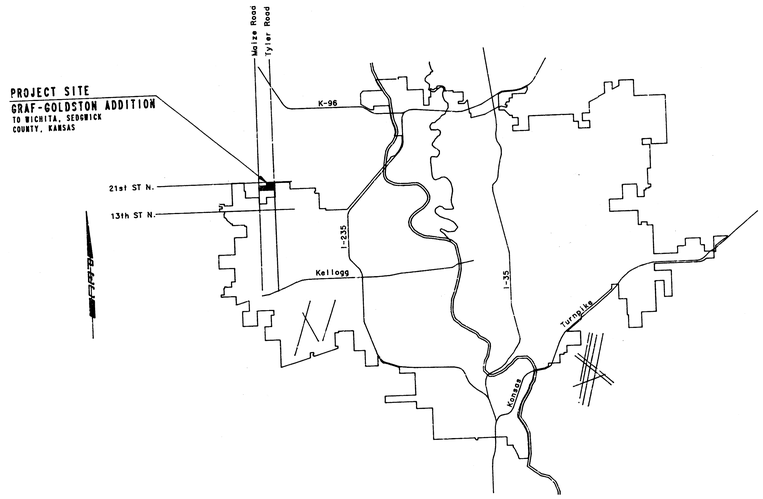
CONSTRUCTION PLANS FOR
LATERAL 80
OF THE
WESTLINK SEWER
THE CITY OF WICHITA,
SEDGWICK COUNTY, KANSAS

MICHAEL E. LINDEBAK, P.E. CITY ENGINEER

INDEX OF SHEETS



LOCATION MAP

CITY OF WICHITA PROJECT NO. 468-76-245-81423-000-000-001

MARCH, 1986

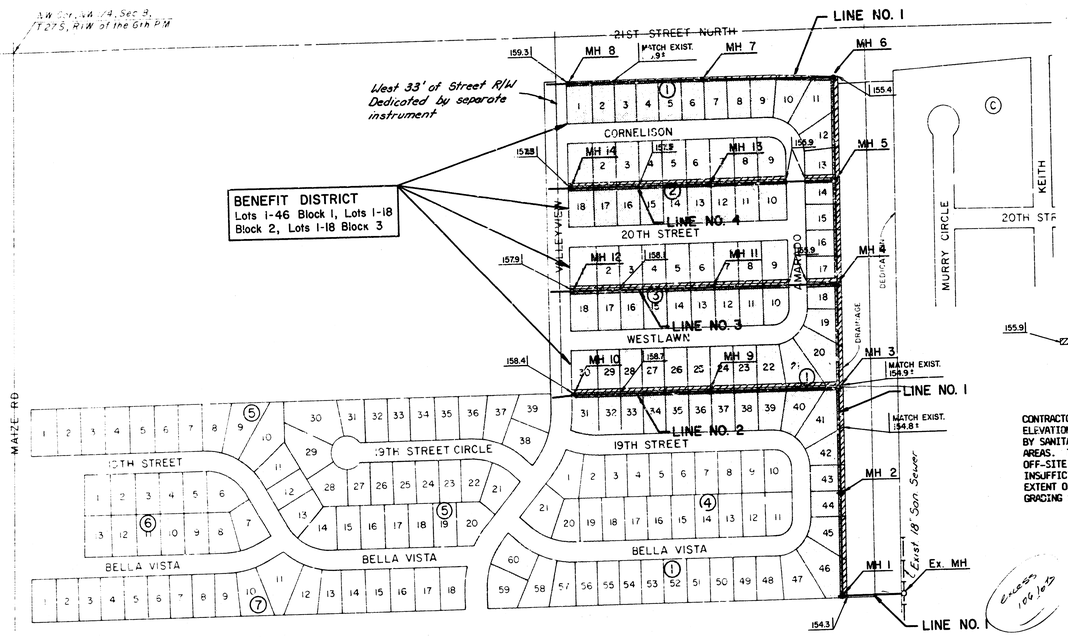
PLANS PREPARED BY

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

ENGINEERS

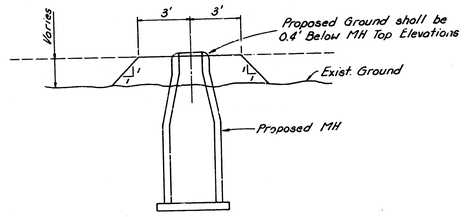
WICHITA, KANSAS

BRUCE D. REMSBERG LICENSED 7992 KANSAS PROFESSIONAL ENGINEER



GENERAL NOTES

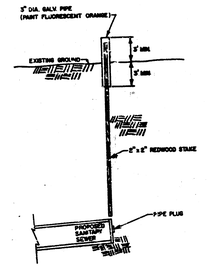
1. ALL CONSTRUCTION AND MATERIALS TO COMPLY WITH CITY OF WICHITA SPECIFICATIONS AND STANDARDS.
2. ALL ELEVATIONS SHOWN ARE CITY OF WICHITA DATUM (USGS-1187.4 = CITY DATUM).
3. THE CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH TO REMAIN OPEN OVERNIGHT AND WEEKENDS TO LESS THAN 50 FEET.
4. AT LEAST 48 HOURS PRIOR TO BEGINNING EXCAVATION, IF REQUIRED, (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: GAS SERVICE COMPANY, K.G.&E., THE WICHITA WATER DEPARTMENT, AND AIR CAPITAL CABLEVISION.
5. THE CONTRACTOR MUST ALSO NOTIFY THE TELEPHONE COMPANY AT (913) 571-2115 48 HOURS PRIOR TO BEGINNING EXCAVATION AND REQUEST THAT ANY LINES WITHIN THE PROJECT AREA BE FLAGGED.
6. THE BURIED UTILITIES AS LOCATED ON THE PLANS ARE APPROXIMATE LOCATIONS ONLY. IT SHOULD BE NOTED THAT OTHER BURIED LINES AND CABLES MAY EXIST WHICH ARE NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING TRENCHING OPERATIONS TO AVOID DAMAGING THESE LINES. ANY LINES DAMAGED SHALL BE REPLACED OR REPAIRED IMMEDIATELY AS DIRECTED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
7. THE CONTRACTOR SHALL RESTORE ALL DITCHES, SWALES, ROAD SHOULDERS, ENTRANCES, AND BANK LINES TO THEIR ORIGINAL SLOPES EXCEPT AS SHOWN OTHERWISE ON THE EASEMENT GRADING PLAN.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR SHALL 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. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO THE OTHER ITEMS OF WORK.
9. ALL EXCESS EXCAVATED MATERIAL FROM THIS PROJECT SHALL BE WASTED AS DIRECTED OR APPROVED BY THE ENGINEER. NO EXCESS MATERIAL SHALL BE PLACED WITHIN STREET RIGHTS-OF-WAY. THE CONTRACTOR SHALL CONTACT THE DEVELOPER FOR INFORMATION PERTAINING TO ACCEPTABLE LOCATIONS FOR THE DISPOSITION OF WASTE MATERIAL ON SITE. WASTE MATERIAL SHALL BE BLADED SMOOTH AND SLOPED TO DRAIN. THIS WORK SHALL BE SUBSIDIARY TO OTHER BID ITEMS.
10. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL MANHOLE COVERS.
11. FENCE REMOVED, AS REQUIRED, SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR. THIS WORK SHALL BE SUBSIDIARY TO PIPE INSTALLATION.
12. THE CONTRACTOR SHALL LEAVE THE STUB ENDS (WEST ENDS) OF LINE NOS. 1,2,3, AND 4 OPEN AND EXPOSED UNTIL AIR TESTING AND TELEVISION INSPECTION HAVE BEEN COMPLETED.



TYPICAL PROFILE

" FILL SITUATION "

NOTE: EASEMENT GRADING WILL BE PERFORMED USING FILL MATERIAL GENERATED ON THE SITE ONLY. IN THE EVENT THAT INSUFFICIENT MATERIAL IS GENERATED DURING CONSTRUCTION TO FULLY COMPLETE EASEMENT GRADING, MANHOLES IN FILL SITUATIONS SHALL BE GRADED AS SHOWN, AT A MINIMUM. THIS COST SHALL BE SUBSIDIARY TO MANHOLE - TYPE A OR C.



BURIED PIPE STAKING DETAIL

(STAKING & PLUGGING SHALL BE SUBSIDIARY TO THE PIPE LINE INSTALLATION)

BRUCE D. REMSBERG LICENSED 7992 KANSAS PROFESSIONAL ENGINEER

No.	Revision	By	Date

LATERAL 80 OF THE WESTLINK SEWER

KEY MAP

MICHAEL E. LINDEBAK, P.E. CITY ENGINEER
CITY OF WICHITA PROJECT NO. 468-76-245-81423-000-000-001

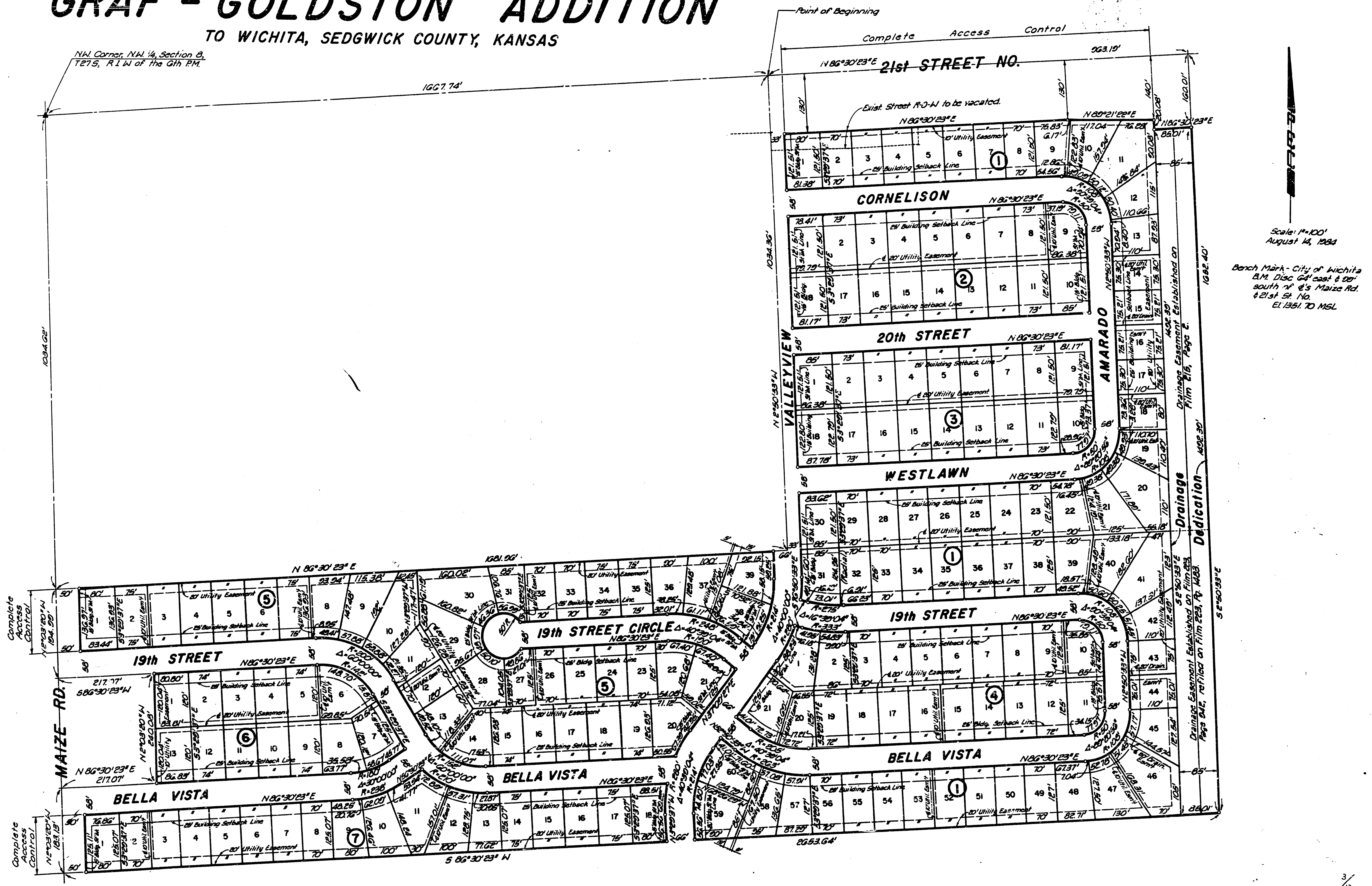
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by BDR	Job No. 34-85527-4	Sht. 2 of 13
Drawn by GM	Date March 1986	

2/13

GRAF - GOLDSTON ADDITION

TO WICHITA, SEDGWICK COUNTY, KANSAS



Restrictive Covenants F 706 Pg 605

Sheet 3 of 13

Sta. 0+00.0
Connect new 10" PVC or ABS Pipe into exist. 10" Stub

Sta. 1+95.3
Const. MH 1
Standard MH
Type A or D

Install 1-8" Stub and Plug

JAMESBURG

Exist. 18" VCP Sanitary Sewer (Main 4 Westlink Sewer)

DEDICATION

48" RCP

Conc. Headwall

30" RCP

Barb Wire Fence

Bee Hive Inlet

Iron

5'

20' Utility Easement

GRAF-GOLDSTON

46

IDENTICAL POINTS

15'

Install 195.3 L.F. 10" PVC or ABS Pipe

DRAINAGE

Edge Ditch

PARK

DRAINAGE DEDICATION

45

ADDITION

Sta. 1+95.3
MH #1

47

BELLA VISTA

Sta. 4+93.0
Const. MH 2
Standard MH
Type A or D

GRAF-GOLDSTON

10

19TH STREET

Sta. 8+03.4
Const. MH 3
Standard MH
Type A or D

39

22

21

40

20

19

41

42

43

44

45

46

LINE No. 2
See Sht. No. 7

For continuation
See Sht. No. 5

20' Utility Easement

5' Utility Easement

9°22'11"

90°39'04"

180°00'00"

Bee Hive Inlet

Barb Wire Fence

30" RCP

Conc. Headwall

Install 297.7 L.F. 10" PVC or ABS Pipe

Install 310.4 L.F. 10" PVC or ABS Pipe

Edge Ditch

DRAINAGE DEDICATION

JAMESBURG

PARK

DRAINAGE DEDICATION

SCALE

0 40 80

PLAN: Lat. & Long.
PROFILE: Horiz. same as above
Vertical

5
0

NOTE: Prior to beginning construction, Contractor shall verify the exist. stub size and ℄ elevation. Any difference shall be reported to the Engineer immediately.

Exist. 18" VCP Sanitary Sewer

LINE NO. 1

BM = Chiseled "+" NW corner conc. slab of bee hive inlet @ SE corner Lot 46 Block 1, Graf-Goldston Addition. Elev. = 152.46 (City Datum)

GRACE D. REMSBERG
LICENSED
KANSAS
7992
PROFESSIONAL ENGINEER

PLAN
SURVEYED
PLOTTED
NOTE BOOK
NO.
BY:
DATE:

PROFILE
SURVEYED
PLOTTED
NOTE BOOK
NO.
BY:
DATE:

Exist. MH
Top Elev. = 150.13

MH 1
Top Elev. = 154.46

MH 2
Top Elev. = 154.93

MH 3
Top Elev. = 155.12

Proposed Ground

Exist. Ground

℄ IN = 144.74
from 1-8" Stub (W)

℄ IN = 145.38
from 1-8" Stub (W)

℄ IN = 145.94 (8")
from Line No. 2

℄ out = 143.88 (18")
℄ IN = 144.23

℄ = 144.41

℄ out = 144.58
℄ IN = 144.68

℄ = 144.87

℄ out = 144.58
℄ IN = 144.68

℄ = 145.05

℄ = 145.22

℄ = 145.41

℄ = 145.59

℄ = 145.78

195.3 L.F. 10" PVC or ABS Pipe @ 0.18%

297.7 L.F. 10" PVC or ABS Pipe @ 0.18%

310.4 L.F. 10" PVC or ABS Pipe @ 0.48%

165
160
155
150
145
140
135

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00

4/13

PLATE 1 PLAN-PROFILE O. P. A. & E. STANDARD

EUGENE DIETZGEN CO.

LATERAL 80 OF THE WESTLINK SEWER
LINE NO. 1

MICHAEL E. LINDEBAK, P.E. CITY ENGINEER
CITY OF WICHITA PROJECT NO. 468-76-245-81425-000-000-001

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

Job No. 34-85527-4
Date March, 1986
Designed by BDF
Drawn by GM

Sht. 4 of 13

Sta. 8+03.4
MH 3 39

Sta. 11+05.7
Const. MH 4
Standard MH
Type A or D

Sta. 14+06.7
Const. MH 5
Standard MH
Type A or D

Sta. 17+01.5
Const. MH 6
Standard MH
Type A or C

GRAF-GOLDSTON ADDITION

20TH STREET

21ST STREET

AMARADO

JAMESBURG

PARK

LINE No. 2
See Sht. No. 7

LINE No. 3
See Sht. No. 8

LINE No. 4
See Sht. No. 9

For continuation
See Sht. No. 6

10' Utility Easement

5' Utility Easement

15' Utility Easement

20' Utility Easement

Iron

90°39'04"

180°00'00"

89°46'41"

33'

DRAINAGE

DEDICATION

Edge Ditch

CAUTION !! Proposed
60" RCP Storm Drain

Sta. 12+55 to Sta. 12+65
Const. 10 L.F. Conc. Encose-
ment on the 10" Pipe

Install 302.3 L.F.
10" PVC or ABS Pipe

Install 301.0 L.F.
10" PVC or ABS Pipe

Install 294.8 L.F.
8" PVC or ABS Pipe

Remove fence as
required. This work
shall be subsidiary
to pipe installation

CAUTION !!
8" Gas Line

Section Line

BM-Top iron @ NE corner Lot 11
Block 1, Graf-Goldston Addition
Elev.=158.32 (City Datum)

SCALE
0 40 80
PLAN: Lat. & Long.
PROFILE: Horiz. same as above
Vertical 5 0

NORTH

BRUCE D. REMSBERG
LICENSED
7992
KANSAS
PROFESSIONAL ENGINEER

LINE NO. 1

MH 3
Top Elev.=155.2

MH 4
Top Elev.=155.5

-39.5' 60" RCP Storm Drain
E=148.32

MH 5
Top Elev.=155.7

MH 6
Top Elev.=155.8

Exist. Ground

Proposed Ground

E IN=146.48 (8")
from LINE No. 3

E IN=147.02 (8")
from LINE No. 4

E=145.78
E=145.93
E=146.13
E=146.32
E=146.80
E=146.67
E OUT=146.06
E IN=147.02
E=147.30
E=147.60
E OUT=147.79
E IN=148.01

302.3 L.F. 10" PVC or ABS Pipe @ 0.18%

301.0 L.F. 10" PVC or ABS Pipe @ 0.18%

294.8 L.F. 8" PVC or ABS Pipe @ 0.30%

165 160 155 150 145 140 135

8+00 9+00 10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00

5/13

PLATE 1 PLAN PROFILE O. P. B. & E. STANDARD

EUGENE DIETZGEN CO.

PLAN
SURVEYED
DRAWN
NOTE BOOK ALIGNMENT CHECKED
NO. LEVELS CHECKED
DATE
BY

PROFILE
SURVEYED
DRAWN
NOTE BOOK GRADES CHECKED
NO. XS NOTED
DATE
BY

LATERAL 80 OF THE WESTLINK SEWER

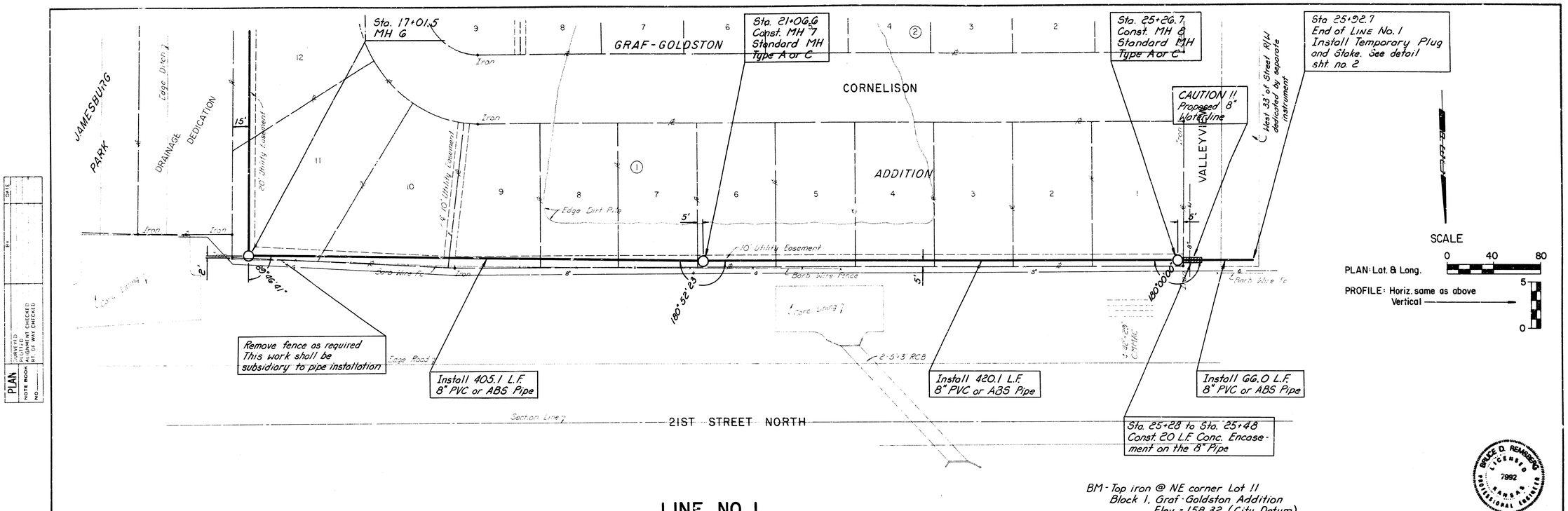
LINE NO. 1

MICHAEL E. LINDEBAK, P.E. CITY ENGINEER
CITY OF WICHITA PROJECT NO. 468-76-245-91423-000-000.001

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

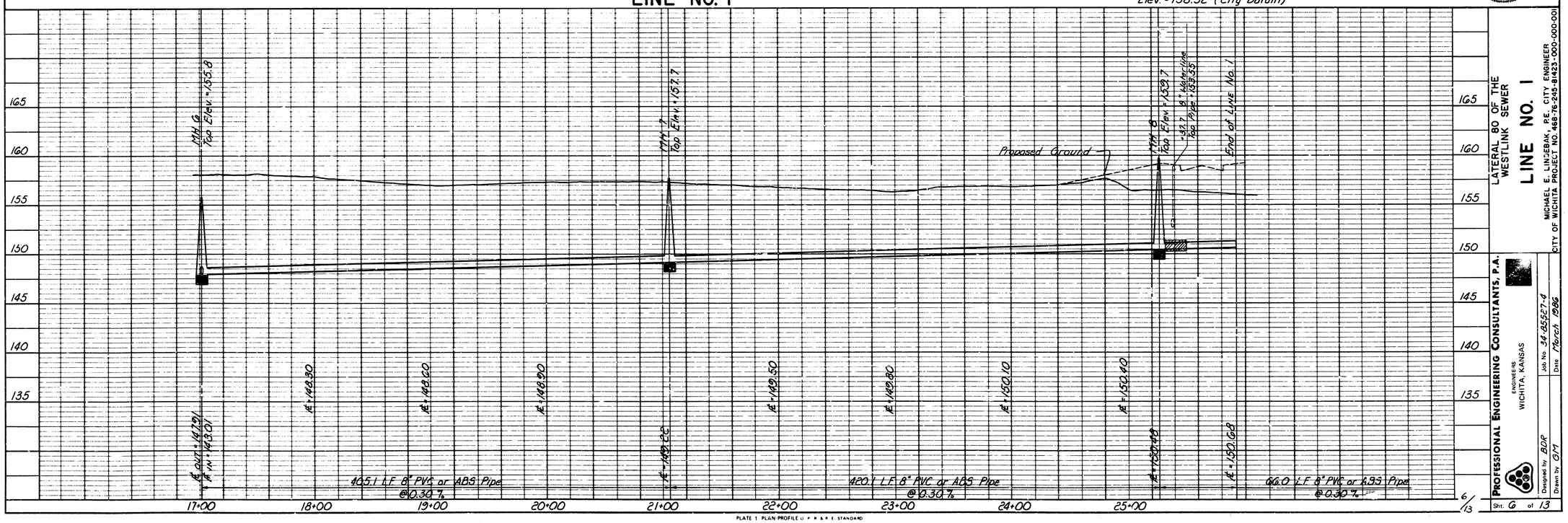
Job No. 34-85527-4
Date March 1986
Designed by BDR
Drawn by GM

Sht. 5 of 13



PLAN
SURVEYED
PLOTTED
NOTE BOOK ALIGNMENT CHECKED
BY GRADES CHECKED
NO. STRUCTURE NOTATIONS CHECKED
BY DATE

LINE NO. 1



PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
NOTE BOOK BY
NO. STRUCTURE NOTATIONS CHECKED
BY DATE

PLATE 1 PLAN-PROFILE U. P. R. & R. E. STANDARD
EUGENE DIETZGEN CO.

LATERAL 80 OF THE
WESTLINK SEWER
LINE NO. 1
CITY OF WICHITA PROJECT NO. 468-76-245-81423-000-000-001
MICHAEL E. LINDEBAK, P.E., CITY ENGINEER

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS
Job No. 34-85527-4
Date March 1986
Designed by BDR
Drawn by GTH
Sht. 6 of 13

6/13

PLAN — SURVEYED — PLOTTED — PROFILE CHECKED — ALIGNMENT CHECKED — R/W NOTED — STRUCTURE NOTES CHECKED — NOTE BOOK — NO. — BY — DATE

Sta. 8+03.4, Line No. 1 = Sta. 0+00.0, Line No. 2
MH 3

Sta. 4+00.1
Const. MH 9
Standard MH
Type A or C

Sta. 8+25.2
Const. MH 10
Standard MH
Type A or C

Sta. 8+91.4
End of Line No. 2
Install Temporary Plug and Stake. See detail sht. no. 2

19TH STREET

GRAF-GOLDSTON ADDITION

WESTLAWN

PARK DEDICATION

DRAINAGE DEDICATION

JAMESBURG

VALLEYVIEW

DRAINAGE

Edge Ditch

Proposed 8" Waterline

15' 10' Utility Easement

5' & 20' Utility Easement

Line No. 1
See Sht. No. 4

90°59'04"

180°00'00"

184°10'30"

Install 400.1 L.F. 8" PVC or ABS Pipe

Install 425.1 L.F. 8" PVC or ABS Pipe

Install 66.2 L.F. 8" PVC or ABS Pipe

BM-Chiseled "+" NW corner conc. slab of bee hive inlet @ SE corner Lot 46 Block 1, Graf-Goldston Addition. Elev. = 1524.6 (City Datum)

SCALE
0 40 80
PLAN: Lat. & Long.
PROFILE: Horiz. same as above
Vertical 5 0

BRUCE D. REMSBERG LICENSED 7992 KANSAS PROFESSIONAL ENGINEER

PROFILE — SURVEYED — PLOTTED — PROFILE CHECKED — ALIGNMENT CHECKED — R/W NOTED — STRUCTURE NOTES CHECKED — NOTE BOOK — NO. — BY — DATE

LINE NO. 2

MH 3
Top Elev. = 155.2

MH 9
Top Elev. = 157.5

MH 10
Top Elev. = 158.6

End of Line No. 2

Proposed Ground

Exist. Ground

E out = 145.78 (10")
E in = 145.98

E = 146.24
E = 146.54
E = 146.84
E = 147.14
E = 147.44
E = 147.74
E = 148.04
E = 148.34
E = 148.64
E = 148.61

400.1 L.F. 8" PVC or ABS Pipe @ 0.30%

425.1 L.F. 8" PVC or ABS Pipe @ 0.30%

66.2 L.F. 8" PVC or ABS Pipe @ 0.30%

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00

165 160 155 150 145 140 135

PLATE 1 PLAN-PROFILE O. F. & R. E. STANDARD
EUGENE DIETZGEN CO.

LATERAL 80 OF THE WESTLINK SEWER
LINE NO. 2

MICHAEL L. LINDEBAK, P.E., CITY ENGINEER
CITY OF WICHITA, PROJECT NO. 468-76-245-81423-000-000-00

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

Job No. 36-85527-4
Date March 1986
Designed by BDR
Drawn by GM

Sht. 7 of 13
7/13

Sta. 1+05.7, Line No. 1 = Sta. 0+00.0, Line No. 3 MH 4

Sta. 3+83.2 Const. MH 11 Standard MH Type A or C

Sta. 8+25.2 Const. MH 12 Standard MH Type A or C

Sta. 8+94.0 End of Line No. 3 Install Temporary Plug and Stake. See detail, sht. no. 2

CAUTION !! Proposed 30" RCP Storm Drain, Proposed 8" Water

CAUTION !! Proposed 8" Water

West 33' of Street R/W dedicated by separate instrument

PARK

DEDICATION

DRAINAGE DEDICATION

JAMESBURG

WESTLAWN

GRAF-GOLDSTON

ADDITION

AMARADO

VALLEYVIEW

20TH STREET

DRAINAGE

15' & 20' Utility Easement

Not Parallel

Line No. 1 See Sht. No. 5

Install 383.8 L.F. 8" PVC or ABS Pipe

Install 441.4 L.F. 8" PVC or ABS Pipe

Install 68.8 L.F. 8" PVC or ABS Pipe

Sta. 8+19 to Sta. 8+89 Const. 10 L.F. Conc. Encasement on 8" Pipe

SCALE

PLAN: Lat. & Long. 0 40 80

PROFILE: Horiz. same as above Vertical 5 0

BM-Top iron @ NE corner Lot 11 Block 1, Graf-Goldston Addition Elev.=158.32 (City Datum)

LINE NO. 3 ②

MH 4 Top Elev.=155.7

103.8' 8" Water Top Pipe=153.25

MH 11 Top Elev.=157.4

MH 12 Top Elev.=158.3

136.8' 8" Water Top Pipe=153.96

+05 30" RCP Storm Drain

℄ 161.34

End of Line No. 3

Proposed Ground

Exist. Ground

℄ Out=146.52 (10')

℄ In=146.28

℄=146.79

℄=147.08

℄=147.38

℄=147.68

℄=147.68

℄=147.98

℄=148.28

℄=148.58

℄=148.88

℄=148.96

℄=149.16

383.8 L.F. 8" PVC or ABS Pipe @ 0.34%

441.4 L.F. 8" PVC or ABS Pipe @ 0.39%

68.8 L.F. 8" PVC or ABS Pipe @ 0.30%

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00

165 160 155 150 145 140 135

PLATE 1 PLAN-PROFILE U. P. R. & R. E. STANDARD

EUGENE DIETZGEN CO.

PLAN: SURVEYED, PLOTTED, GRADES CHECKED, ALIGNMENT CHECKED, NOTE BOOK, NO., DATE, BY, STRUCTURE NOTATIONS

PROFILE: SURVEYED, PLOTTED, GRADES CHECKED, ALIGNMENT CHECKED, NOTE BOOK, NO., DATE, BY, STRUCTURE NOTATIONS

BRUCE D. REMSBERG LICENSED 7992 PROFESSIONAL ENGINEER

LATERAL 80 OF THE WESTLINK SEWER

LINE NO. 3

MICHAEL E. LINDEBAK, P.E. CITY ENGINEER

CITY OF WICHITA PROJECT NO. 463-76-245-81423-000-000-001

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

ENGINEERS WICHITA, KANSAS

Job No. 34-85527-4

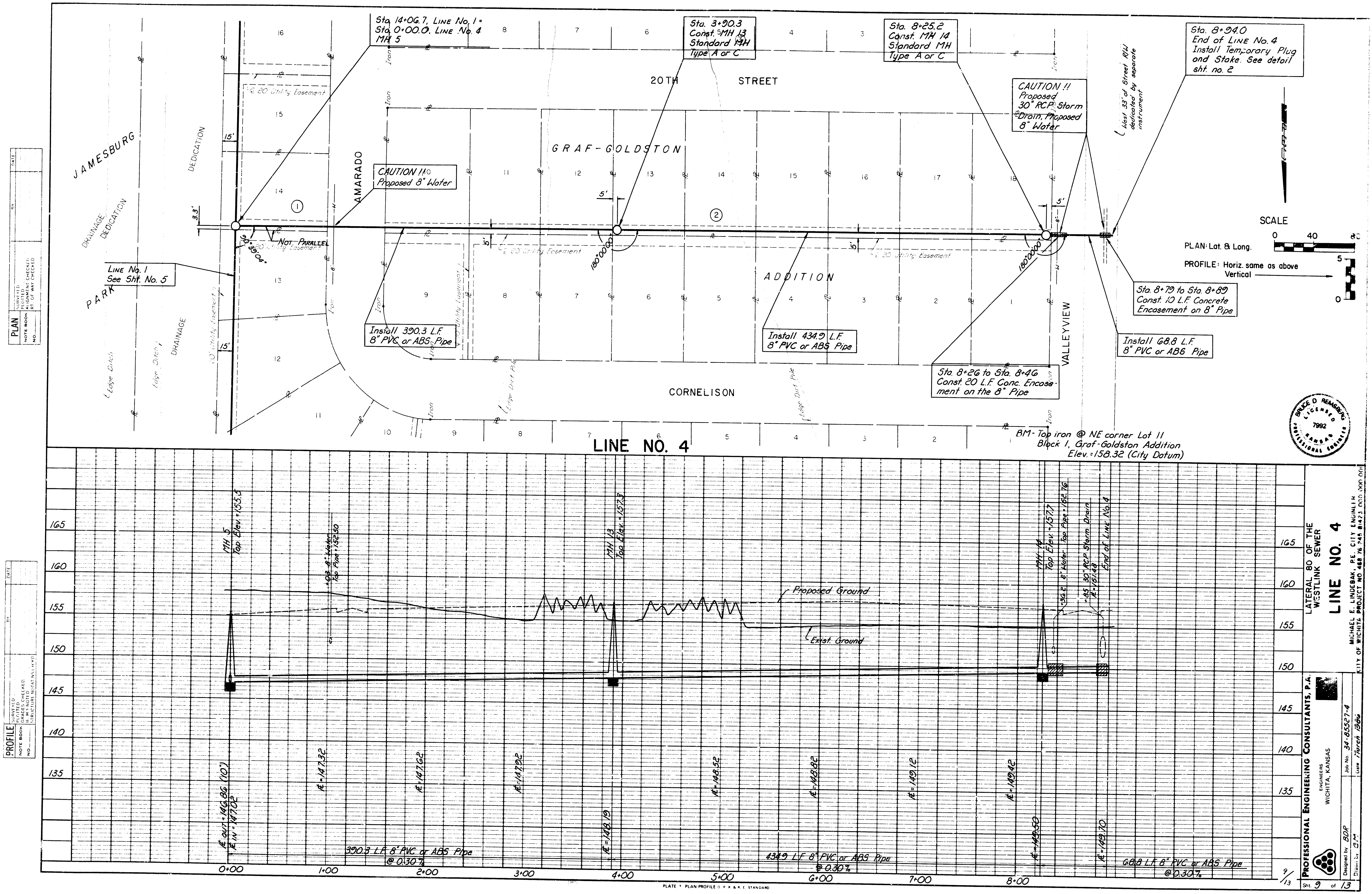
Date March 1986

Designed by B.D.P.

Drawn by G.M.

Sht. 8 of 13

8/13



Sta. 14+06.7, LINE No. 1 = Sta. 0+00.0, LINE No. 4 MH 5
Sta. 3+90.3 Const. MH 13 Standard MH Type A or C
Sta. 8+25.2 Const. MH 14 Standard MH Type A or C
Sta. 8+94.0 End of LINE No. 4 Install Temporary Plug and Stake. See detail sht. no. 2
20TH STREET
CAUTION !! Proposed 30" RCP Storm Drain, Proposed 8" Water
West 33' of Street R/W dedicated by separate instrument
JAMESBURG PARK
DEDICATION
DRAINAGE DEDICATION
AMARADO
CAUTION !! Proposed 8" Water
GRAF-GOLDSTON ADDITION
SCALE
PLAN: Lat. & Long.
PROFILE: Horiz. same as above Vertical
LINE No. 1 See Sht. No. 5
NOT PARALLEL
Install 390.3 L.F. 8" PVC or ABS Pipe
Install 434.9 L.F. 8" PVC or ABS Pipe
Sta. 8+79 to Sta. 8+89 Const. 10 L.F. Concrete Encasement on 8" Pipe
Install 68.8 L.F. 8" PVC or ABS Pipe
Sta. 8+26 to Sta. 8+46 Const. 20 L.F. Conc. Encasement on the 8" Pipe
VALLEYVIEW
CORNELISON
BM - Top iron @ NE corner Lot 11 Block 1, Graf-Goldston Addition Elev. = 158.32 (City Datum)
LINE NO. 4
BRUCE D. REMSBERG LICENSED 7992 KANSAS PROFESSIONAL ENGINEER
MH 5 Top Elev. = 155.5
MH 13 Top Elev. = 157.3
MH 14 Top Elev. = 157.7
Proposed Ground
Exist. Ground
End of LINE No. 4
FL out = 146.86 (10") FL in = 147.02
FL = 147.32
FL = 147.62
FL = 147.92
FL = 148.19
FL = 148.52
FL = 148.82
FL = 149.12
FL = 149.42
FL = 149.50
FL = 149.70
390.3 L.F. 8" PVC or ABS Pipe @ 0.30%
434.9 L.F. 8" PVC or ABS Pipe @ 0.30%
68.8 L.F. 8" PVC or ABS Pipe @ 0.30%
0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00
165 160 155 150 145 140 135
LATERAL 80 OF THE WESTLINK SEWER
LINE NO. 4
MICHAEL E. LINDEBAK, P.E., CITY ENGINEER
PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS
Job No. 34-85527-4
Date March 1986
Designed by BDP
Sht. 9 of 13
PLAN
PROFILE
PLATE 1 PLAN-PROFILE
EUGENE DIETZGEN CO.

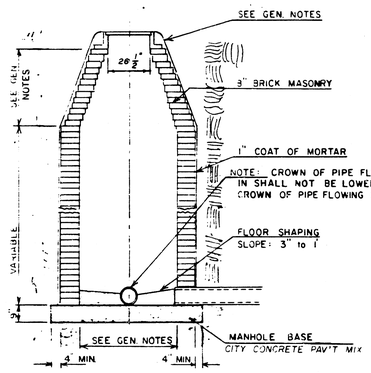
REVISED SEPTEMBER 1980
REVISED DECEMBER 1981

SEWER APPURTENANCES DETAILS

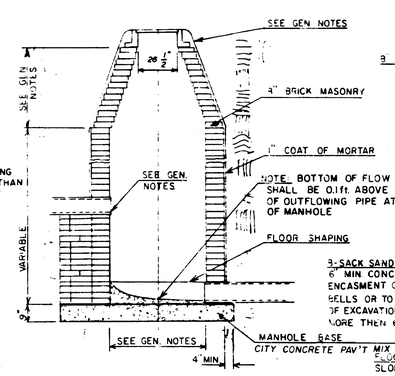
ADOPTED AS STANDARD DESIGN
BY

CITY of WICHITA, KANSAS

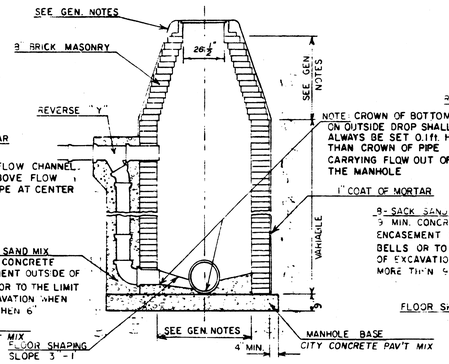
TYPE "A" MANHOLE



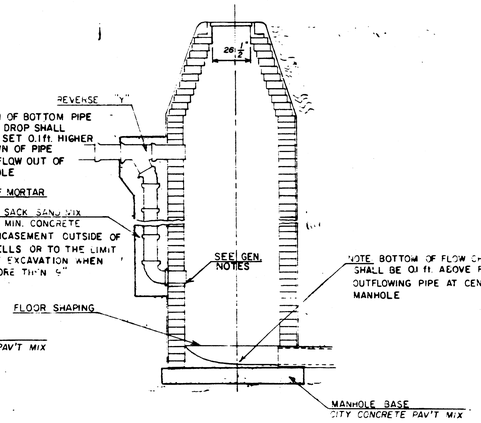
TYPE "A" INSIDE DROP MANHOLE



TYPE "A" OUTSIDE DROP MANHOLE



DETAIL OF OUTSIDE DROP
CONSTRUCTED ON EXISTING MANHOLE



GENERAL NOTES

1. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 6 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. TYPE "A" MANHOLE, CAN BE USED ON SEWERS UP TO 16' IN DEPTH WHEN THE MANHOLE IS NOT LOCATED WITHIN PUBLIC STREET PAVEMENT. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24" SHALL HAVE AN INSIDE DIAMETER OF 4'. SHALL BE CONSTRUCTED WHERE PIPE SIZES ARE 24" OR LARGER SHALL HAVE AN INSIDE DIAMETER OF 5'. THE HEIGHT OF THE CORBELS ON 4' DIAMETER MANHOLES SHALL BE 4'. MANHOLES HAVING A DIAMETER OF 5' SHALL HAVE CORBELS 9' IN HEIGHT. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.

2. 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 6" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.

3. 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 V.T.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. THE VERTICAL DROP FROM THE LOWER PIPE ON SUCH OUTSIDE DROP CONNECTIONS SHALL NOT EXCEED 4' FOR INFLOWING PIPES SIZED 12" OR SMALLER AND 2' FOR INFLOWING PIPES SIZED LARGER THAN 12", EXCEPT THE CROWN OF THE LOWER PIPE SHALL NEVER BE SET BELOW THE CROWN OF ANY LARGER OUTFLOWING PIPE. THIS WORK, INCLUDING MODIFICATION OF MANHOLE FLOOR, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR OUTSIDE DROP STACK CONSTRUCTED ON EXISTING MANHOLE.

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 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.

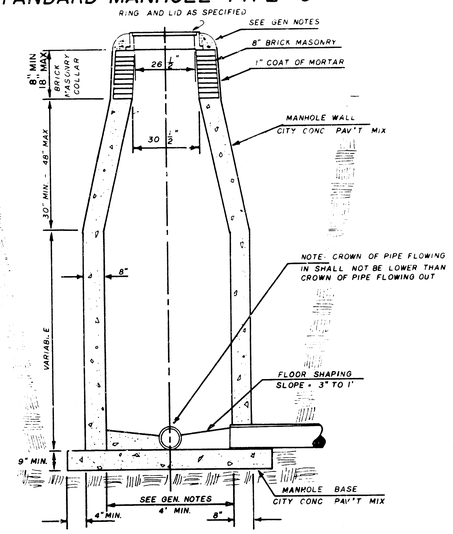
8. STANDARD MANHOLES TYPE "A" AND STANDARD INSIDE DROP MANHOLES TYPE "A" SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES TYPE "A" SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED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

SEWER APPURTENANCES DETAILS

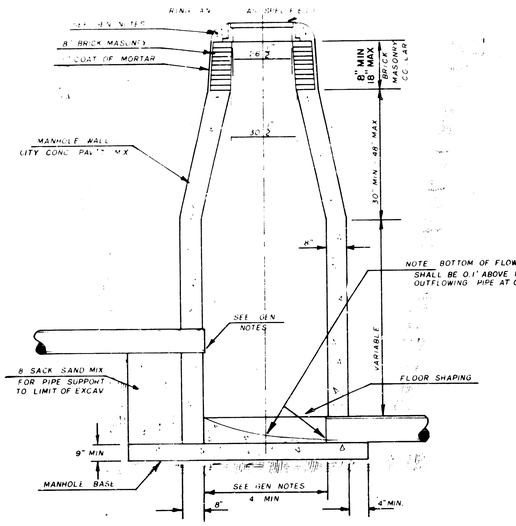
ADOPTED AS STANDARD DESIGN
BY

City of Wichita, Kansas

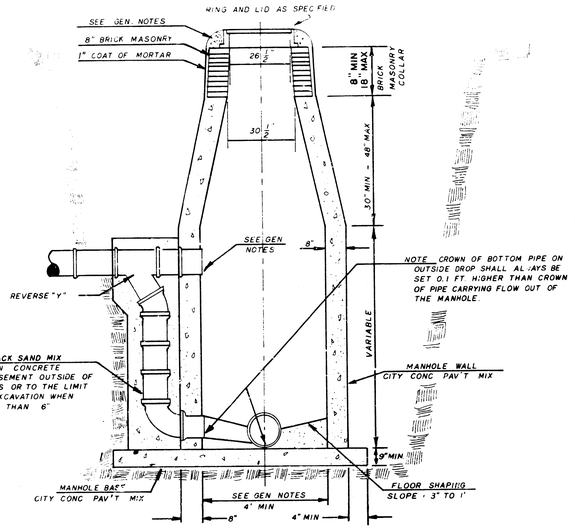
STANDARD MANHOLE TYPE "C"



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 MANHOLE 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.

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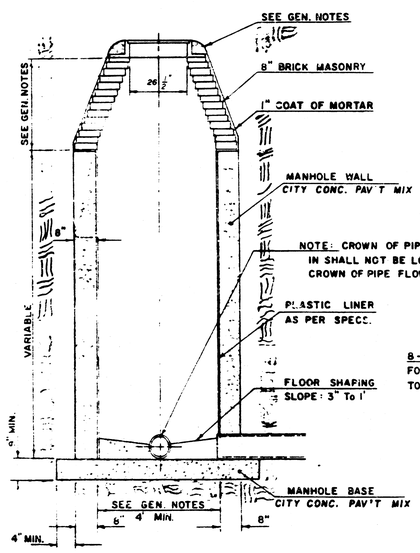
JNL JAN. 1982

SEWER APPURTENANCES DETAILS

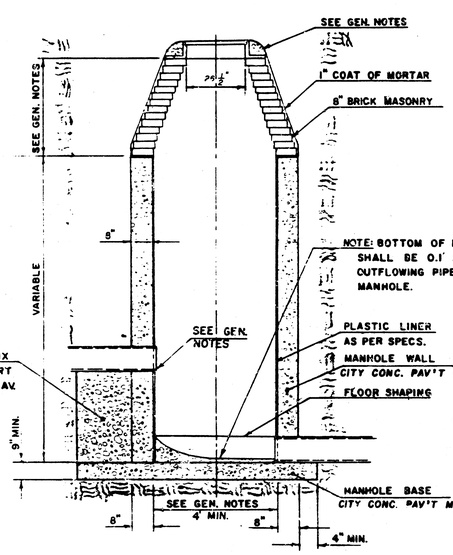
ADOPTED AS STANDARD DESIGN
BY

CITY OF WICHITA, KANSAS

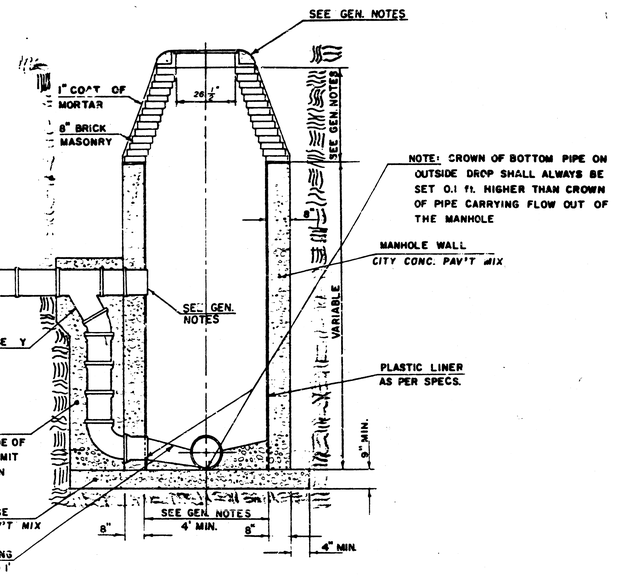
TYPE "D" MANHOLE



TYPE "D" INSIDE DROP MANHOLE



TYPE "D" OUTSIDE DROP MANHOLE



GENERAL NOTES

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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 3" 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.

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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.

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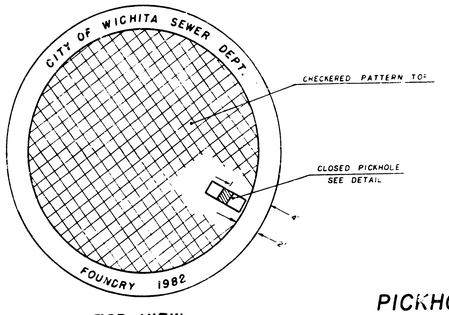
REVISED JAN. 1982

JUNE, 1980

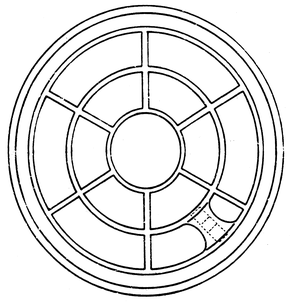
MANHOLE FRAME AND COVER DETAIL

ADOPTED AS STANDARD DESIGN
BY
City of Wichita, Kansas

MANHOLE COVER
Weight: 180 Lbs.

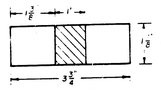


TOP VIEW

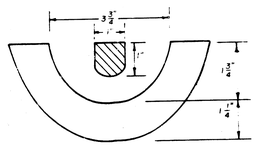


BOTTOM VIEW

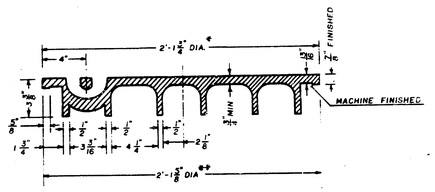
PICKHOLE DETAIL



TOP VIEW



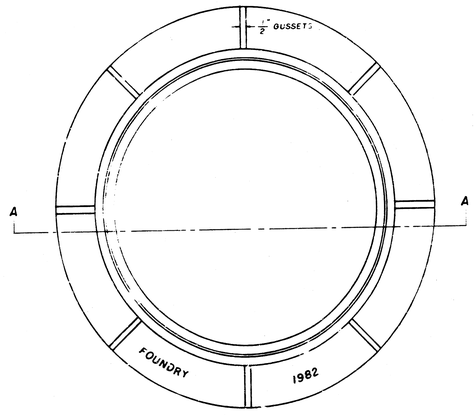
SECTION VIEW



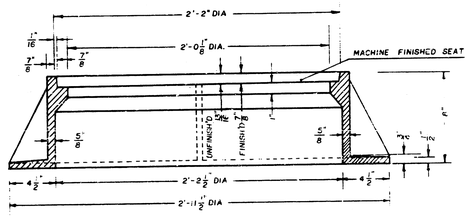
SECTION VIEW

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

MANHOLE FRAME
Weight: 240 Lbs.



TOP VIEW



SECTION A-A

GENERAL NOTE:

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