CONSTRUCTION PLANS FOR

LATERAL 23, MAIN 12

OF THE

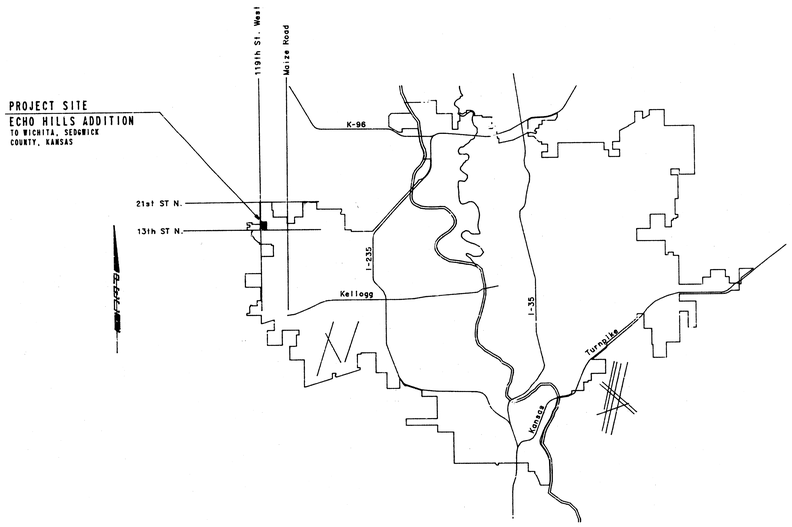
SOUTHWEST INTERCEPTOR SEWER

IN

THE CITY OF WICHITA,

SEDGWICK COUNTY, KANSAS

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



LOCATION MAP

CITY OF WICHITA PROJECT NO. 468-76-245-81625-000-000-001

OCTOBER, 1986

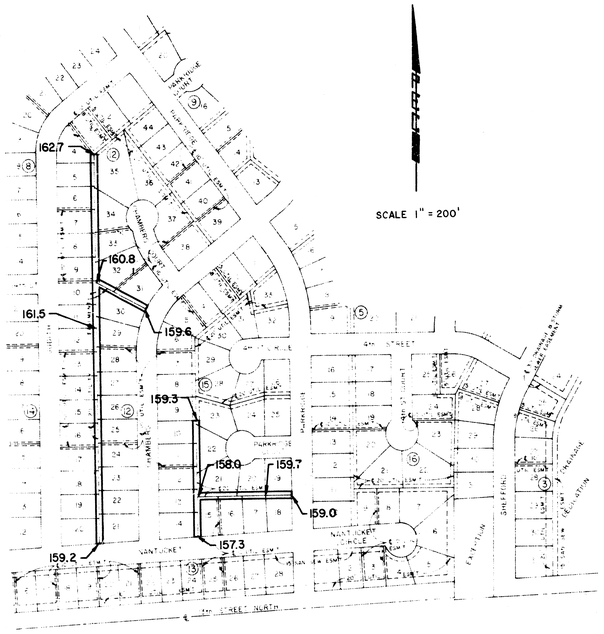
PLANS PREPARED BY

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

ENGINEERS

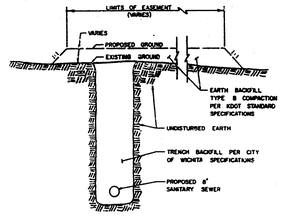
WICHITA, KANSAS

MICHAEL D. SCHOMAKER LICENSED 6778 KANSAS PROFESSIONAL ENGINEER

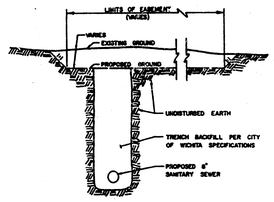


EASEMENT GRADING PLAN

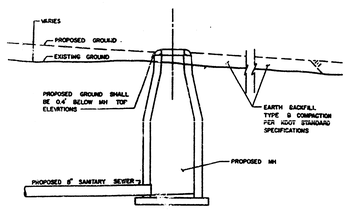
(Outlined area to be graded)



TYPICAL SECTION

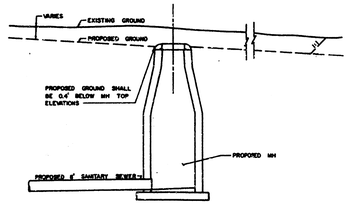


TYPICAL SECTION



TYPICAL PROFILE

"FILL" SITUATIONS

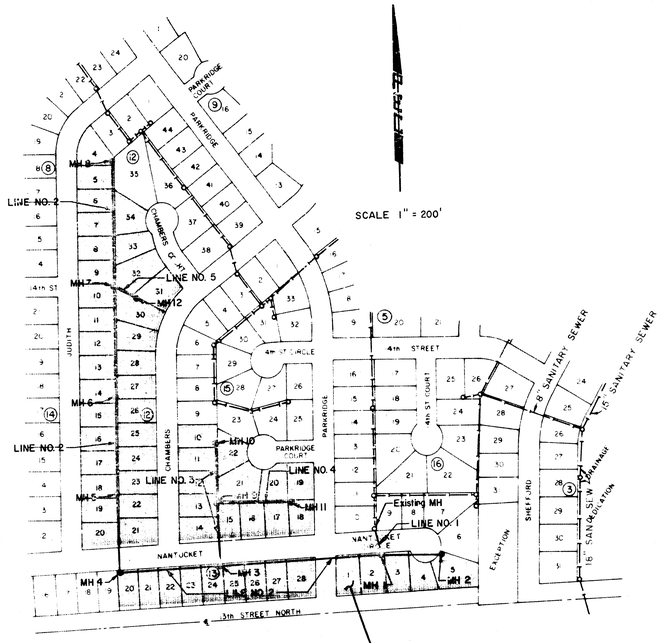


TYPICAL PROFILE

"CUT" SITUATIONS

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, AIR CAPITAL CABLEVISION, AND THE TELEPHONE COMPANY.
5. UNDERGROUND UTILITY SERVICE LINES AND OVERHEAD UTILITY POLE LINES ARE TO BE ADJUSTED AS NECESSARY BY OTHERS PRIOR TO CONSTRUCTION UNLESS THE PLANS SPECIFICALLY CALL FOR THEIR ADJUSTMENT BY THE CONTRACTOR. EXISTING UTILITIES 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.
6. 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.
7. 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.
8. CONTRACTOR SHALL GRADE THE SANITARY SEWER ALIGNMENT TO THE PROFILE AND ELEVATIONS SHOWN ON THE EASEMENT GRADING PLAN. THE CONTRACTOR SHOULD VISIT THE SITE TO DETERMINE THE EXTENT OF GRADING PRIOR TO PREPARATION OF HIS BID. ALL COSTS FOR GRADING SHALL BE SUBSIDIARY TO THE PROJECT.
9. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL MANHOLE COVERS.



KEY MAP

BENEFIT DISTRICT
LOTS 4 THRU 34 INCLUSIVE, BLOCK 12
LOTS 20 THRU 28, INCLUSIVE, BLOCK 13
LOTS 10 THRU 22 INCLUSIVE, BLOCK 15
LOTS 1 THRU 5 INCLUSIVE, BLOCK 16

MICHAEL D. SCHOMAKER LICENSED 6778 KANSAS PROFESSIONAL ENGINEER

No.	Revision	By	Date

LATERAL 23, MAIN 12 OF THE SOUTHWEST INTERCEPTER SEWER

KEY MAP

MICHAEL E. LINDEBAK, P.E.-CITY ENGINEER
CITY OF WICHITA PROJ. NO. 468-76-245-81625-C00-000-001

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

Designed by MDS, RFJ	Job No. 34-86345-3	Sht. 2 of 10
Drawn by RFJ, RBT	Date August 1986	

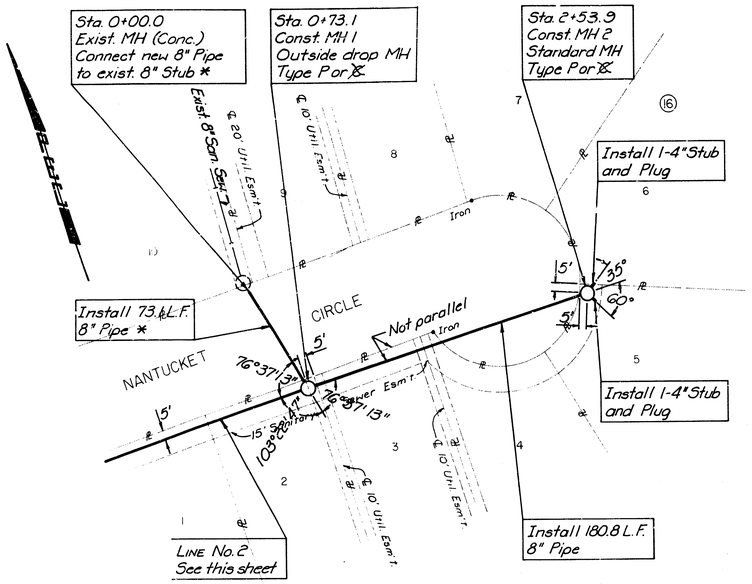
ECHO HILLS

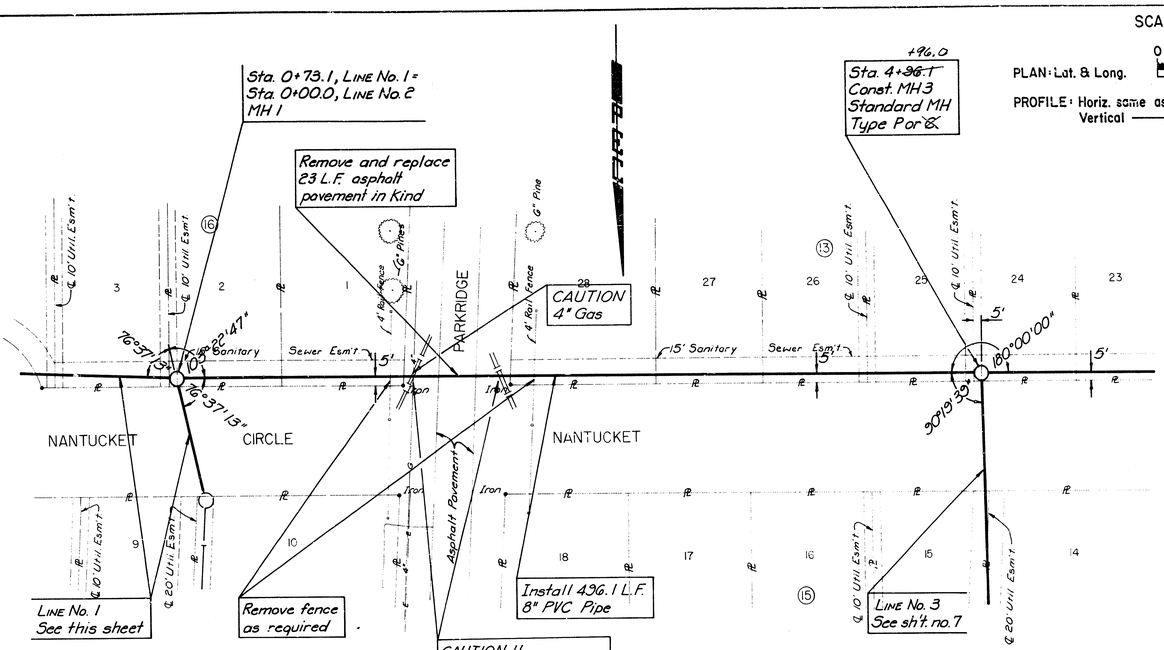
AN ADDITION TO WICHITA SEDGWICK COUNTY, KANSAS

B.M. - City Standard Brass Cap, in conc., 25' North & 30' East of S ¼ Corner, Sec 7 T 27 S, R 1 W Elev 1345.39

SCALE: 1"=100'
DECEMBER 9, 1979

17th STREET
16th STREET
15th STREET
14th STREET
13th STREET NORTH
PARKRIDGE
CHAMBERS
CARDINGTON
PINE GROVE
JUDITH
NANTUCKET
PARKRIDGE COURT
CHAMBERS COURT
CARDINGTON COURT
14th ST CIRCLE
14th ST COURT
NANTUCKET CIRCLE
PINE GROVE COURT
119th STREET WEST
COMPLETE ACCESS CONTROL
2360.44'
1759'





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

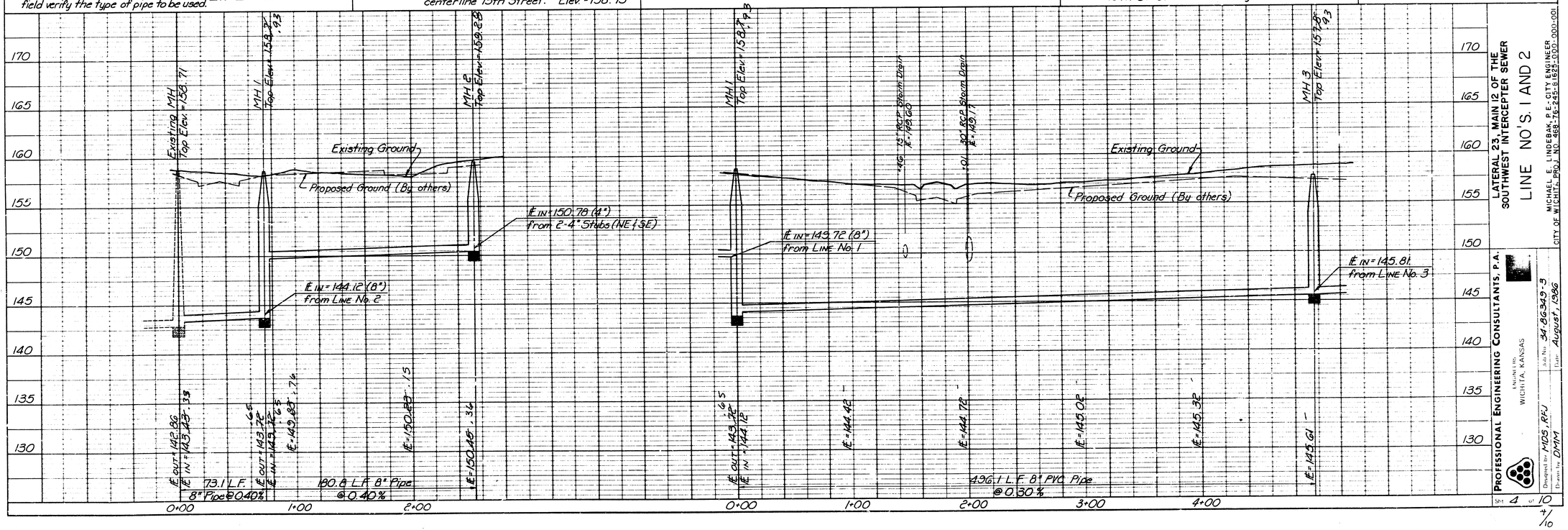
* Pipe type used for the first 73.1 L.F. on Line No. 1 shall match that of the exist. stub. Prior to beginning construction the Contractor shall field verify the type of pipe to be used.

LINE NO. 1

Datum BM - City of Wichita Brass disc ½ mile east of 119th Street and 40.5 North of centerline 13th Street. Elev. = 158.73

LINE NO. 2

BM #1 Chiseled "a" on back of curb at southwest corner wheelchair ramp at northeast corner 13th Street and Parkridge. Elev. = 155.82



PROFILE

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS
Job No. 34.86349-3
Date August, 1986
Designed by MDS, RPJ
Drawn by DMM

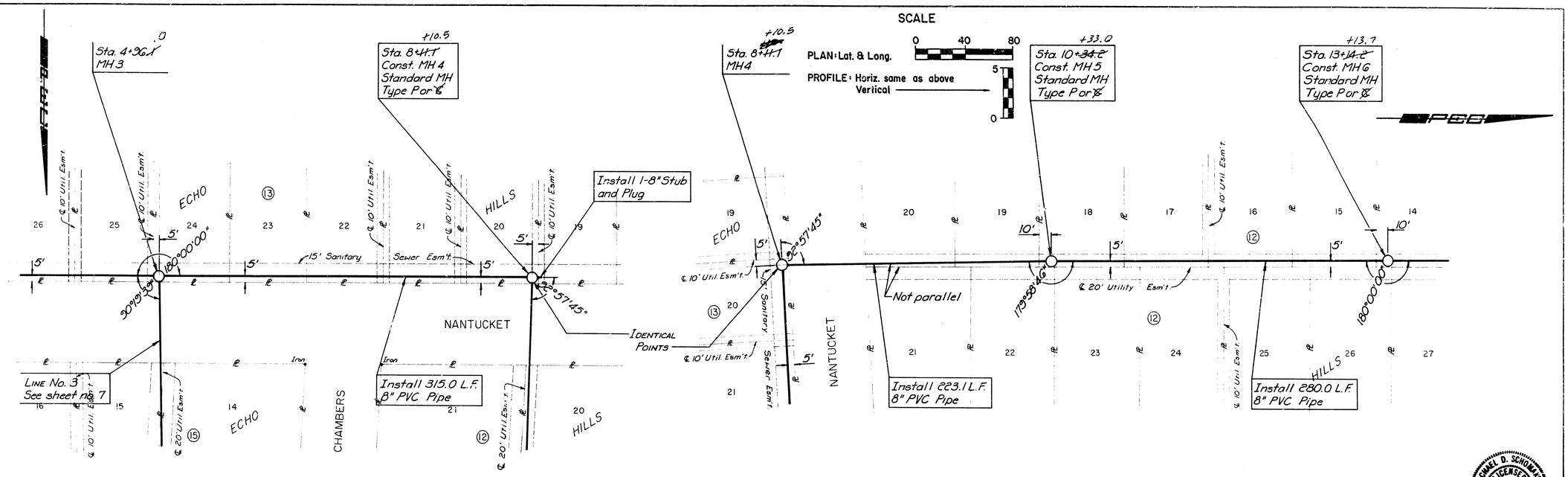
LATERAL 23, MAIN 12 OF THE SOUTHWEST INTERCEPTER SEWER
LINE NO'S. 1 AND 2

MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
CITY OF WICHITA, PROJ. NO. 468-76-245-8 1625-0000-000-001

Sht. 4 of 10

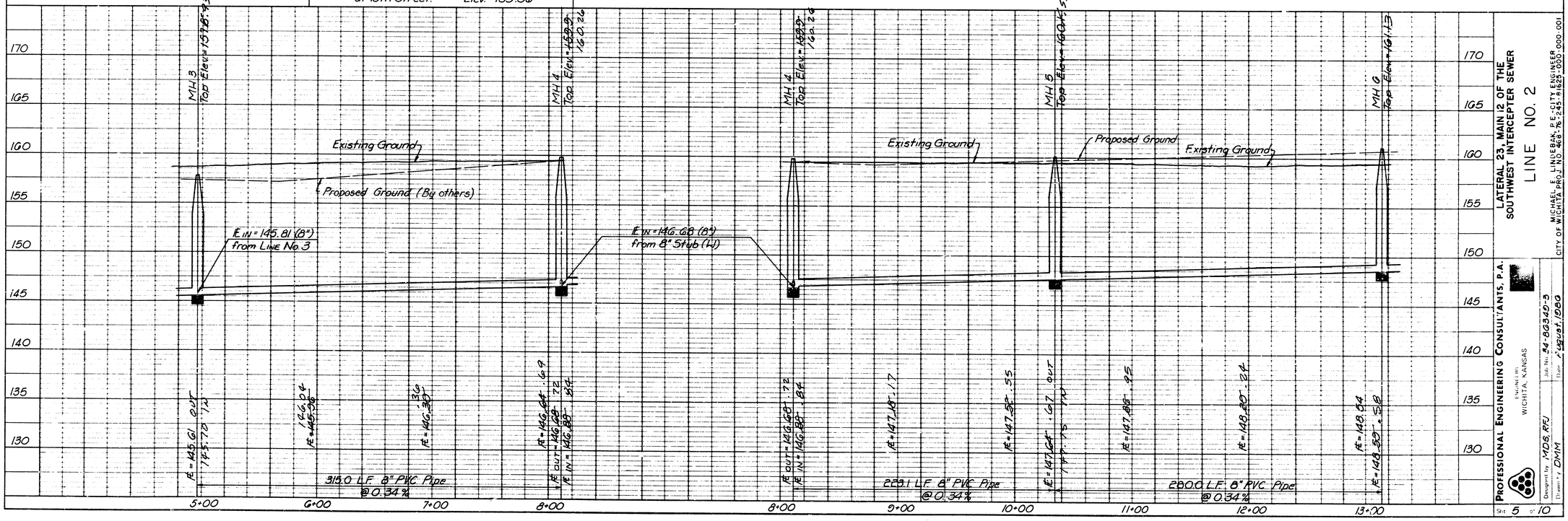
4/10

MICHAEL J. SCHONACKER
LICENSED
6778
KANSAS
PROFESSIONAL ENGINEER



BM #2 Chiseled "a" on back of curb at 2nd utility pole west of west side Parkridge at 13th Street. Elev. = 159.36

LINE NO. 2



PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS
Designed by MDS, RFJ
Drawn by DMM
Job No. 34-86340-5
Date August 1986

LATERAL 23, MAIN 12 OF THE SOUTHWEST INTERCEPTER SEWER
LINE NO. 2

MICHAEL D. SCHOMAKER LICENSED 8778 KANSAS PROFESSIONAL ENGINEER

MICHAEL D. SCHOMAKER, P.E., CITY ENGINEER
CITY OF WICHITA, PROJECT NO. 445-84622-000-000-001

Sht 5 of 10

5/10

PLAN

NOTE BOOK ____ PAGE(S) ____

NO. ____ DATE ____ BY ____

REVISIONS

PSC

SCALE

PLAN: Lat. & Long. 0 40 80

PROFILE: Horiz. same as above
Vertical 5 0

Sta. 13+44.2 +13.7
MH 6

Sta. 16+49.8 .1
Const. MH 7
Standard MH
Type Por K

Sta. 20+44.2 +13.6
Const. MH 8
Standard MH
Type Por K

Install 1-4" Stub and Plug

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

25 26 27 28 29 30 31 32 33 34 35

℄ 10' Util Esm't.

℄ 20' Utility Esm't

5' 10' 5' 5' 10'

130°00'00" 130°00'00" 60°

61°54'34"

ECHO HILLS ECHO HILLS

Stub Jct Box

8" Util Esm't

5' Util Esm't

Install 335.3 L.F. 8" PVC Pipe

Line No. 5 See sh't. no. 7

Install 364.7 L.F. 8" Pipe

CAUTION Buried Telephone

BM Chiseled "□" @ N.E. cor. concrete mailbox @ 1536 Chambers St. 3rd house W. of Parkridge on S. side Chambers. Elev. = 159.12

LINE NO. 2

MH 6 Top Elev. = 161.13

MH 7 Top Elev. = 161.25

MH 8 Top Elev. = 163.23

Existing Ground

Proposed Ground

E IN = 150.13 (8") From Line No. 5

E IN = 155.65 (4") from 4" Stub (NW)

E = 148.89 .58 Out
148.66 IN

E = 148.80 .94

E = 149.22 .25

E = 149.56 .57

E = 148.73 OUT
149.32 IN

E = 150.28 .32

E = 150.39 .99

E = 151.73 .77

E = 152.53 .54

E = 152.65

335.3 L.F. 8" PVC Pipe @ 0.34%

364.7 L.F. 8" Pipe @ 0.80%

175 170 165 160 155 150 145 140 135

13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00

PROFILE

NOTE BOOK ____ PAGE(S) ____

NO. ____ DATE ____ BY ____

REVISIONS

MICHAEL D. SCHREIBER LICENSED 6778 KANSAS PROFESSIONAL ENGINEER

LATERAL 23, MAIN 12 OF THE SOUTHWEST INTERCEPTER SEWER

LINE NO. 2

MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
CITY OF WICHITA PROJ. NO. 468-76-245, 81625, 000-000-001

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

Drawn by MDS, RFJ
Drawn by DMM

Job No. 34-86340-5
Date August, 1986

Sht 6 of 10

6/10

SCALE

0 40 80

PLAN: Lat. & Long.

PROFILE: Horiz. same as above
Vertical — 5 / 0

Sta. 4+36.1, Line No. 2 = Sta. 0+00.0, Line No. 3
MH 3

Sta. 1+84.8 .3
Const. MH 9
Standard MH
Type P or R

Sta. 3+55.2 +54.4
Const. MH 10
Standard MH
Type P or R

CAUTION !!
Proposed 30" RCP
Storm Drain

Not parallel

Install 1-4" Stub and Plug

℄ 10' Util Esm't

℄ 20' Utility Esm't

Undg. Elec.

180°00'00" 90°19'39" 86°41'22" 183°18'38" 70°

5' 10'

NANTUCKET ECHO HILLS

Line No. 2
See sheet no. 5

Install 184.5 L.F. 8" Pipe

Line No. 4
See sheet no. 7

Install 170.7 L.F. 8" Pipe

Sta. 1+84.8 .3
Line No. 3 =
Sta. 0+00.0, Line No. 4
MH 9

Sta. 2+29.3
Const. MH 11
Standard MH
Type P or R

CAUTION !!
Buried elec.

Undg. Elec.

Install 1-4" Stub and Plug

℄ 20' Utility Esm't

℄ 10' Util Esm't

183°18'38" 86°41'22" 70°

Line No. 3
See sheet no. 7

Install 229.3 L.F. 8" Pipe

Install 1-4" Stub and Plug

Sta. 16+49.5, Line No. 2 =
Sta. 0+00.0, Line No. 5
MH 7

+70.6
Sta. 0+71.2
Const. MH 12
Standard MH
Type P or R

℄ 10' Util Esm't

Install 1-4" Stub and Plug

℄ 20' Util Esm't

180°00'00" 86°41'22" 70°

ECHO HILLS

Install 71.2 L.F. 8" Pipe

Line No. 2
See sheet no. 6

PLAN

DESIGNED	
DETAILED	
CHECKED	
NOTE BOOK	
NO.	

PBC

BM #1 Chiseled "a" on back of curb at southwest corner wheelchair ramp at northeast corner 13th Street and Parkridge. Elev. = 155.82

BM #2 Chiseled "a" on back of curb at 2nd utility pole west of west side Parkridge at 13th Street. Elev. = 159.36

BM Chiseled "a" @ N.E. cor. conc. mailbox @ 1536 Chambers St. 3rd house W. of Parkridge on S. side Chambers. Elev. = 159.12

LINE NO. 3

MH 3
Top Elev. = 152.93

30" RCP Storm D.
L = 1,800.03
-.59

MH 9
Top Elev. = 158.81

MH 10
Top Elev. = 165.24

Existing Ground

℄ Proposed Ground

E IN = 147.30 (8") from Line No. 4

E IN = 149.57 (4") from 4" Stub (N.I.)

E OUT = 145.61
E IN = 145.87 .83
E = 146.51
.08 OUT
E = 147.49
E = 147.20 .35
E = 148.55 .52
E = 145.24 .15

184.5 L.F. 8" Pipe @ 0.70%

170.7 L.F. 8" Pipe @ 1.25%

LINE NO. 4

MH 9
Top Elev. = 158.81

MH 11
Top Elev. = 160.87

Existing Ground

℄ Proposed Ground

E IN = 148.55 (4") from 2-4" Stubs (NE & SE)

E OUT = 147.10
E IN = 147.30 .52
E = 147.80 .94
E = 148.22 .34
E = 148.22 .46

229.3 L.F. 8" Pipe @ 0.40%

LINE NO. 5

MH 7
Top Elev. = 161.25

MH 12
Top Elev. = 160.81

Existing Ground

E IN = 150.74 (4") from 4" Stub (ENE)

E OUT = 149.73
E IN = 150.03 .09
E = 150.41 .40

71.2 L.F. 8" Pipe @ 0.40%

0+00 1+00 2+00 3+00 0+00 1+00 2+00 0+00

170 165 160 155 150 145 140 135 130

PROFILE

DESIGNED	
DETAILED	
CHECKED	
NOTE BOOK	
NO.	

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
WICHITA, KANSAS

Designed by MDS, RFJ
Drawn by DHM

Job No. 34-86345-3
Date August, 1986

LATERAL 23, MAIN 12 OF THE SOUTHWEST INTERCEPTER SEWER

LINE NO'S 3, 4, AND 5

MICHAEL E. LINDEBAK, P.E., CITY ENGINEER
CITY OF WICHITA PROJ. NO. 468-76-245-81682-000-000-001

Sheet 7 of 10

MICHAEL D. SCHUMAKER
LICENSED
6778
KANSAS
PROFESSIONAL ENGINEER

MANHOLE FRAME AND COVER DETAIL

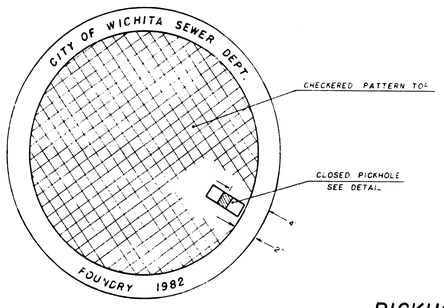
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BY

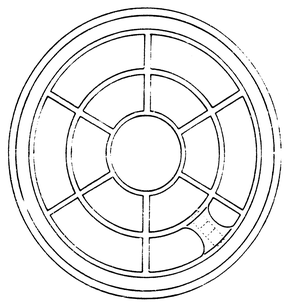
City of Wichita, Kansas

MANHOLE COVER

Weight: 180 Lbs.

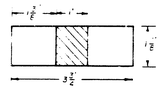


TOP VIEW

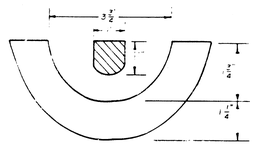


BOTTOM VIEW

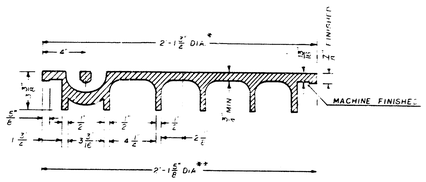
PICKHOLE DETAIL



TOP VIEW



SECTION VIEW

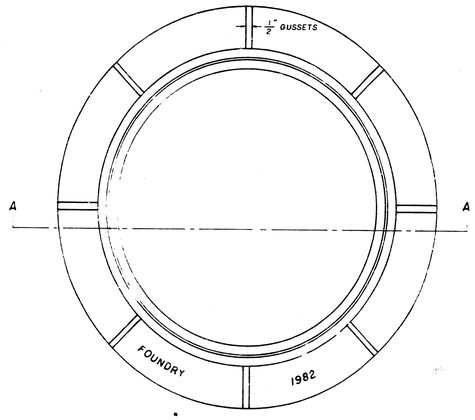


SECTION VIEW

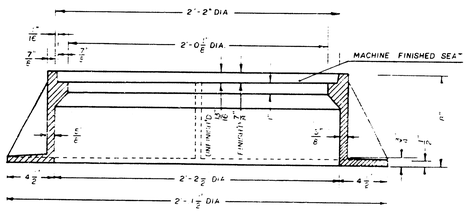
* OUTSIDE DIA TOP OF COVER
** OUTSIDE DIA BOTTOM OF COVER

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.

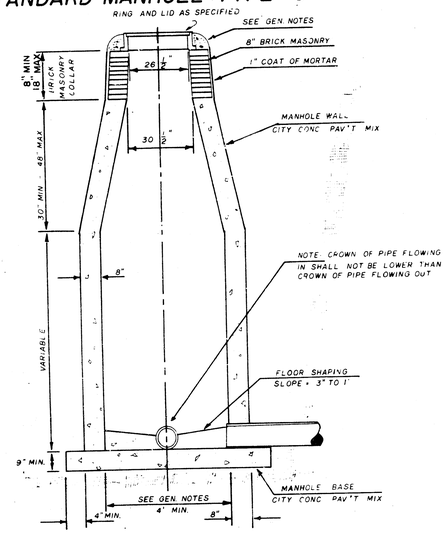
DEC. 1981

SEWER APPURTENANCES DETAILS

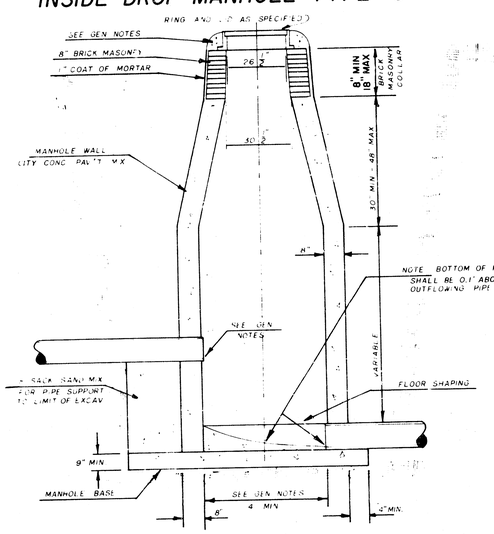
ADOPTED AS STANDARD DESIGN
BY

City of Wichita, Kansas

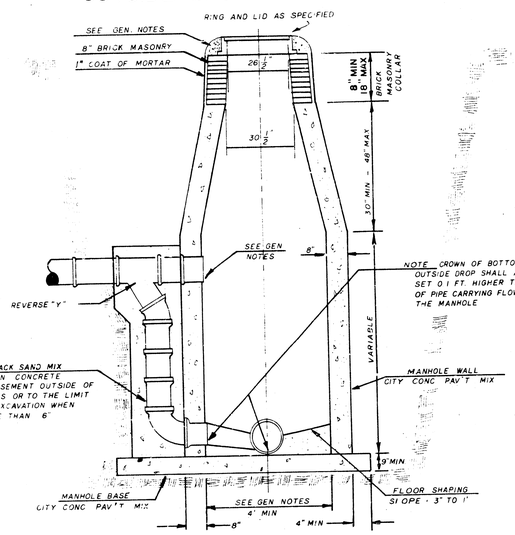
STANDARD MANHOLE TYPE "C"



INSIDE DROP MANHOLE TYPE "C"



OUTSIDE DROP MANHOLE TYPE "C"



GENERAL NOTES

1. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 6 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE WALLS AND BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. TYPE "C" MANHOLES CAN BE CONSTRUCTED ONLY WHERE PIPE SIZES ARE 8" OR SMALLER. THE INSIDE DIAMETER OF TYPE "C" MANHOLES SHALL BE 4'. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.

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

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

4. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE 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.

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.

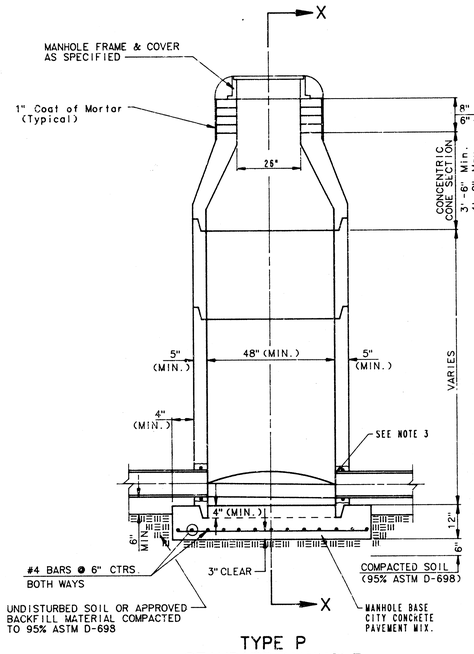
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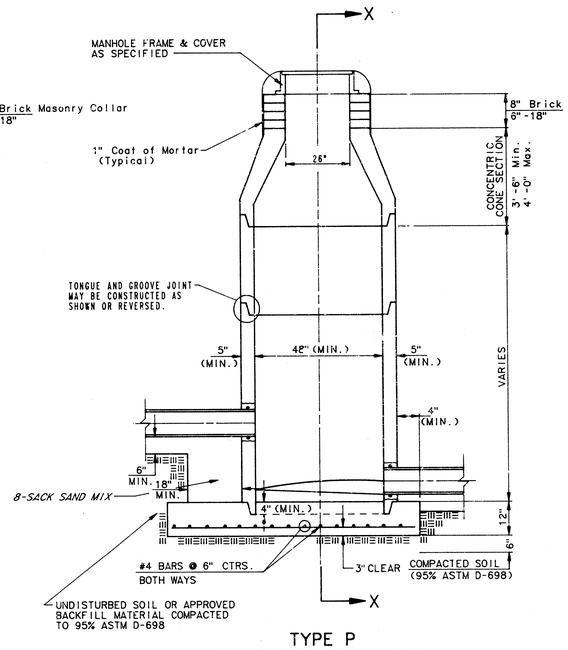
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SEWER APPURTENANCES DETAILS

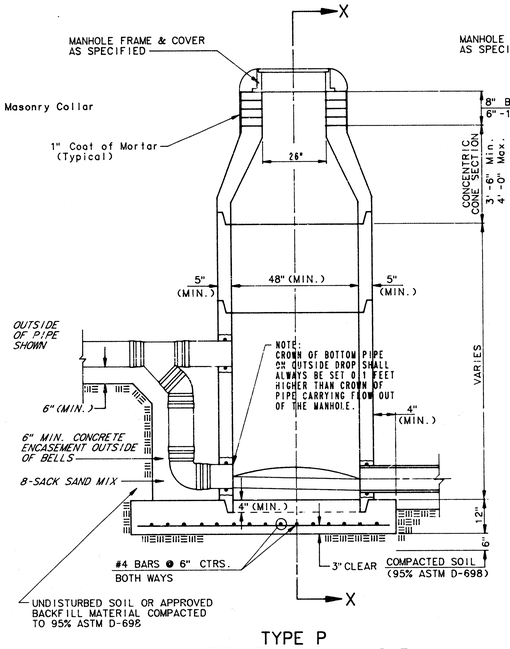
ADOPTED AS STANDARD DESIGN
BY
CITY OF WICHITA



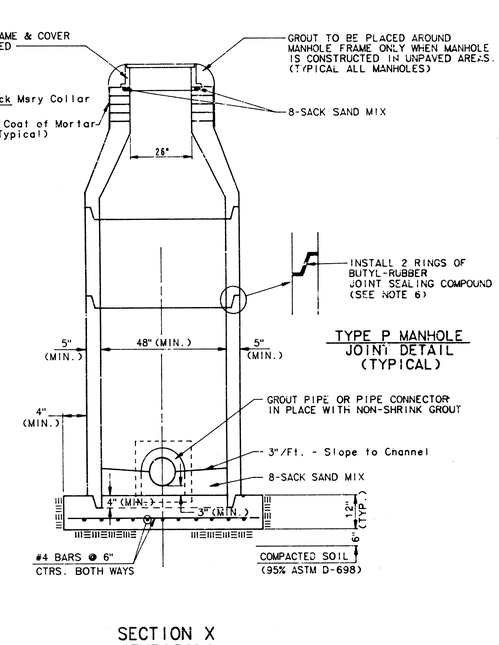
TYPE P
STANDARD MANHOLE



TYPE P
INSIDE DROP MANHOLE



TYPE P
OUTSIDE DROP MANHOLE



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 "ROUTED 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.
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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.