CONSTRUCTION PLANS FOR

LATERAL 228

OF THE

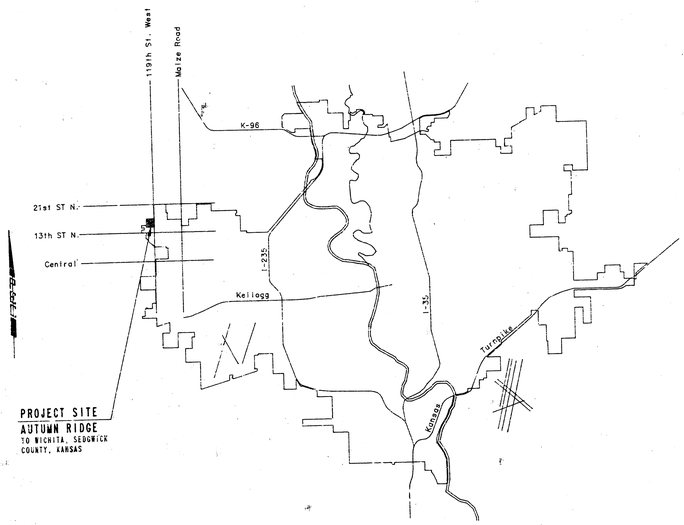
SOUTHWEST INTERCEPTOR SEWER

IN

THE CITY OF WICHITA,

SEDGWICK COUNTY, KANSAS

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



LOCATION MAP

CITY OF WICHITA PROJECT NO. 468-76-245-81613-000-000-001

AS BUILT
RDL
3-87

OCTOBER, 1986

PLANS PREPARED BY

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

ENGINEERS

WICHITA, KANSAS

DARREL LYNN MOORE
LICENSED
9055
KANSAS
PROFESSIONAL ENGINEER

1/10

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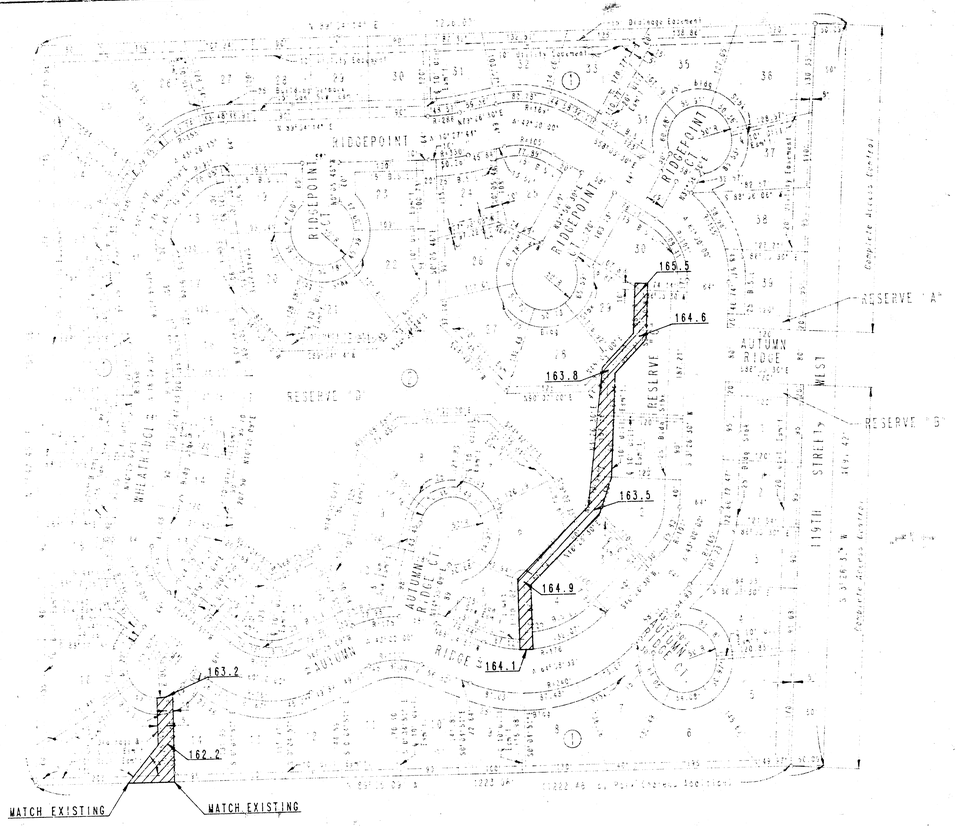
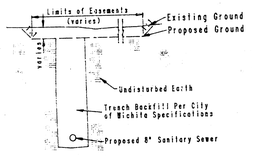
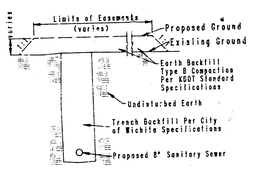


EASEMENT GRADING PLAN

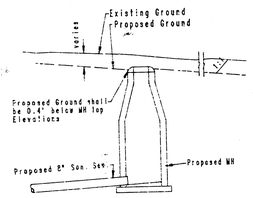
Indicates Limits of Easement to be graded



TYPICAL SECTION

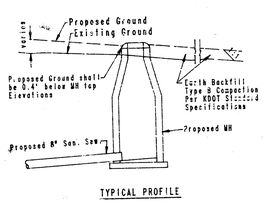


TYPICAL SECTION



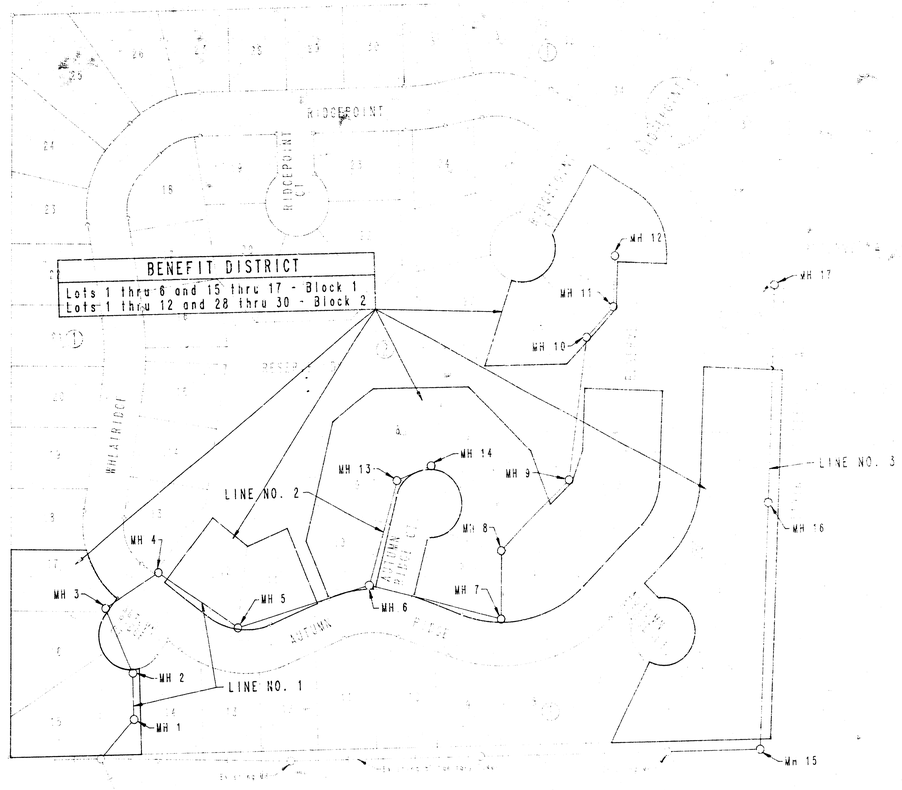
TYPICAL PROFILE

"CUT" SITUATIONS



TYPICAL PROFILE

"FILL" SITUATIONS



KEY MAP

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.
10. RISER CONSTRUCTION SHALL CONFORM TO CITY OF WICHITA SPECIFICATIONS AND STANDARDS. LOCATIONS OF THE ENDS OF THE RISERS SHALL BE MARKED BY FASTENING GREEN-COLORED PLASTIC TAPE TO THE END OF THE RISER AND BROUGHT TO THE GROUND SURFACE AS THE EXCAVATION IS BACKFILLED SUCH THAT THE COLORED TAPE WILL BE VISIBLE WHEN THE PROJECT IS COMPLETED. ALL RISERS SHALL BE CONSTRUCTED USING S.D.R. 23.5 A.B.S. OR P.V.C. PIPE.
11. CONTRACTOR SHALL INSTALL TEE SADDLES AND RISERS AS INDICATED ON THE RISER LOCATION TABLE SHEET 10 OF 10.

DANIEL LYNN MOORE LICENSED 9055 KANSAS PROFESSIONAL ENGINEER

No.	Revision	By	Date

LATERAL 22B OF THE
SOUTHWEST INTERCEPTOR SEWER

KEY MAP

MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 468-76-245-81813-000-000-001

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

2/10

Designed by DLM, RFJ	Job No. 34-86358-2	Sht. 2 of 10
Drawn by CAL	Date October, 1986	

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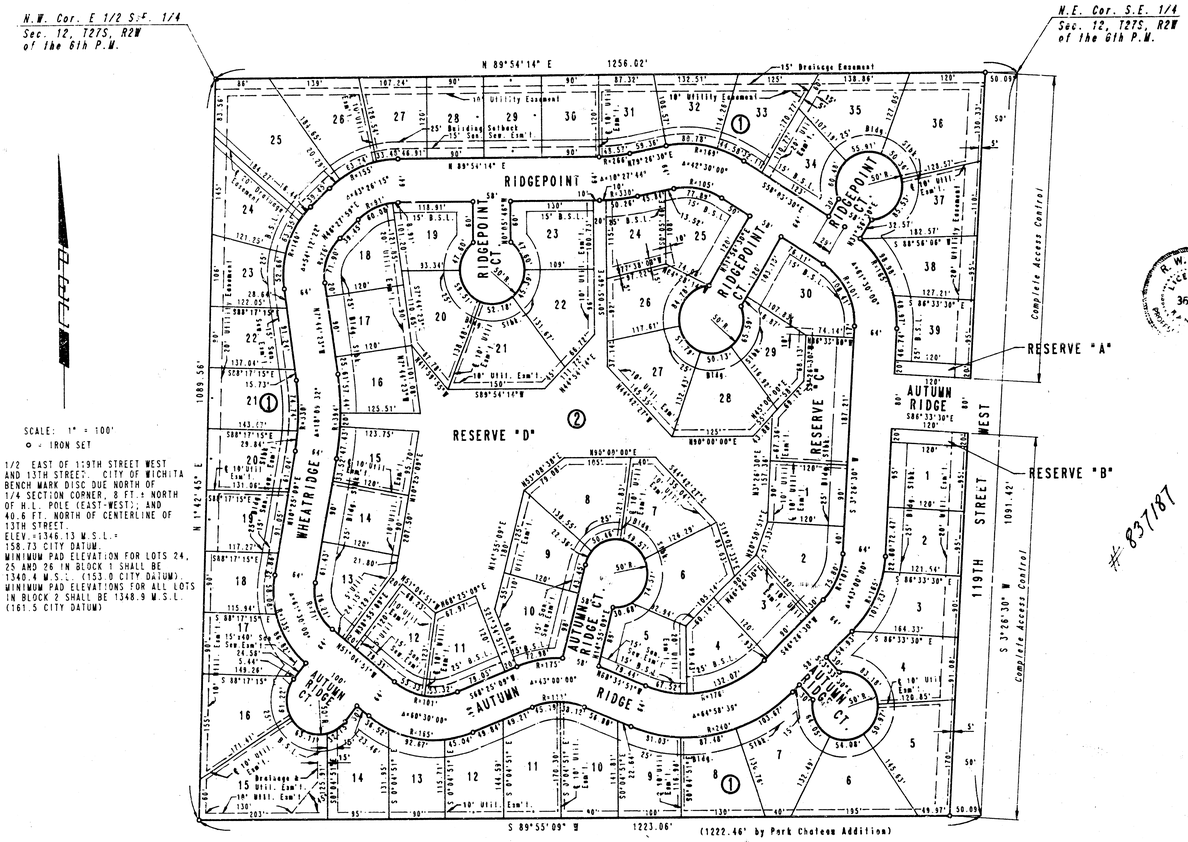
C-1 4-30

AUTUMN RIDGE

TO WICHITA, SEDGWICK COUNTY, KANSAS



SCALE: 1" = 100'
o = IRON SET

B.M. - 1/2 EAST OF 119TH STREET WEST AND 13TH STREET: CITY OF WICHITA BENCH MARK DISC DUE NORTH OF 1/4 SECTION CORNER, 8 FT.± NORTH OF H.L. POLE (EAST-WEST); AND 40.6 FT. NORTH OF CENTERLINE OF 13TH STREET.
ELEV.=1346.13 M.S.L.= 158.73 CITY DATUM.
MINIMUM PAD ELEVATION FOR LOTS 24, 25 AND 26 IN BLOCK 1 SHALL BE 1348.4 M.S.L. (153.0 CITY DATUM). MINIMUM PAD ELEVATIONS FOR ALL LOTS IN BLOCK 2 SHALL BE 1348.9 M.S.L. (161.5 CITY DATUM)

837187

STATE OF KANSAS)
)SS
COUNTY OF SEDGWICK)

I, R. W. LINN, A PROFESSIONAL ENGINEER IN AFORESAID STATE AND COUNTY, DO HEREBY CERTIFY THAT ON THIS 16th DAY OF Sept., 1986, I HAVE CAUSED TO BE SURVEYED AND PLATTED "AUTUMN RIDGE", AN ADDITION TO, WICHITA, SEDGWICK COUNTY, KANSAS, INTO LOTS, BLOCKS, STREETS, AND RESERVES, THE SAME BEING KNOWN AS:
THE NORTH 31 ACRES OF THE EAST HALF OF THE SOUTHEAST QUARTER OF SECTION 12, TOWNSHIP 27 SOUTH, RANGE 2 WEST OF THE 6TH P.M., SEDGWICK COUNTY, KANSAS, MORE PARTICULARLY DESCRIBED AS: BEGINNING AT THE N.E. CORNER OF THE S.E. 1/4 OF SECTION 12, TOWNSHIP 27 SOUTH, RANGE 2 WEST OF THE 6TH P.M.; THENCE BEARING S3°26'30"W ALONG THE EAST LINE OF SAID S.E. 1/4 A DISTANCE OF 1091.42 FEET; THENCE BEARING S89°55'09"W ALONG THE NORTH LINE OF BLOCK B IN CEDAR PARK CHATEAU ADDITION A DISTANCE OF 1223.06 FEET TO A POINT IN THE WEST LINE OF THE E 1/2 OF SAID S.E. 1/4; THENCE BEARING N1°42'45"E ALONG SAID WEST LINE ALSO BEING THE EAST LINE OF PART OF BLOCK A IN SAID CEDAR PARK CHATEAU ADDITION A DISTANCE OF 1089.56 FEET TO THE N.W. CORNER OF THE E 1/2 OF SAID S.E. 1/4; THENCE BEARING N89°54'14"E ALONG THE NORTH LINE OF SAID S.E. 1/4 A DISTANCE OF 1256.02 FEET TO THE POINT OF BEGINNING.

R. W. LINN P.E. 3684

R. W. LINN LICENSED 3684 KANSAS

KNOW ALL MEN BY THESE PRESENTS THAT WE, THE UNDERSIGNED PROPERTY OWNERS OF THE LAND AS ABOVE SET FORTH IN THE ENGINEER'S CERTIFICATE HAVE CAUSED THE LAND TO BE SURVEYED AND PLATTED INTO LOTS, BLOCKS, STREETS AND RESERVES, THE SAME TO BE KNOWN AS "AUTUMN RIDGE", AN ADDITION TO, WICHITA, SEDGWICK COUNTY, KANSAS. EASEMENTS, AS INDICATED, FOR THE CONSTRUCTION AND MAINTENANCE OF PUBLIC UTILITIES AND DRAINAGE, ARE HEREBY GRANTED.

RESERVES "A" & "B" ARE HEREBY RESERVED FOR LANDSCAPING AND ENTRY FEATURES. RESERVE "C" IS HEREBY RESERVED FOR RECREATIONAL FACILITIES, LANDSCAPING AND PEDESTRIAN IMPROVEMENTS. RESERVE "D" IS HEREBY RESERVED FOR NON-PERMANENT RECREATIONAL FACILITIES, PEDESTRIAN IMPROVEMENTS, UTILITIES, AND DRAINAGE.

ALL RESERVES SHALL BE SUBJECT TO THE RESTRICTIVE COVENANTS ESTABLISHED BY THE DECLARATION OF LANDOWNERS ASSOCIATION AGREEMENT AND SHALL BE OWNED AND MAINTAINED BY THE AUTUMN RIDGE HOMEOWNERS ASSOCIATION.

THE STREETS ARE HEREBY DEDICATED TO AND FOR THE USE OF THE PUBLIC. ALL ABUTTERS' RIGHTS OF ACCESS TO AND FROM 119TH STREET WEST, OVER AND ACROSS THE EAST LINES OF LOTS 1, THROUGH 5, AND LOTS 36, THROUGH 39, IN BLOCK 1, AND THE EAST LINE OF RESERVES "A" AND "B" ARE HEREBY GRANTED TO THE CITY OF WICHITA.

MINIMUM PAD ELEVATION FOR LOTS 24, 25 AND 26 IN BLOCK 1 SHALL BE 1348.4 M.S.L. (153.0 CITY DATUM). MINIMUM PAD ELEVATIONS FOR ALL LOTS IN BLOCK 2 SHALL BE 1348.9 M.S.L. (161.5 CITY DATUM).

OWNER: AUTUMN RIDGE PARTNERSHIP
BY ALL PARTNERS

J. W. RUSSELL — RICK E. HUFFMAN — MICHAEL J. BRAND

STATE OF KANSAS)
)SS
COUNTY OF SEDGWICK)

BE IT REMEMBERED THAT ON THIS 16th DAY OF September, 1986, BEFORE ME, A NOTARY PUBLIC IN AFORESAID STATE AND COUNTY, CAME J. W. RUSSELL, PARTNER, RICK E. HUFFMAN, PARTNER AND MICHAEL J. BRAND, PARTNER, ALL OF THE PARTNERS OF AUTUMN RIDGE, PARTNERSHIP, TO ME PERSONALLY KNOWN TO BE THE SAME PERSONS WHO EXECUTED THE FOREGOING INSTRUMENT OF WRITING AND DULY ACKNOWLEDGED THE EXECUTION OF SAME FOR AND ON BEHALF AND AS THE VOLUNTARY ACT AND DEED OF SAID PARTNERSHIP. IN TESTIMONY WHEREOF I HAVE HEREUNTO SET MY HAND AND AFFIXED MY NOTARIAL SEAL THE DAY AND YEAR ABOVE WRITTEN.

Jane E. Mossman NOTARY PUBLIC

MY COMMISSION EXPIRES: 2nd Jan 1988.

JANE E. MOSSMAN NOTARY PUBLIC STATE OF KANSAS

WE, THE NATIONAL BANK OF ANDOVER, HOLDER OF A MORTGAGE ON THE ABOVE DESCRIBED PROPERTY, DO HEREBY CONSENT TO THE PLATTING OF "AUTUMN RIDGE", AN ADDITION TO, WICHITA, SEDGWICK COUNTY, KANSAS.

Van C. Stone President
VAN C. STONE - PRESIDENT

STATE OF KANSAS)
)SS
COUNTY OF BUTLER)

BE IT REMEMBERED THAT ON THIS 12th DAY OF September, 1986, BEFORE ME, A NOTARY PUBLIC IN AFORESAID STATE AND COUNTY, CAME Van C. Stone, President OF THE NATIONAL BANK OF ANDOVER, TO ME PERSONALLY KNOWN TO BE THE SAME PERSON WHO EXECUTED THE FOREGOING INSTRUMENT OF WRITING AND DULY ACKNOWLEDGE THE EXECUTION OF SAME FOR AND ON BEHALF AND AS THE VOLUNTARY ACT AND DEED OF SAID BANK, IN TESTIMONY WHEREOF I HAVE HEREUNTO SET MY HAND AND AFFIXED MY NOTARIAL SEAL THE DAY AND YEAR ABOVE WRITTEN.

Jane E. Mossman NOTARY PUBLIC

MY COMMISSION EXPIRES: 2nd Jan 1988.

JANE E. MOSSMAN NOTARY PUBLIC STATE OF KANSAS

THIS PLAT HAS BEEN SUBMITTED TO AND APPROVED BY THE WICHITA-SEDGWICK COUNTY METROPOLITAN AREA PLANNING COMMISSION, WICHITA, KANSAS. DATED THIS 18th DAY OF September, 1986.

CHAIRMAN
JOHN TERRY MOORE

SECRETARY
MICHAEL E. LINDEMAN

THIS PLAT APPROVED AND ALL DEDICATIONS SHOWN HEREON ARE ACCEPTED BY THE CITY COMMISSION OF THE CITY OF WICHITA, KANSAS. DATED THIS 23rd DAY OF September, 1986.

, MAYOR
TONY CASADO

, CITY CLERK
DONALD C. GISICK

ENTERED ON TRANSFER RECORD, THIS 6th DAY OF Oct., 1986.

, COUNTY CLERK
DON WRIGHT

THIS IS TO CERTIFY THAT THIS INSTRUMENT WAS FILED FOR RECORD IN THE REGISTER OF DEED'S OFFICE AT 1:00 P.M., ON THIS 7th DAY OF October, 1986

, REGISTER OF DEEDS
PAT KETTLER

, DEPUTY
ED RESA

Sheet 3 of 10

C-1 4-30

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LINE NO. 1

B.M. - P.C., back of North curb Old Wick Road, 127.45' West of southwest corner Autumn Ridge Addition Elev.=158.17

Sta. 0+00.0
Break into existing Conc. MH and install new 8" Pipe. Grout in place, water tight with non-shrink grout. Reshape MH floor to provide smooth flow.

Sta. 0+~~03.2~~ +96.8
Const. MH 1
Standard MH Type P or ~~C~~

Sta. 1+~~47.1~~ +52.2
Const. MH 2
Standard MH Type P or ~~C~~

Sta. 2+~~50.6~~ +58.8
Const. MH 3
Standard MH Type P or ~~C~~

Sta. 3+~~47.2~~ +56.2
Const. MH 4
Standard MH Type P or C

Sta. 5+02.1
Const. MH 5
Standard MH Type P or ~~C~~

Sta. 7+~~11.0~~ +21.7
Const. MH 6
Standard MH Type P or ~~C~~

Sta. 9+~~18.1~~ +29.1
Const. MH 7
Standard MH Type P or ~~C~~

Line No. 2
See Sheet No. 5

Install 1-4" Stub and Plug

Install 1-4" Stub and Plug

Install 1-8" Stub and Plug

Identical Points

CAUTION
Buried Utilities

Install 83.2 L.F. 8" Pipe

Install 63.9 L.F. 8" Pipe

Install 103.5 L.F. 8" Pipe

Install 96.6 L.F. 8" Pipe

Install 146.6 L.F. 8" Pipe

Install 217.2 L.F. 8" Pipe

Install 207.7 L.F. 8" Pipe

RESERVE "D"

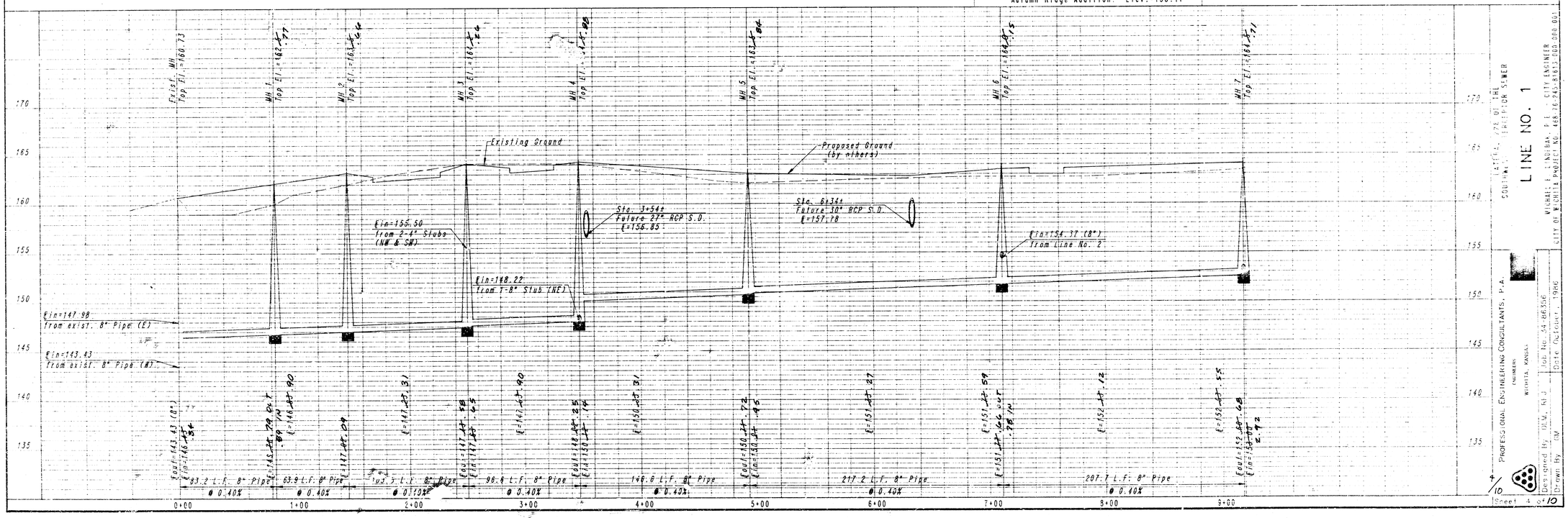
AUTUMN RIDGE 2nd ADDITION

AUTUMN RIDGE 1st ADDITION

OLD WICK ROAD

SCALE:
PLAN: LAT. & LONG. 40 0 40 80
PROFILE: HORIZ. SAME AS ABOVE
VERT.

DARREL LYNN MOORE
LICENSED
9055
KANSAS
PROFESSIONAL ENGINEER



LINE NO. 1

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

Designed By: DLM, RJ
Drawn By: DW
Job No. 84-0853F
Date: October, 1985

WILBARTH ENGINEERING, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 456.16-741.01/02/03/04/05/06/07/08/09/10/11

4/10

Sheet 4 of 10

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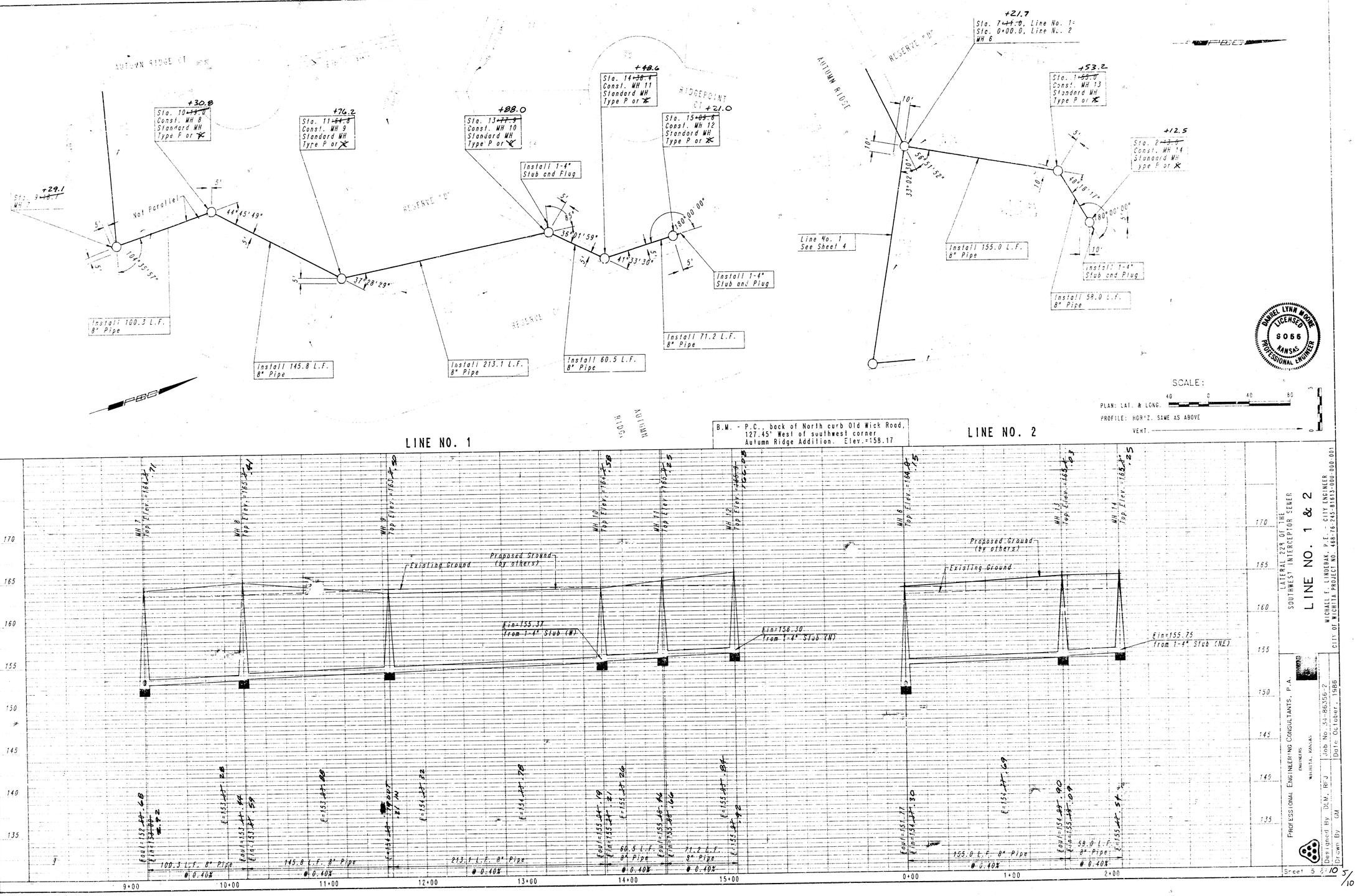

DARREL LYNN MOORE
LICENSED
9055
KANSAS
PROFESSIONAL ENGINEER

SCALE:

PLAN: LAT. & LONG. 40 0 40 80

PROFILE: HOR'Z. SAME AS ABOVE

VERT. 0

B.M. - P.C., back of North curb Old Wick Road, 127.45' West of southwest corner Autumn Ridge Addition. Elev.=158.17

LINE NO. 1

LINE NO. 2

LATERAL 22A OF THE SOUTHWEST INTERCEPTOR SEWER

LINE NO. 1 & 2

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

CITY OF WICHITA PROJECT NO. 468-76-245-8163-000-000-001

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

Designed By DLM, RFJ | Job No. 34-86356-2
Drawn By GM | Date October, 1986

Sheet 5 of 10

5/10

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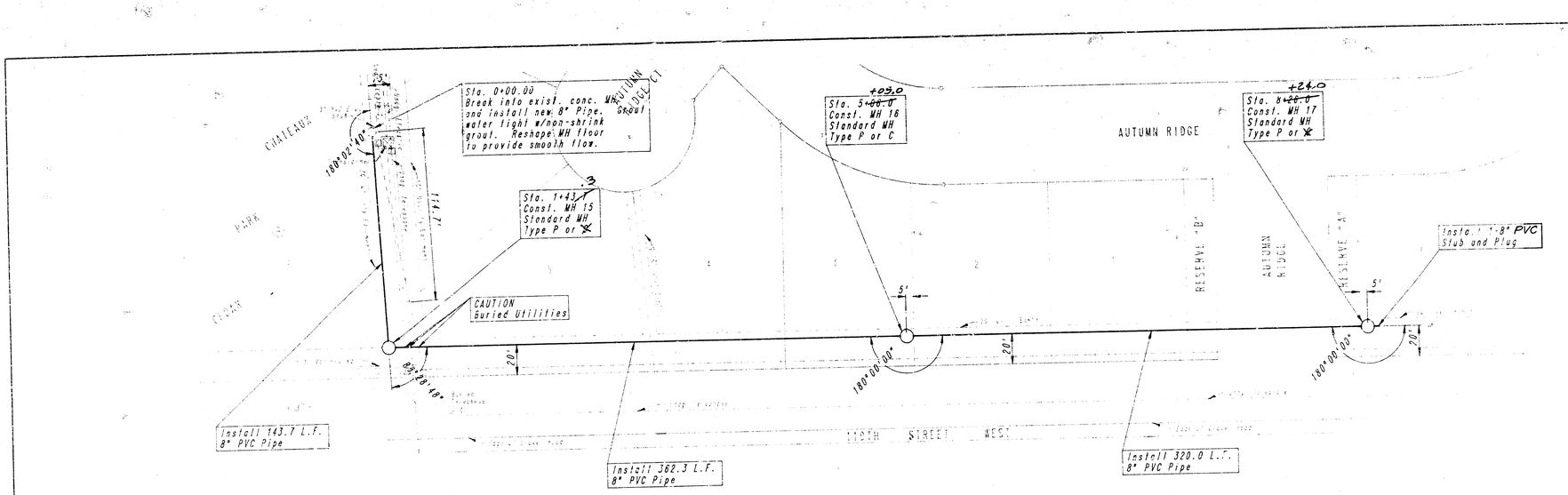


SCALE:

PLAN: LAT. & LONG. 40 0 40 80

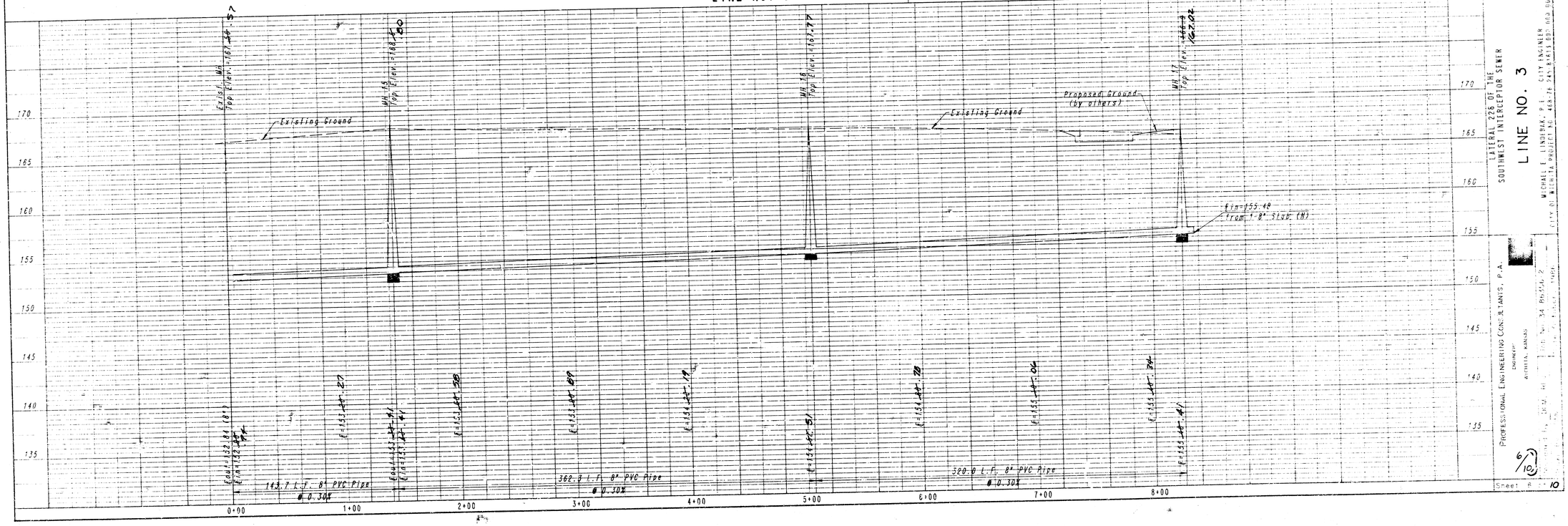
PROFILE: HORIZ. SAME AS ABOVE

VERT.

DARREL LYNN MOORE LICENSED 9055 KANSAS PROFESSIONAL ENGINEER

B.M. - Chiseled "□" in North curb 17th St. No. of 119th St. West, 2 curb joints East of North return. Elev.=164.73

LINE NO. 3



LATERAL 226 OF THE SOUTHWEST INTERCEPTOR SEWER

LINE NO. 3

PROFESSIONAL ENGINEERING CONSULTANTS, P.A. WICHITA, KANSAS

MICHAEL E. LINDBAK, P.E. CITY ENGINEER

CITY OF WICHITA, PROJECT NO. 468-76 244; BOARD NO. 604 Bd

Sheet No. 10

6/10

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MANHOLE FRAME AND COVER DETAIL

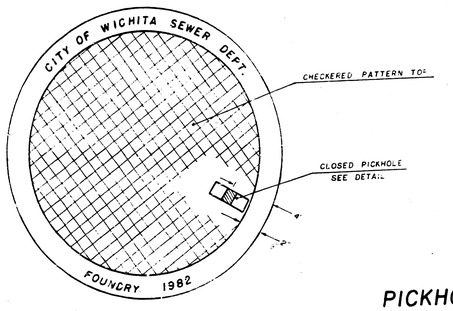
ADOPTED AS STANDARD DESIGN

BY

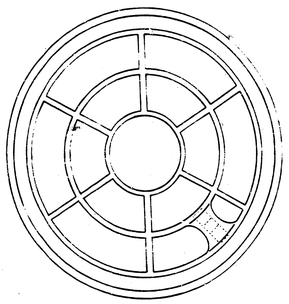
City of Wichita, Kansas

MANHOLE COVER

Weight: 180 Lbs.

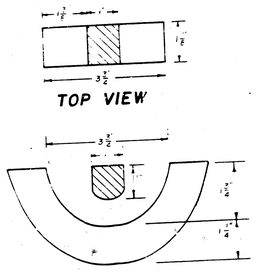


TOP VIEW



BOTTOM VIEW

PICKHOLE DETAIL

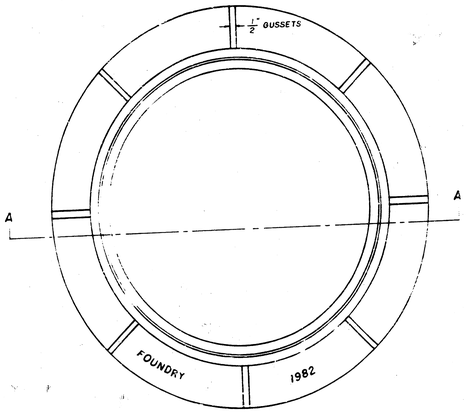


TOP VIEW

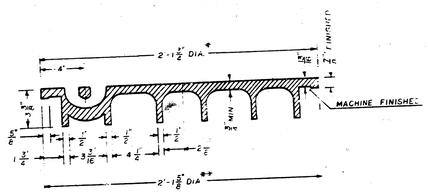
SECTION VIEW

MANHOLE FRAME

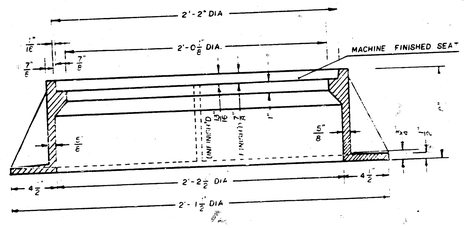
Weight: 240 Lbs.



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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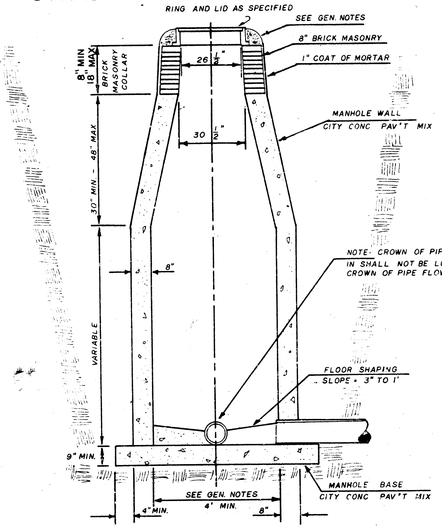
SEWER APPURTENANCES DETAILS

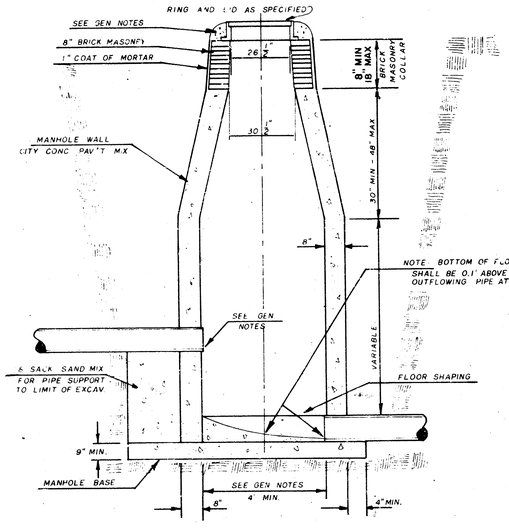
ADOPTED AS STANDARD DESIGN
BY

City of Wichita, Kansas

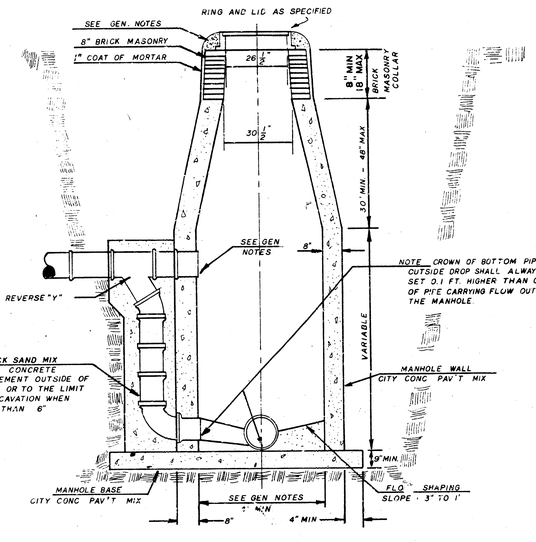
STANDARD MANHOLE TYPE "C"



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 8" 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.

JHL JAN. 1982

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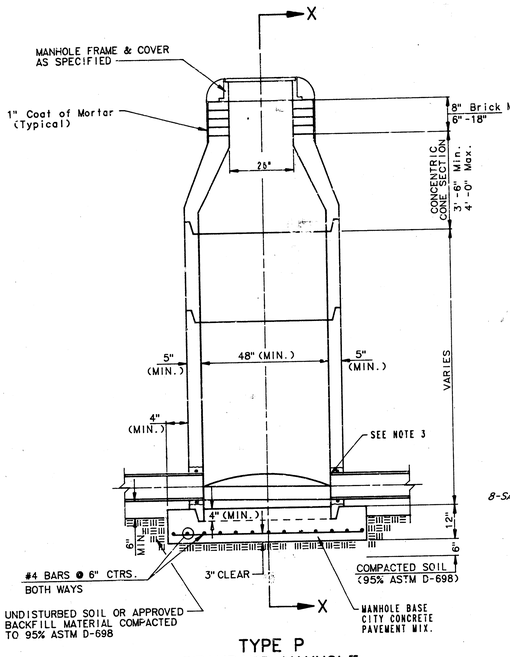
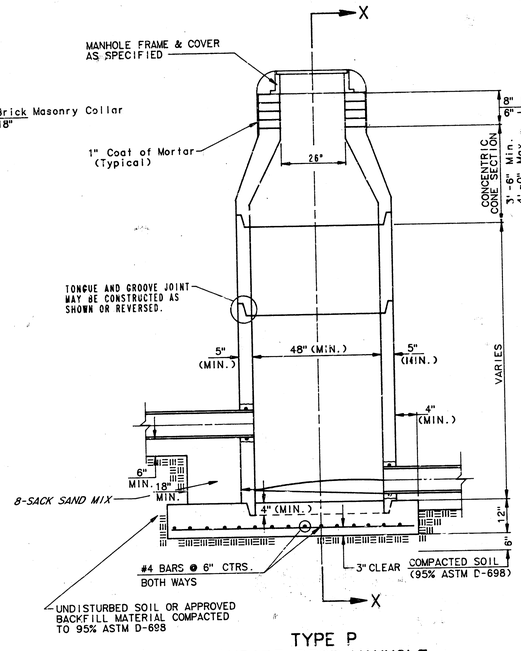
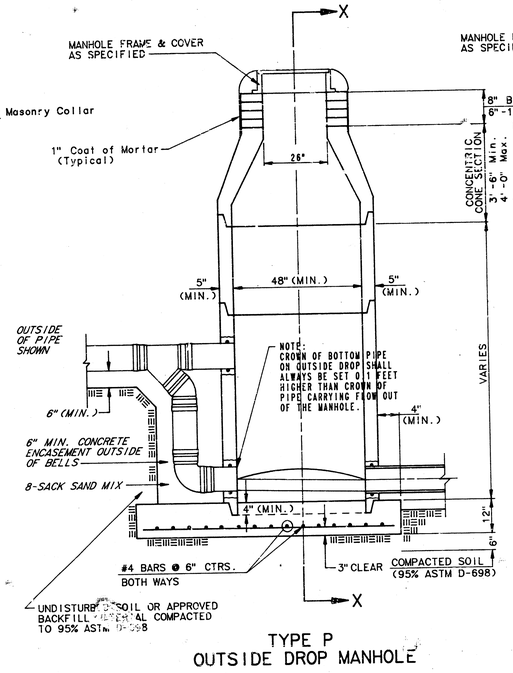
SEWER APPURTENANCES DETAILS
ADOPTED AS STANDARD DESIGN
BY
CITY OF WICHITA



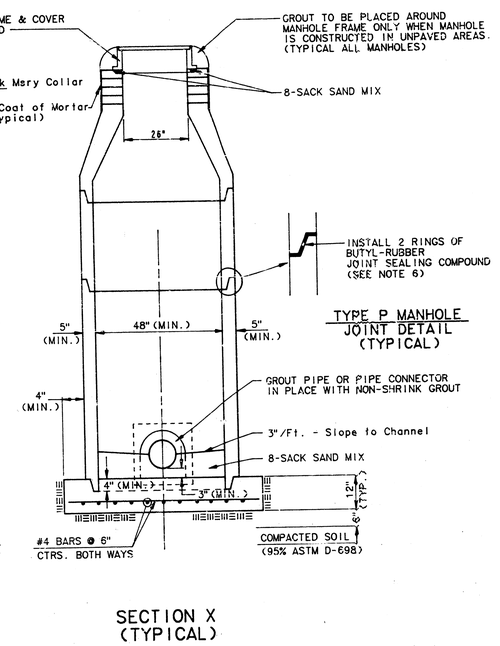
TYPE P
STANDARD MANHOLE



TYPE P
INSIDE DROP MANHOLE



TYPE P
OUTSIDE DROP MANHOLE



TYPE P MANHOLE
JOINT DETAIL
(TYPICAL)

SECTION X
(TYPICAL)

GENERAL NOTES

PRECAST MANHOLE NOTES

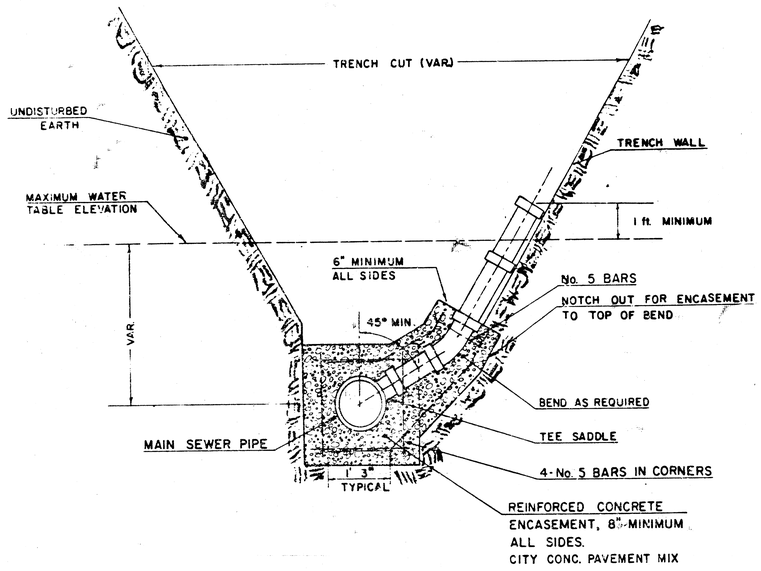
1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISION OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
2. NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
3. APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN A.B.S. COMPOSITE PIPE 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 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.

REVISED APRIL, 1980

VERTICAL RISER DETAIL

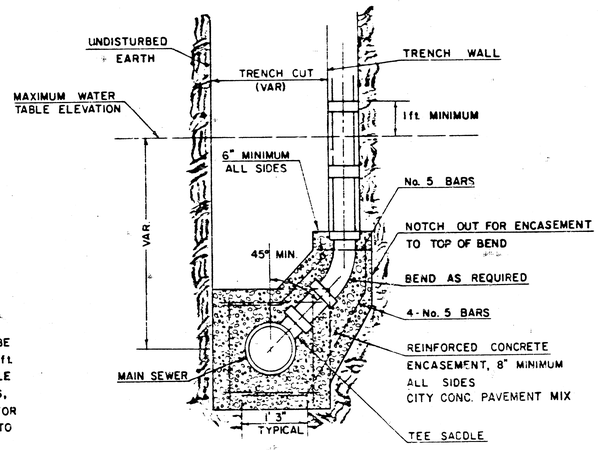
ADOPTED AS STANDARD DESIGN BY

CITY OF WICHITA, KANSAS

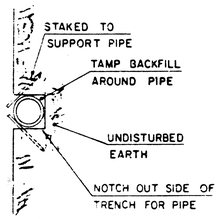


TYPICAL RISER FOR SLOPING TRENCH WALLS

NOTE:
TOP OF 4" OR 6" RISER PIPE TO BE EXTENDED TO AN ELEVATION OF 1 ft. MINIMUM ABOVE THE WATER TABLE ELEVATION, WHEN WATER EXISTS, OR TO AN ELEVATION SUITABLE FOR PROVIDING SERVICE TO THE LOT TO BE SERVED AND THEN PLUGGED.



TYPICAL RISER FOR VERTICAL TRENCH WALLS



GENERAL NOTE

RISERS SHALL BE INSTALLED TO SERVE ALL LOTS OR TRACTS WHEN THE MAIN SEWER LINE IS BELOW THE WATER TABLE. RISERS SHALL ALSO BE INSTALLED TO SERVE ALL LOTS AND TRACTS WHEN THE MAIN SEWER LINE DEPTH IS SUCH THAT WOULD MAKE THE BUILDING SEWER LINE CONNECTION DIFFICULT. INSTALLATION OF RISERS BECAUSE OF MAIN LINE SEWER DEPTH SHALL BE AS APPROVED BY THE ENGINEER. THE LOCATION OF RISERS TO SERVE DEVELOPED PROPERTY SHALL BE APPROVED BY THE PROPERTY OWNER. PIPE STUBS SHALL BE INSTALLED IN MANHOLES WHERE LOCATIONS OF MANHOLES WILL PROVIDE SATISFACTORY SERVICE CONNECTIONS AS DETERMINED BY THE FIELD ENGINEER. THE VERTICAL DISTANCE BETWEEN THE FLOW LINE OF THE MANHOLE PIPE STUB AND THE FLOW LINE OF THE MAIN SEWER LINE SHALL NOT EXCEED 4 FT. MANHOLE PIPE STUBS SHALL NOT BE SET BELOW AN ELEVATION WHICH WILL PERMIT THE TOP OF THE INSIDE OF THE STUB TO MATCH THE TOP OF THE INSIDE OF THE MAIN SEWER PIPE. PIPE STUBS AND RISERS INSTALLED TO SERVE COMMERCIAL OR INDUSTRIAL PROPERTY SHALL BE 6 INCH. PIPE STUBS AND RISERS INSTALLED TO SERVE RESIDENTIAL PROPERTY MAY BE EITHER 6 INCH OR 4 INCH DEPENDING UPON THE AVAILABLE GRADE AND THE SIZE OF THE LOT AS DETERMINED BY THE FIELD ENGINEER. ENCASEMENT OF UNNOTIFIED CLAY MAIN SEWER PIPE SHALL EXTEND TO THE FIRST JOINT IN THE MAIN SEWER CLAY PIPE ON EACH SIDE OF THE RISER INSTALLATION. ENCASEMENT OF A.B.S. COMPOSITE OR P.V.C. MAIN SEWER PIPE SHALL EXTEND A MINIMUM OF 3 FT. ON BOTH SIDES OF THE CENTERLINE OF THE RISER. FOUR INCH AND SIX INCH RISER PIPE SHALL BE ENCASED WITH CONCRETE TO THE TOP OF THE BEND AS INDICATED ON THE DRAWINGS. FOUR INCH AND SIX INCH CLAY PIPE USED FOR RISERS SHALL BE EXTRA STRENGTH PIPE CONFORMING TO THE REQUIREMENTS OF THE LATEST REVISION OF A.S.T.M. DESIGNATION C700 WITH COMPRESSION JOINTS AS SPECIFIED FOR CLAY PIPE IN THE STANDARD SPECIFICATIONS. FOUR INCH AND SIX INCH A.B.S. OR P.V.C. PIPE SHALL BE PIPE APPROVED FOR USE IN THE CITY BY THE CHIEF PLUMBING AND MECHANICAL INSPECTOR FOR THE CENTRAL INSPECTION DIVISION OF THE DEPARTMENT OF HOUSING AND ECONOMIC DEVELOPMENT. LOCATIONS OF THE ENDS OF THE RISERS SHALL BE MARKED BY FASTENING GREEN COLORED PLASTIC TAPE TO THE END OF THE RISER WHICH SHALL BE EXTENDED TO THE GROUND SURFACE AS THE EXCAVATION IS BACKFILLED SUCH THAT THE COLORED TAPE WILL BE VISIBLE WHEN THE PROJECT IS COMPLETED. THE ENDS OF THE RISER PIPE AND MANHOLE STUBS SHALL BE CAPPED OR PLUGGED USING FITTINGS FURNISHED BY THE MANUFACTURER OF THE PIPE. CONTRACTOR'S METHODS FOR SUPPORTING AND BACKFILLING RISER PIPE SHALL BE APPROVED BY THE ENGINEER.

FURNISHING AND INSTALLING RISERS SHALL BE PAID FOR AT THE UNIT PRICES BID FOR " PIPE, " PIPE AND REINFORCED CONCRETE ENCASEMENT FOR THE VARIOUS MAIN SEWER PIPE SIZES INDICATED; WHICH PRICE SHALL INCLUDE ALL COSTS FOR COMPLETION OF THIS ITEM INCLUDING SADDLES, BENDS, CONCRETE, REINFORCING STEEL, CAPS OR PLUGS, AND ALL OTHER NECESSARY MATERIALS OR WORK. CONCRETE ENCASEMENT OF THE RISER PIPE TO THE TOP OF THE BEND AS SHOWN BY THE DRAWINGS WILL NOT BE PAID FOR DIRECTLY AND THE COST FOR THIS WORK SHALL BE CONSIDERED AS SUBSIDIARY TO THE OTHER ITEMS OF WORK.

THE PROJECT INSPECTOR SHALL REPORT ON INSPECTOR CARDS THE LOCATION OF ALL RISERS CONSTRUCTED AS MEASURED FROM THE NEAREST MANHOLE, THE DIRECTION OF SERVICE, THE ELEVATION OF THE TOP OF THE RISER, AND THE PAY QUANTITIES INVOLVED. THE PROJECT INSPECTOR SHALL ALSO REPORT ON INSPECTOR CARDS THE LOCATION, DIRECTION OF SERVICE, AND SIZE OF ALL STUBS INSTALLED IN MANHOLES.

RISER LOCATION TABLE

TEE SADDLE LOCATION					RISER PIPE
LINE NO.	STATION	BLOCK NO.	LOT NO.	DIRECTION	(L.F.)
1	0+23.2	1	15	Lt.	5.0
1	3+73.8	2	12	Lt.	4.0
1	5+35.0	2	11	Lt.	2.0
3	0+23.7	1	6	Rt.	4.5
3	2+30.0	1	5	Lt.	4.5
3	3+35.0	1	4	Lt.	4.0
3	4+26.0	1	3	Lt.	3.5
3	5+16.0	1	2	Lt.	3.0
3	6+11.0	1	1	Lt.	2.5

10/10