Drainage Easement
14'
5'
20'
48'
28.01'
B.M. #2
340'
98.91'
802.92
Curb Inlet FH
S.W.S.
12"
8"
30'
15'
25'
N.W. Cor. Lot 1 Southglen Add.
Light Pole
6' Chainlink Fence
Curb & Gutter
Inlet
Flow
S.S.
W
W.V's
Existing 8" VCP San. Sewer
Asphaltic
Concrete
Pavement
6' Chainiink Fence Remove and Replace
Flatted Utility Easement
35' Drainage Easement
30' Pipeline Esm't (Perby)
10' Landscape Buffer
LAT. "C" See Sheet 3.
CAUTION! 12" Storm Water Sewer
2.9' Clearance Between South Edge Curb Inlet & ℄ 8" San. Sewer
K-MART PLAZA
ADDIN
ADDIN
47th St.

LATERAL "H"

PLAN
SCALES USED: HORIZ. 1"=40' VERT. 1"=5'
DATE:
NOTE BOOK: ALIGNMENT DESIGNED BY:
QUANTITIES COMPUTED BY:
RIGHT OF WAY CHECKED BY:
NO.

PROFILE
SCALES USED: HORIZ. 1"=40' VERT. 1"=5'
DATE:
NOTE BOOK: QUANTITIES COMPUTED BY:
NO.: STORM DRAIN LOCATION SHEET

85
80
75
70

Top of Rim = 84.12
Existing M.H.
Existing 54" RCP Storm Sewer
F.L. = 72.86

Top of Rim = 85.6
Existing Ground & Finished Grade
Top of Rim = 83.0
0.96' Drop
10'-1" E. City Std. Reinforced Conc. Encasement Centered Under 12" Storm Sewer
322 LF 8" P.V.C. @ 0.40%
20 LF 8" P.V.C. @ 0.40%

Existing F.L. Out = 77.77
F.L. In = 77.41
F.L. Out = 77.29
F.L. In = 77.69
F.L. Out = 77.23
F.L. = 77.91
F.L. = 78.31
F.L. = 78.71
F.L. = 78.86
F.L. = 79.22

0 20 1 2 3 40 4

Sheet 7 of 11

PLATE 7 - PLAN - PROFILE - F.A.S.
PLEARPRINT PAPER CO., S.F. CAL.
VC. 10004-1

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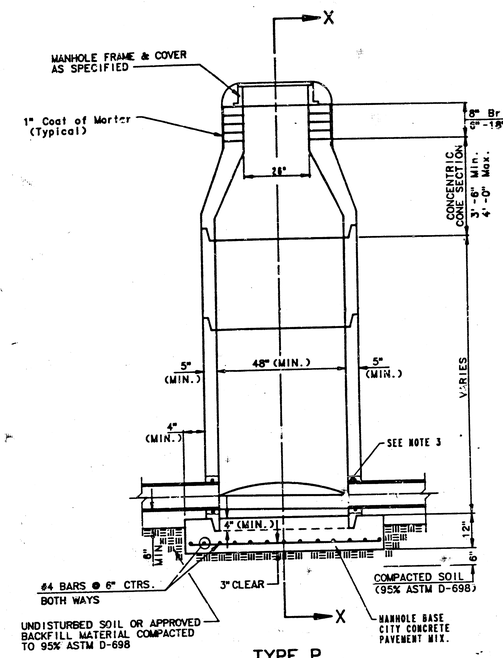
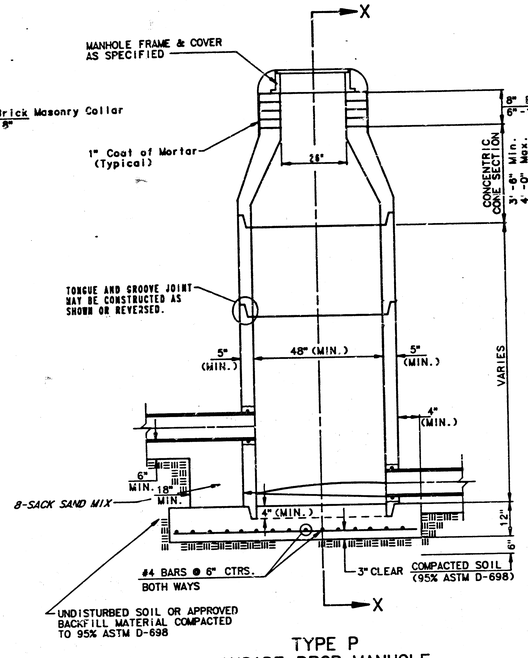
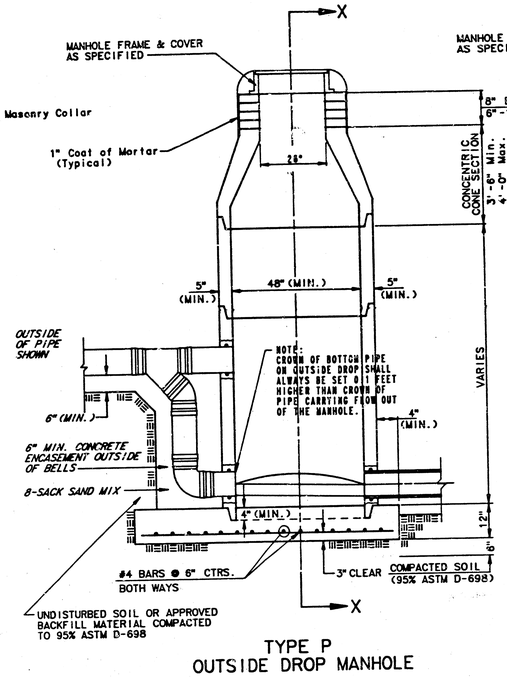
SEWER APPURTENANCES DETAILS
ADOPTED AS STANDARD DESIGN
BY
CITY OF WICHITA



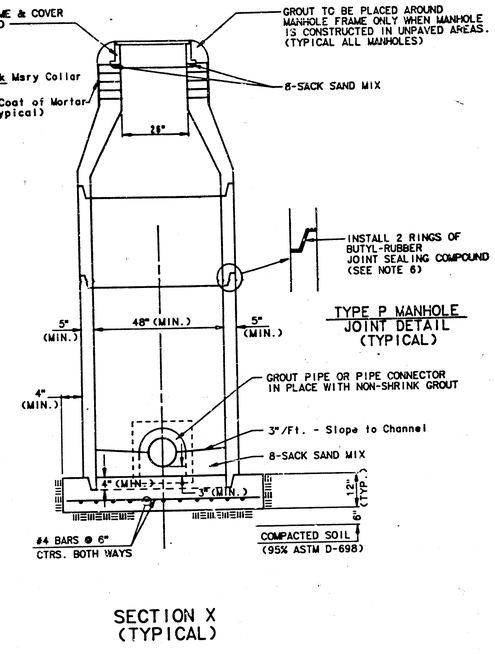
TYPE P
STANDARD MANHOLE



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 SHOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS THEMEC SERIES 66 HI-BUILD EPOXOLINE, DRY THICKNESS OF 8 MILS (MIN.)

5. EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINOS 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 DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 4' FOR INFLOWING PIPES SIZED 12" OR SMALLER AND 2' FOR INFLOWING PIPES LARGER THAN 12". THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.

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

18. A BRICK MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE CONCENTRIC CONE. THE COLLAR WILL HAVE 8" WALLS AND A VERTICAL HEIGHT OF 6" MINIMUM AND 18" MAXIMUM. A 1" COAT OF MORTAR WILL BE PLASTERED ON THE OUTSIDE OF THE COLLAR.

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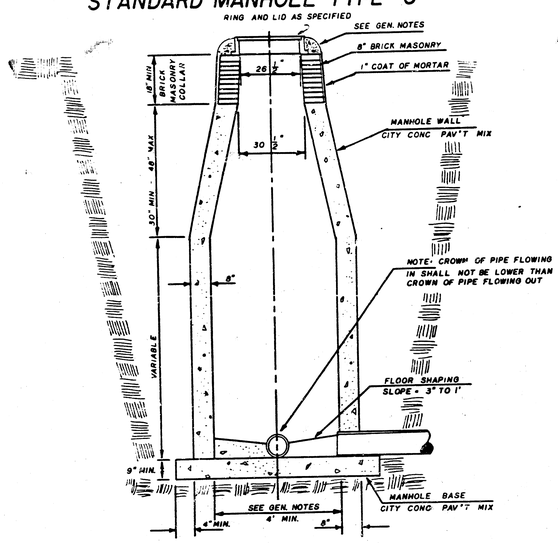
SEWER APPURTENANCES DETAILS

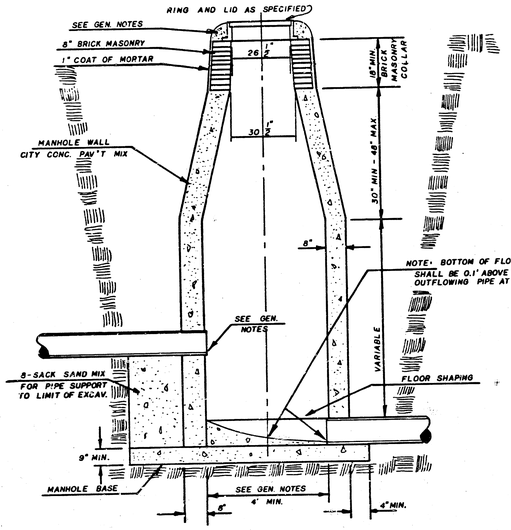
ADOPTED AS STANDARD DESIGN
BY

City of Wichita, Kansas

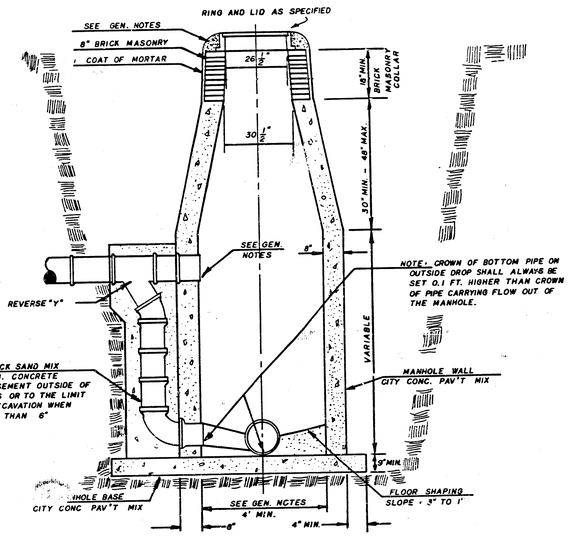
STANDARD MANHOLE TYPE "C"



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 HAINTAIN 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 DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 4' FOR INFLOWING PIPES SIZED 12" OR SMALLER AND 2' FOR INFLOWING PIPES LARGER THAN 12". THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.

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.

9/11

JNL JAN. 1982

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MANHOLE FRAME AND COVER DETAIL

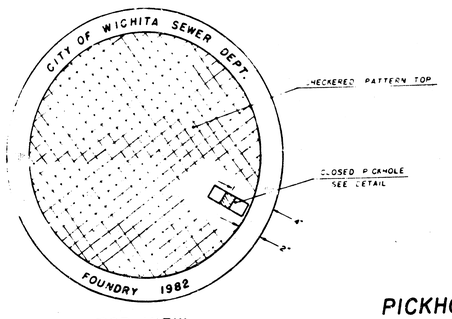
ADOPTED AS STANDARD DESIGN

BY

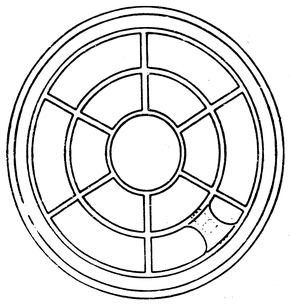
City of Wichita, Kansas

MANHOLE COVER

Weight: 180 Lbs.

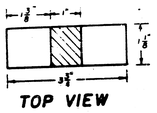


TOP VIEW

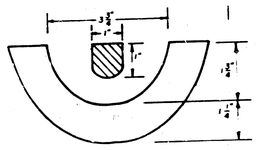


BOTTOM VIEW

PICKHOLE DETAIL



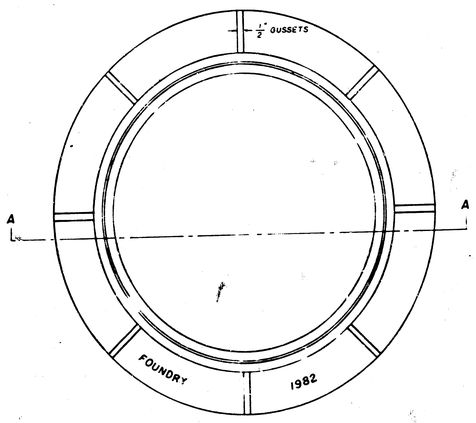
TOP VIEW



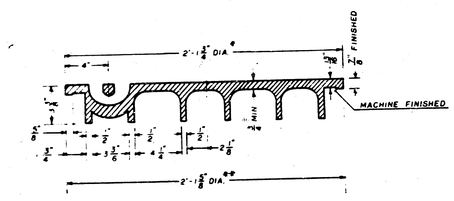
SECTION VIEW

MANHOLE FRAME

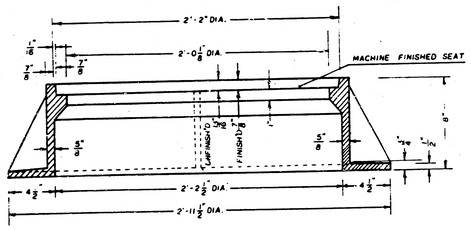
Weight: 240 Lbs.



TOP VIEW



SECTION VIEW



SECTION A-A

* OUTSIDE DIA. TOP OF COVER
** OUTSIDE DIA. BOTTOM OF COVER

GENERAL NOTES

1. 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.

2. MANHOLE CASTINGS SHALL BE COATED WITH AN ASPHALT PAINT RESULTING IN A SMOOTH, TOUGH AND TENACIOUS COATING WHICH IS NOT BRITTLE OR TACKY.

3. 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.

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

5. 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" 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.

JNL DEC. 1981

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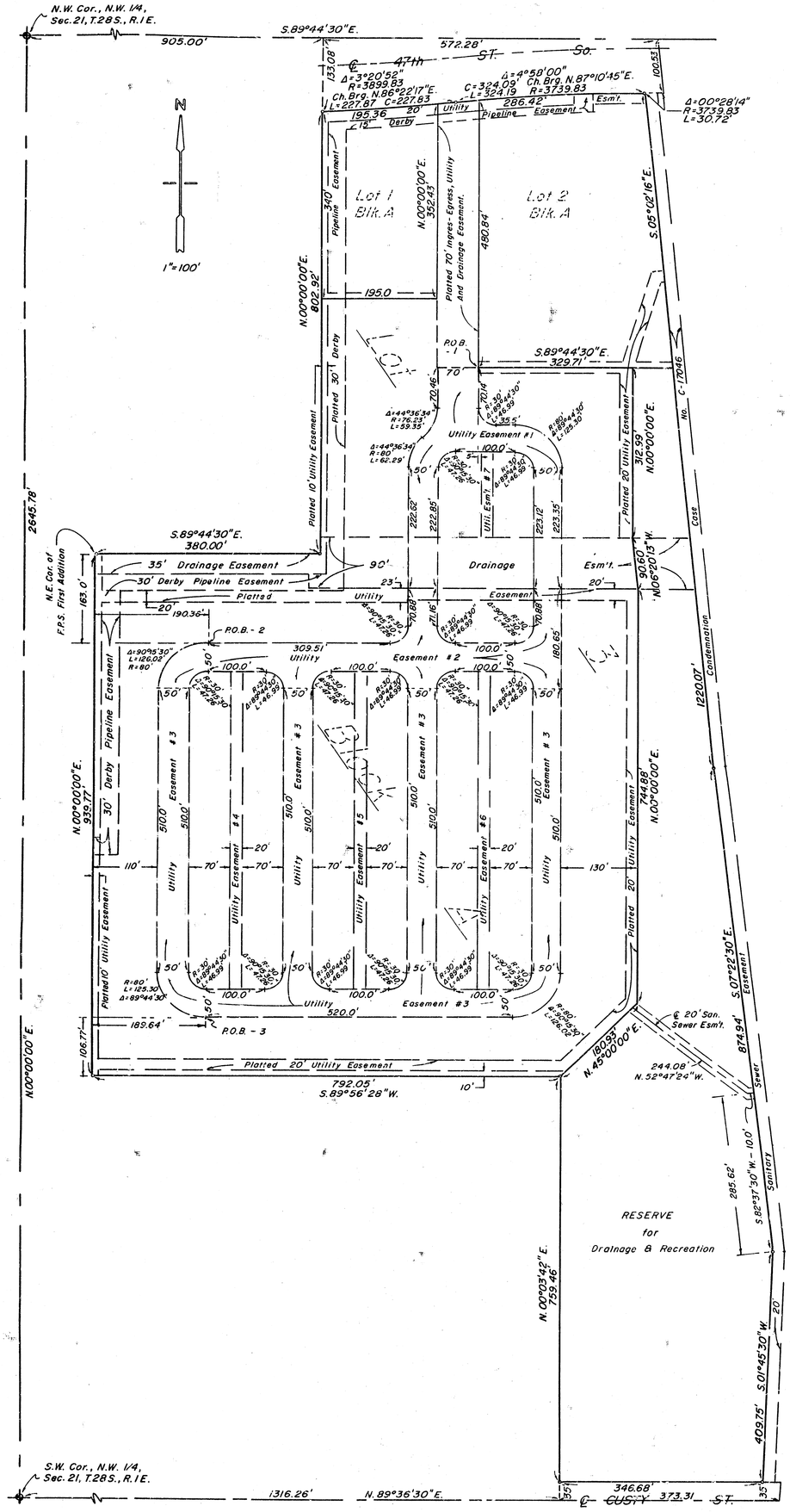
SOUTHGLEN - Mobile Home Park - wichita, ks.
Utility Easement Plan



UTILITY EASEMENTS

#1 - A tract of land in Lot 3, Block A, Southglen Addition to Wichita, Sedgwick County, Kansas, described as beginning at the Southwest corner of Lot 2 in said Block A; thence South parallel with the West line of said Southglen Addition, a distance of 70.14' to the P.C. of a curve to the left having a radius of 30.0'; thence along said curve to the left and through a central angle of 89°44'30", a distance of 46.99' to the P.T. of said curve; thence East 35.5' to the P.C. of a curve to the right having a radius of 80.0'; thence along said curve to the right and through a central angle of 89°44'30", a distance of 125.30'; thence South 223.35' to a point in the South line of a 90.0' drainage easement; thence West along said South line, a distance of 50.0'; thence N. 223.12' to the P.C. of a curve to the left having a radius of 30.0'; thence along said curve to the left and through a central angle of 89° 44'30", a distance of 46.99' to the P.T. of said curve; thence West 100.0' to the P.C. of a curve to the left having a radius of 30.0'; thence along said curve to the left and through a central angle of 90°15'30", a distance of 47.26'; thence South 222.85' to a point in the South line of a 90.0' drainage easement; thence West along said South line, a distance of 50.0'; thence North 222.62' to the P.C. of a curve to the right having a radius of 80.0'; thence along said curve to the right and through a central angle of 44°36'34", a distance of 62.29' to the P.T. of said curve and the P.C. of a curve to the left having a radius of 76.23'; thence along said curve to the left and through a central angle of 44°36'34", a distance of 59.35' to the P.T. of said curve; thence North 70.46'; thence East 70.0' to the point of beginning.

#2 - A tract of land in Lot 3, Block A, Southglen Addition to Wichita, Sedgwick County, Kansas, described as follows: From the Northwest corner of Lot 3, Block A, Southglen Addition, said corner being also the Northeast corner of F.P.S. First Addition, Wichita, Kansas, S. 00°00'00" E. along the West line of said Lot 3, a distance of 163.00'; thence S. 89°44'30" E., a distance of 190.36' to the point of beginning; thence continuing East, a distance of 309.51' to the P.C. of a curve to the left having a radius of 30.0'; thence along said curve to the left and through a central angle of 90°15'30", a distance of 47.26' to the P.T. of said curve; thence N. 70.88' to a point in the South line of a 90.0' drainage easement; thence East along said South line, a distance of 50.0'; thence South 71.16' to the P.C. of a curve to the left having a radius of 30.0'; thence along said curve to the left and through a central angle of 89°44' 30", a distance of 46.95'; thence East 100.0' to the P.C. of a curve to the left having a radius of 30.0'; thence along said curve to the left and through a central angle of 90°15'30", a distance of 47.26' to the P.T. of said curve; thence North 70.88' to a point in the South line of a 90.0' drainage easement; thence East along said South line, a distance of 50.0'; thence South 180.65'; thence N. 90° W., a distance of 50.0' to the P.C. of a curve to the left having a radius of 30.0', the tangent to said curve bearing N. 00°00'00" W; thence along said curve to the left and through a central angle of 89°44'30", a distance of 46.99' to the P.T. of said curve; thence West 100.0' to the P.C. of a curve to the left having a radius of 30.0'; thence along said curve to the left and through a central angle of 90°15'30", a distance of 47.26' to the P.T. of said curve; thence N. 90° W., a distance of 50.0' to the P.C. of a curve to the left having a radius of 30.0', the tangent to said curve bearing N. 00°00'00" W; thence along said curve to the left and through a central angle of 89°44'30", a distance of 46.99' to the P.T. of said curve; thence West 100.0' to the P.C. of a curve to the left having a radius of 30.0'; thence along said curve to the left and through a central angle of 90°15'30", a distance of 47.26' to the P.T. of said curve; thence N. 90° W., a distance of 50.0' to the P.C. of a curve to the left having a radius of 30.0', the tangent to said curve bearing N. 00°00'00" W.; thence along said curve to the left and through a central angle of 89°44'30", a distance of 46.99' to the P.T. of said curve; thence West 100.0' to the P.C. of a curve to the left having a radius of 30.0'; thence along said curve to the left and through a central angle of 90°15'30", a distance of 47.26' to the P.T. of said curve; thence N. 90° W., a distance of 50.0' to the P.C. of a curve to the right having a radius of 80.0', the tangent to said curve bearing N. 00°00'00" E.; thence along said curve to the right and through a central angle of 90°15'30", a distance of 126.02' to the point of beginning.

#3 - A tract of land in Lot 3, Block A, Southglen Addition to Wichita, Sedgwick County, Kansas, described as follows: From the Southwest corner of said Lot 3, N. 00°00'00" E. along the West line of said Lot 3, a distance of 106.77'; thence S. 89°44'30" E., a distance of 520.0' to the P.C. of a curve to the left having a radius of 80.0'; thence along said curve to the left and through a central angle of 90°15'30", a distance of 126.02' to the P.T. of said curve; thence North 510.0'; thence N. 90° W., a distance of 50.0'; thence South 510.0' to the P.C. of a curve to the right having a radius of 30.0'; thence along said curve to the right and through a central angle of 90°15'30", a distance of 47.26' to the P.T. of said curve; thence West 100.0' to the P.C. of a curve to the right having a radius of 30.0'; thence along said curve to the right and through a central angle of 89°44'30", a distance of 46.99' to the P.T. of said curve; thence North 510.0'; thence N. 90° W., a distance of 50.0'; thence South 510.0' to the P.C. of a curve to the right having a radius of 30.0'; thence along said curve to the right and through a central angle of 90°15'30", a distance of 47.26' to the P.T. of said curve; thence West 100.0' to the P.C. of a curve to the right having a radius of 30.0'; thence along said curve to the right and through a central angle of 89°44'30", a distance of 46.99' to the P.T. of said curve; thence North 510.0'; thence N. 90° W., a distance of 50.0'; thence South 510.0' to the P.C. of a curve to the left having a radius of 80.0'; thence along said curve to the left and through a central angle of 89°44'30", a distance of 125.30' to the point of beginning.

#4 - A 20.0' wide easement in Lot 3, Block A, Southglen Addition to Wichita, Sedgwick County, Kansas, being 10.0' on either side of a centerline described as follows: From the Southwest corner of Lot 3, Block A, Southglen Addition, N. 00°00'00" E. along the West line of said Lot 3, a distance of 156.77'; thence S. 89°44'30" E., a distance of 240.0' to the point of beginning; thence N. 00°00' 00" E., a distance of 580.0' to the end of said centerline.

#5 - A 20.0' wide easement in Lot 3, Block A, Southglen Addition to Wichita, Sedgwick County, Kansas, being 10.0' on either side of a centerline described as follows: From the Southwest corner of Lot 3, Block A, Southglen Addition, N. 00°00'00" E. along the West line of said Lot 3, a distance of 156.77'; thence S. 89°44'30" E., a distance of 450.0' to the point of beginning; thence N. 00°00' 00" E., a distance of 580.0' to the end of said centerline.

#6 - A 20.0' wide easement in Lot 3, Block A, Southglen Addition to Wichita, Sedgwick County, Kansas, being 10.0' on either side of a centerline described as follows: From the Southwest corner of Lot 3, Block A, Southglen Addition, N. 00°00'00" E. along the West line of said Lot 3, a distance of 156.77'; thence S. 89°44'30" E., a distance of 660.0' to the point of beginning; thence N. 00°00' 00" E., a distance of 580.0' to the end of said centerline.

#7 - A 20.0' wide easement in Lot 3, Block A, Southglen Addition to Wichita, Sedgwick County, Kansas, being 10.0' on either side of a centerline described as follows: From the Southwest corner of Lot 2, Block A, Southglen Addition, S. 00°00'00" E. along the extended West line of said Lot 2, a distance of 150.0'; thence S. 89°44'30" E., a distance of 15.0' to the point of beginning; thence S. 00°00'00" E., a distance of 162.98' to the end of said centerline.

SANITARY SEWER EASEMENT

A 30.0' wide easement in the Reserve for Drainage and Recreation, Block A, Southglen Addition to Wichita, Sedgwick County, Kansas, being 10.0' on either side of a centerline described as follows: From the Southeast corner of the platted Reserve for Drainage and Recreation, N. 01°45'30" E. along the East side of said Reserve, a distance of 409.75'; thence N. 07°22'30" W., a distance of 285.62' to the point of beginning of the centerline of said easement; thence S. 82°37'30" W., a distance of 10.0'; thence N. 52°47'24" W., a distance of 244.08' to the end of said easement centerline, said point being in the Southeasterly line of Lot 3, Block A, Southglen Addition.

DON C. MOEHRING LICENSED 3463 KANSAS PROFESSIONAL ENGINEER

Moehring & Associates
Consulting Engineers
Wichita
4-24-87

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Sheet 11 of 11
11/11