CONSTRUCTION PLANS FOR

# LATERAL 12, MAIN 24

OF THE

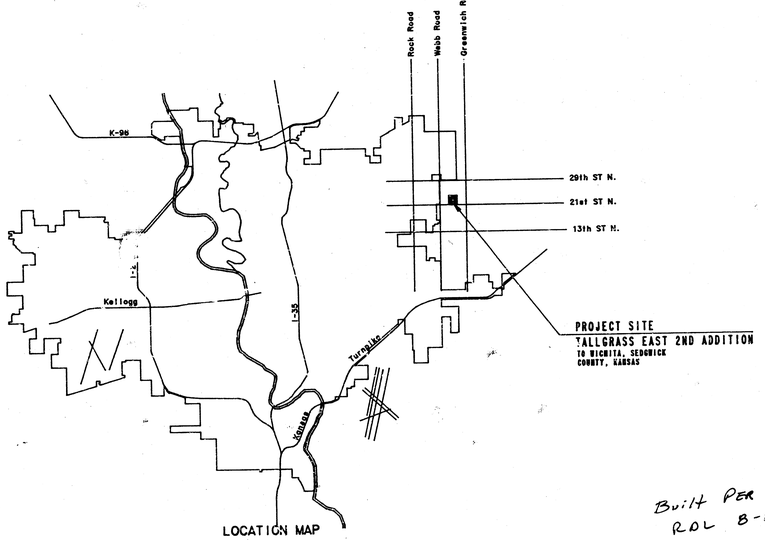
# WAR INDUSTRIES SEWER

IN

# THE CITY OF WICHITA,

SEDGWICK COUNTY, KANSAS

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




LOCATION MAP

INDEX OF SHEETS


| | |
|---|---|
| SHEET NO. 1 | TITLE SHEET |
| SHEET NO. 2 | KEY MAP and EASEMENT GRADING |
| SHEET NO. 3 | PLAT |
| SHEET NO. 4-7 | PLAN-PROFILE |
| SHEET NO. 8 | TYPE "P" MANHOLE DETAILS |
| SHEET NO. 9 | TYPE "D" MANHOLE DETAILS |
| SHEET NO. 10 | TYPE "C" MANHOLE DETAILS |
| SHEET NO. 11 | FRAME & COVER DETAIL |
| SHEET NO. 12 | RISER DETAIL |


Built PER PLAN
ROL 8-89

SC
5190

INDEX CODE #608042

CITY OF WICHITA PROJECT NO. 468-76-245-81806-000-000-001

# FEBRUARY, 1989

PLANS PREPARED BY:

## PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

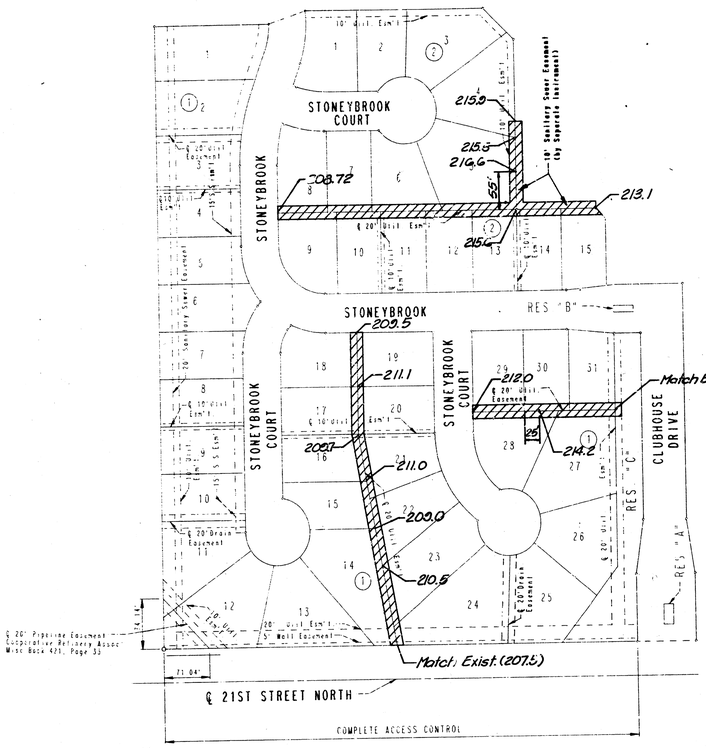
ENGINEERS

WICHITA, KANSAS

MICHAEL E. LINDEBAK LICENSED 9770 KANSAS PROFESSIONAL ENGINEER

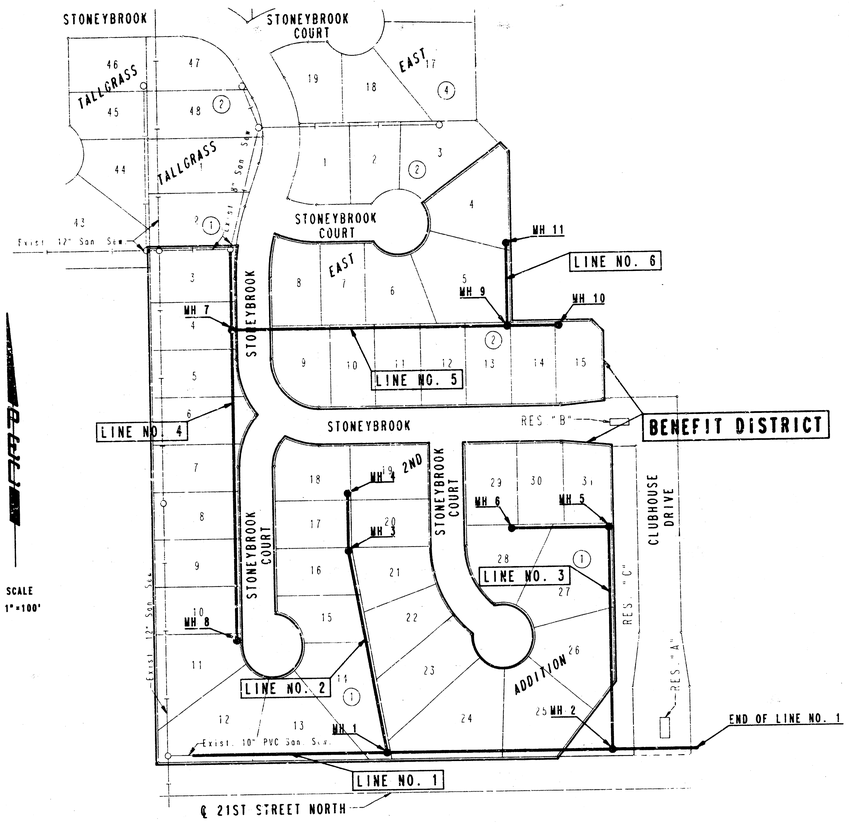
1 of 12

Feb 13, 1989




## EASEMENT GRADING

Limits of Area to be Graded




## KEY MAP

SCALE 1"=100'

### 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: KPL/GAS SERVICE COMPANY, K. G. & E., THE WICHITA WATER DEPARTMENT, AIR CAPITAL CABLEVISION, AND SOUTHWESTERN BELL TELEPHONE.
5. AT LEAST 48 HOURS PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL CONTACT MR. REX BROWN, AS NOTED BELOW, AND ADVISE HIM AS TO THE PROPOSED CONSTRUCTION SCHEDULE.

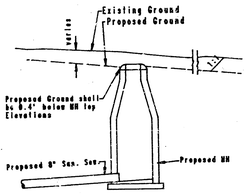
   FARMLAND INDUSTRIES
   P.O. BOX 3516
   BARTLESVILLE, OK 74006
   MR. REX BROWN
   (918)333-4111

6. 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 OR UNLESS THE PLANS SPECIFICALLY IDENTIFY A UTILITY TO BE ADJUSTED BY ITS OWNER DURING CONSTRUCTION. 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.
7. 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 IN ACCORDANCE WITH STATE LAWS. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO THE OTHER ITEMS OF WORK.
8. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL MANHOLE COVERS.
9. CONTRACTOR SHALL GRADE THE SANITARY SEWER ALIGNMENT TO THE PROFILE AND ELEVATIONS SHOWN ON THE EASEMENT GRADING PLAN TO THE EXTENT THAT DIRT GENERATED BY THIS PROJECT WILL ALLOW. THE CONTRACTOR SHALL NOT BE REQUIRED TO FURNISH ADDITIONAL DIRT TO ACCOMPLISH THIS GRADING. ALL COSTS FOR GRADING SHALL BE SUBSIDIARY TO THE PROJECT.
10. UNLESS OTHERWISE SPECIFIED ON THE PLANS, MANHOLES MAY BE TYPE "B", "C", OR "D" MANHOLES. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS.

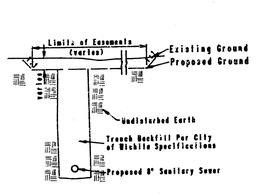
### RISER LOCATION TABLE

| | TEE SADDLE LOCATION | | | | | 4" RISER PIPE | |
|---|---|---|---|---|---|---|---|
| SR. | LINE NO. | STATION | BLOCK NO. | LOT NO. | DIRECTION | (L.F.) | |
| 1 | 1 | 0+80 | 1 | 12 | Left ℄ | 6.0 | * 193.64 |
| 2 | 1 | 1+50 | 1 | 13 | Left ℄ | 7.0 | * 196.58 |
| 3 | 1 | 3+45 | 1 | 25 | Left ℄ | 9.5 | * 197.87 |
| 4 | 4 | 0+18 ±13 | 1 | 3 | Right ℄ | 8.0 | 200.25 |
| 5 | 4 | 0+90 | 1 | 4 | Right ℄ | 5.5 | 199.48 |
| 6 | 4 | 1+60 | 1 | 5 | Right ℄ | 4.5 | 199.07 |
| 7 | 4 | 2+25 | 1 | 6 | Right ℄ | 3.5 | 198.33 |
| 8 | 4 | 2+95 | 1 | 7 | Right ℄ | 3.0 | 198.11 |
| 9 | 4 | 3+65 | 1 | 8 | Right ℄ | 2.5 | 197.89 |
| 10 | 5 | 3+10 | 2 | 12 | Right ℄ | 3.0 | 203.36 |
| 11 | 5 | 3+35 | 2 | 5 | Left ℄ | 3.0 | 204.09 |
| 12 | 5 | 3+50 | 2 | 13 | Right ℄ | 3.5 | 204.81 |

*10"x4" tee saddles
All other tee saddles are 8"x4"

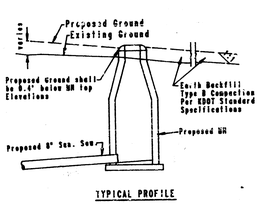



TYPICAL PROFILE

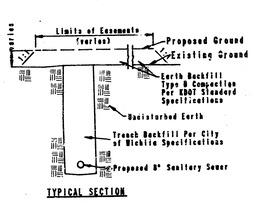



TYPICAL SECTION

"CUT" SITUATIONS

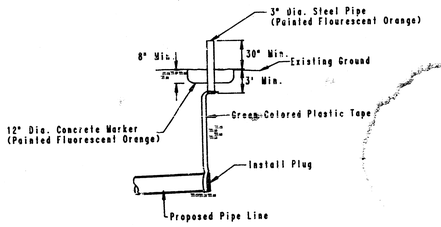



TYPICAL PROFILE




TYPICAL SECTION

"FILL" SITUATIONS




BURIED PIPE PLUG & FLAG DETAIL

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

BENCH MARK

BM - CITY OF WICHITA BM DISC, 44 FEET SOUTH AND 48 FEET EAST OF INTERSECTION OF CENTERLINES OF WEBB ROAD AND 21ST STREET NORTH.
ELEV = 205.238

BM - CHISELED "□" NORTHEAST CORNER RCB HEADWALL APPROXIMATELY 150 FEET WEST OF THE WEST LINE OF TALLGRASS EAST 2ND ADDITION ON 21ST STREET NORTH.
ELEV = 202.55

BM - CHISELED "□" IN TOP OF CURB AT P.C. ALONG WEST SIDE OF STONEYBROOK APPROXIMATELY 220 FEET NORTH OF THE NORTH LINE OF TALLGRASS EAST 2ND ADDITION (AT LOT 48, BLOCK 2 IN TALLGRASS EAST ADDITION).
ELEV = 209.55

| No. | Revision | By | Date |
|---|---|---|---|
| | | | |

LATERAL 12, MAIN 24 OF THE WAR INDUSTRIES SEWER

# KEY MAP and EASEMENT GRADING

MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 468-76-245-81806-000-000-001

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

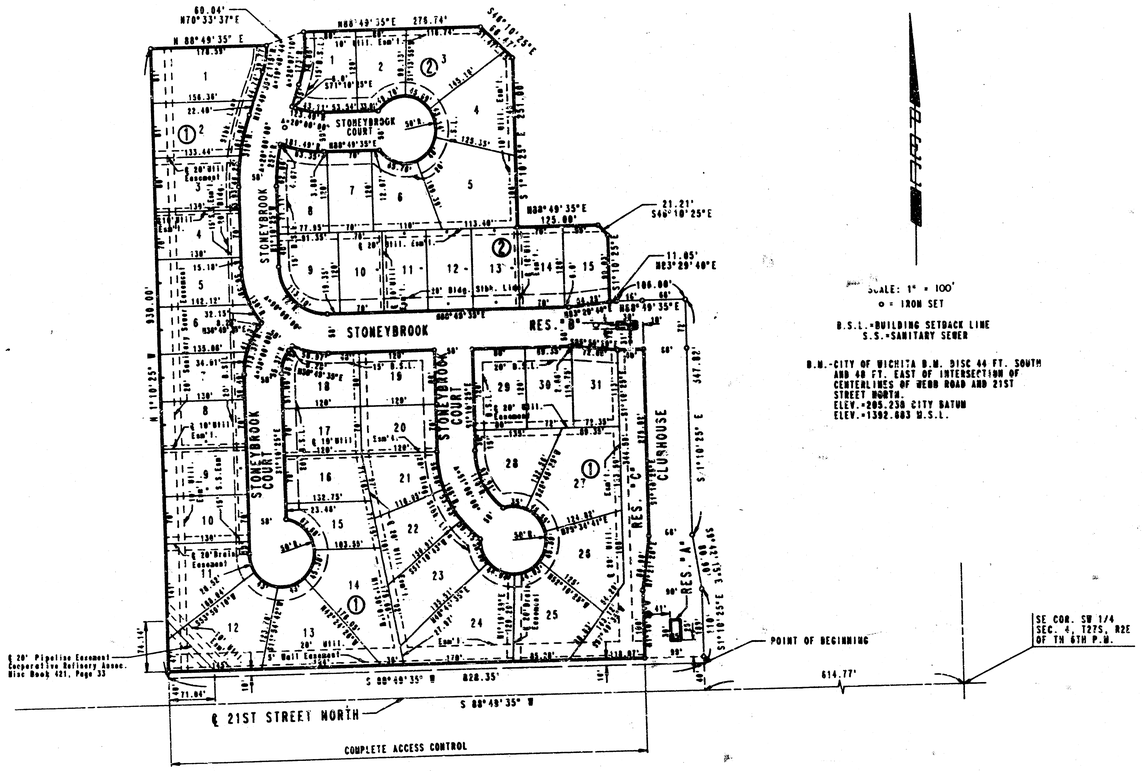
| | | |
|---|---|---|
| Designed by WDS,CRY | Job No. 34-88188-1 | Sht. 2 of 12 |
| Drawn by TRV, GLW | Date APRIL, 1988 | |

Feb 13, 1989 Tallgrass East 2nd SS Key

D 7-28

# TALLGRASS EAST 2ND ADDITION

## TO WICHITA, SEDGWICK COUNTY, KANSAS




SCALE: 1" = 100'
o = IRON SET

B.S.L.=BUILDING SETBACK LINE
S.S.=SANITARY SEWER

B.M.-CITY OF WICHITA B.M. DISC 44 FT. SOUTH AND 48 FT. EAST OF INTERSECTION OF CENTERLINES OF WEBB ROAD AND 21ST STREET NORTH.
ELEV.=1295.238 CITY DATUM
ELEV.=1392.683 M.S.L.

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 30th DAY OF December 1987, I HAVE BEEN IN RESPONSIBLE CHARGE OF SURVEYING AND PLATTING OF TALLGRASS EAST 2ND ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS, INTO LOTS, BLOCKS, STREETS AND RESERVES, THE SAME BEING A TRACT OF LAND IN THE SW 1/4 OF SECTION 4, TOWNSHIP 27 SOUTH, RANGE 2 EAST OF THE 6TH P.M., AND DESCRIBED AS: COMMENCING AT THE SE CORNER OF THE SW 1/4 OF SAID SECTION 4; THENCE BEARING S88°49'35"W ALONG THE SOUTH LINE OF SAID SECTION 4 A DISTANCE OF 614.77 FEET; THENCE BEARING N1°10'25"W A DISTANCE OF 40.00 FEET TO THE POINT OF BEGINNING; THENCE BEARING S88°49'35"W PARALLEL TO AND 40.00 FEET NORTH OF THE SOUTH LINE OF SAID SECTION 4, A DISTANCE OF 828.35 FEET; THENCE BEARING N1°10'25"W A DISTANCE OF 930.00 FEET TO THE SW CORNER OF LOT 48, BLOCK 2, IN TALLGRASS EAST; THENCE BEARING N88°49'35"E ALONG THE SOUTH LINE OF SAID LOT 48 A DISTANCE OF 178.58 FEET; THENCE BEARING N70°33'37"E A DISTANCE OF 60.04 FEET TO THE SW CORNER OF LOT 19, BLOCK 4, IN SAID TALLGRASS EAST; THENCE BEARING N88°49'35"E ALONG THE SOUTH LINE OF LOTS 19, 18 AND 17, BLOCK 4, IN SAID TALLGRASS EAST A DISTANCE OF 276.74 FEET TO THE SE CORNER OF SAID LOT 17; THENCE BEARING S48°10'25"E A DISTANCE OF 58.47 FEET; THENCE BEARING S1°10'25"E A DISTANCE OF 251.00 FEET; THENCE BEARING S88°49'35"E A DISTANCE OF 125.00 FEET; THENCE BEARING S46°10'25"E A DISTANCE OF 21.21 FEET; THENCE BEARING S1°10'25"E A DISTANCE OF 99.03 FEET; THENCE BEARING N03°29'40"E A DISTANCE OF 11.05 FEET; THENCE BEARING N88°49'35"E A DISTANCE OF 186.00 FEET; THENCE BEARING S1°10'25"E A DISTANCE OF 347.82 FEET; THENCE BEARING S8°42'15"E A DISTANCE OF 80.19 FEET; THENCE BEARING S1°10'25"E A DISTANCE OF 110.00 FEET TO THE POINT OF BEGINNING.

R.W. Linn

R.W. LINN
P.E. #3884, R.L.S. #834
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

R. W. LINN REGISTERED LS-834 KANSAS LAND SURVEYOR

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 TALLGRASS EAST 2ND ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS. EASEMENTS, AS INDICATED FOR THE CONSTRUCTION AND MAINTENANCE OF PUBLIP UTILITIES, AND DRAINAGE ARE HEREBY GRANTED.

RESERVES A AND B ARE HEREBY RESERVED FOR ENTRY FEATURES, LANDSCAPING AND IRRIGATION SYSTEMS. RESERVE B IS ALSO RESERVED FOR UTILITIES CONFINED WITHIN EASEMENTS. RESERVE C IS HEREBY RESERVED FOR DRAINAGE, ENTRY MONUMENTS, LANDSCAPING, IRRIGATION, SIDEWALKS AND UTILITIES CONFINED WITHIN EASEMENTS. THE FIVE-FOOT WALL EASEMENT, AS SHOWN IS HEREBY PLATTED FOR THE CONSTRUCTION AND MAINTENANCE OF A PRIVATE WALL. UTILITIES MAY CROSS THE WALL EASEMENT.

ALL RESERVES SHALL BE SUBJECT TO RESTRICTIVE COVENANTS ESTABLISHED BY THE DECLARATION OF LANDOWNERS ASSOCIATION AGREEMENTS AND SHALL BE OWNED AND MAINTAINED BY THE O3E OR MORE HOMEOWNERS' ASSOCIATIONS TO BE FORMED WITHIN TALLGRASS EAST 2ND ADDITION. THE STREETS ARE HEREBY DEDICATED TO AND FOR THE USE OF THE PUBLIC. ALL ABUTTERS' RIGHTS OF ACCESS TO AND FROM 21ST STREET NORTH OVER AND ACROSS THE SOUTH LINE OF BLOCK 1 AS SHOWN, IS HEREBY GRANTED TO THE CITY OF WICHITA. THAT PORTION OF THE SANITARY SEWER EASEMENTS AS RECORDED ON FILM 843, PAGE 899, AND FILM 866, PAGE 990, TOGETHER WITH THE DRAINAGE EASEMENTS RECORDED ON FILM 866, PAGE 1006, FILM 866, PAGE 1007, AND FILM 879, PAGE 336, WITHIN THE ABOVE DESCRIBED TRACT ARE HEREBY VACATED AND REPLATTED BY VIRTUE OF K.S.A. 12-512(b) AMENDED.

OWNER: -SLAWSON INVESTMENT CORPORATION

Larry A. Chambers, VICE PRESIDENT
LARRY A. CHAMBERS

#938365

STATE OF KANSAS )
) SS
COUNTY OF SEDGWICK )

BE IT REMEMBERED THAT ON THIS 9th DAY OF January, 1988, BEFORE ME, A NOTARY PUBLIC IN AFORESAID STATE AND COUNTY, CAME LARRY A. CHAMBERS, VICE PRESIDENT OF SLAWSON INVESTMENT CORPORATION, TO ME PERSONALLY KNOWN TO BE THE SAME PERSON WHO EXECUTED THE FOREGOING INSTRUMENT OF WRITING AND DULY ACKNOWLEDGED THE EXECUTION OF SAME FOR AND ON BEHALF AND AS THIS VOLUNTARY ACT AND DEED OF SAID TRUST. IN TESTIMONY WHEREOF I HAVE HEREUNTO SET MY HAND AND AFFIXED MY NOTARIAL SEAL THE DAY AND YEAR ABOVE WRITTEN.

Linda J. Braham, NOTARY PUBLIC

LINDA J. BRAHAM NOTARY PUBLIC

MY COMMISSION EXPIRES 2/9/88

WE, THE MELLON BANK, N.A., PITTSBURGH, PA, HOLDER OF A MORTGAGE ON THE ABOVE DESCRIBED PROPERTY, DO HEREBY CONSENT TO THE PLATTING OF TALLGRASS EAST 2ND ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS.

by Martha Lia Frost ASSISTANT VICE PRESIDENT
MARTHA LIA FROST

STATE OF PENNSYLVANIA )
) SS
COUNTY OF ALLEGHENY )

BE IT REMEMBERED THAT ON THIS 11th DAY OF January 1988, BEFORE ME, A NOTARY PUBLIC IN AFORESAID STATE AND COUNTY, CAME Martha Lia Frost OF THE MELLON BANK, N.A., PITTSBURGH, PA, TO BE PERSONALLY KNOWN TO BE THE SAME PERSON 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 BANK. IN TESTIMONY WHEREOF I HAVE HEREUNTO SET MY HAND AND AFFIXED MY NOTARIAL SEAL THE DAY AND YEAR ABOVE WRITTEN.

Jill Novorolsky, NOTARY PUBLIC
JILL NOVOROLSKY

MY COMMISSION EXPIRES 6-10-1991

THIS PLAT HAS BEEN SUBMITTED TO AND APPROVED BY THE WICHITA-SEDGWICK COUNTY METROPOLITAN AREA PLANNING COMMISSION, WICHITA, KANSAS, DATED THIS 2nd DAY OF November, 1987.

Clyde Parsons, CHAIRMAN
CLYDE PARSONS

Marvin S. Kroutt, SECRETARY
MARVIN S. KROUT

THIS PLAT APPROVED AND ALL DEDICATIONS SHOWN HEREON ARE ACCEPTED BY THE CITY COUNCIL OF THE CITY OF WICHITA, KANSAS. DATED THIS 2ND DAY OF June, 1988.

Robert G. Knight, MAYOR
ROBERT G. KNIGHT

Dale E. Rea, DEPUTY CITY CLERK
DALE E. REA

THE CITY OF WICHITA

ENTERED ON TRANSFER RECORD THIS 28 DAY OF March, 1988.

Don Wright, COUNTY CLERK
DON WRIGHT

THIS IS TO CERTIFY THAT THIS INSTRUMENT WAS FILED FOR RECORD IN THE REGISTER OF DEEDS OFFICE AT 9:30 A.M. ON THIS 28th DAY OF MARCH, 1988.

Pat Kettler, REGISTER OF DEEDS
PAT KETTLER

Ed Rea, DEPUTY
ED REA

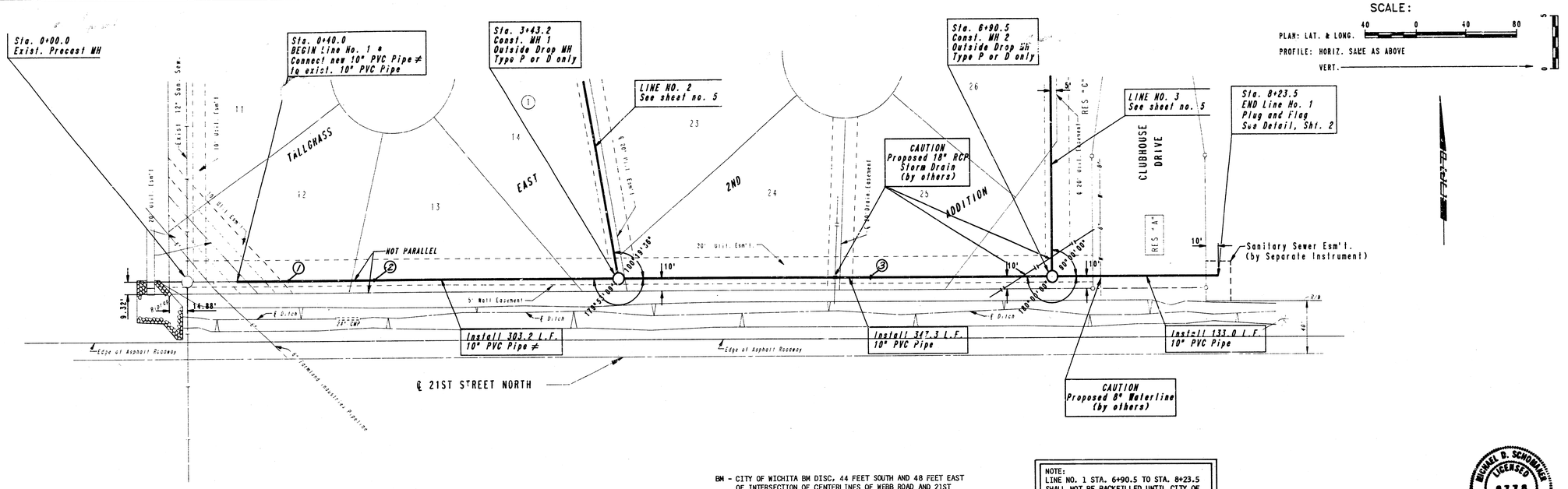
SEDGWICK COUNTY, KANSAS REGISTER OF DEEDS

30.00

Restr. Cov. F969 Pg. 1348
" F949 Pg. 1349

Sht. 3 of 12

D 7-28




SCALE:
PLAN: LAT. & LONG. 40 0 40 80
PROFILE: HORIZ. SAME AS ABOVE
VERT. 0 5

• Contractor shall excavate to verify pipe type and flowline of existing 10" Sanitary Sewer Pipe prior to beginning construction.

≠ Pipe type to match existing 10" Sanitary Sewer Pipe Sta. 0+40.0

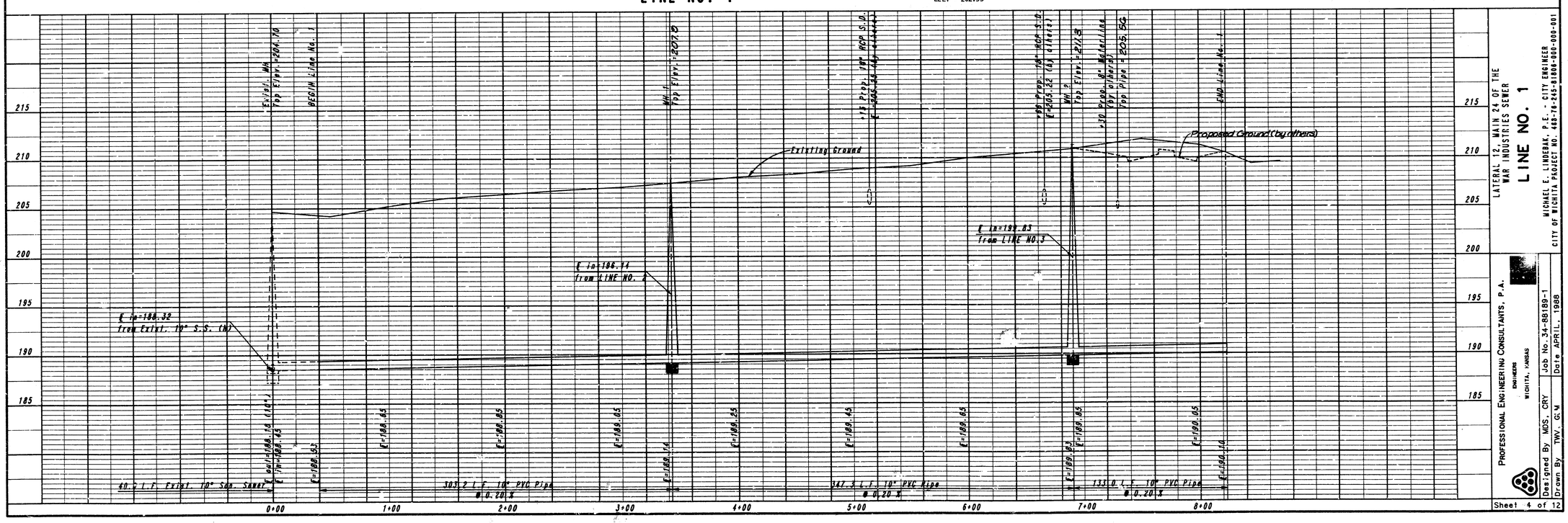
BM - CITY OF WICHITA BM DISC, 44 FEET SOUTH AND 48 FEET EAST OF INTERSECTION OF CENTERLINES OF WEBB ROAD AND 21ST STREET NORTH.
ELEV = 205.238

BM - CHISELED "□" NORTHEAST CORNER RCB HEADWALL APPROXIMATELY 150 FEET WEST OF THE WEST LINE OF TALLGRASS EAST 2ND ADDITION ON 21ST STREET NORTH.
ELEV = 202.55

NOTE:
LINE NO. 1 STA. 6+90.5 TO STA. 8+23.5 SHALL NOT BE BACKFILLED UNTIL CITY OF WICHITA TESTING AND INSPECTION REQUIREMENTS ARE MET BY THE CONTRACTOR.

MICHAEL D. SCHUMACHER LICENSED 8778 KANSAS PROFESSIONAL ENGINEER

## LINE NO. 1



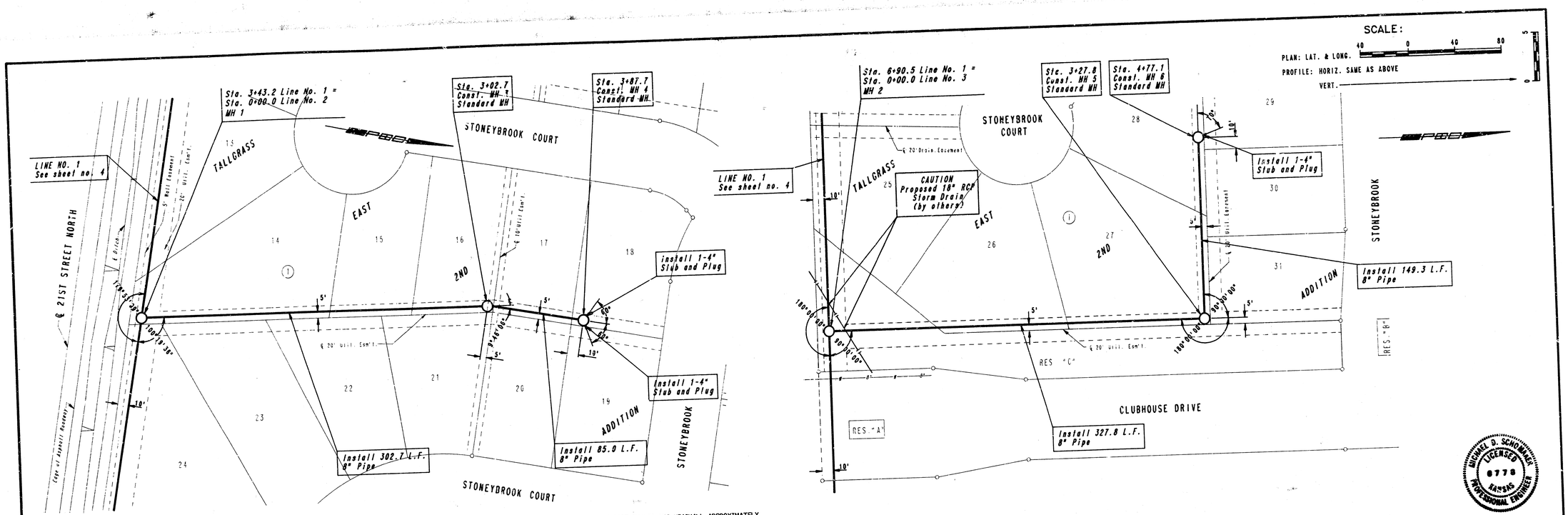

LATERAL 12, MAIN 24 OF THE WAR INDUSTRIES SEWER
LINE NO. 1

MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 468-76-245-81808-000-000-001

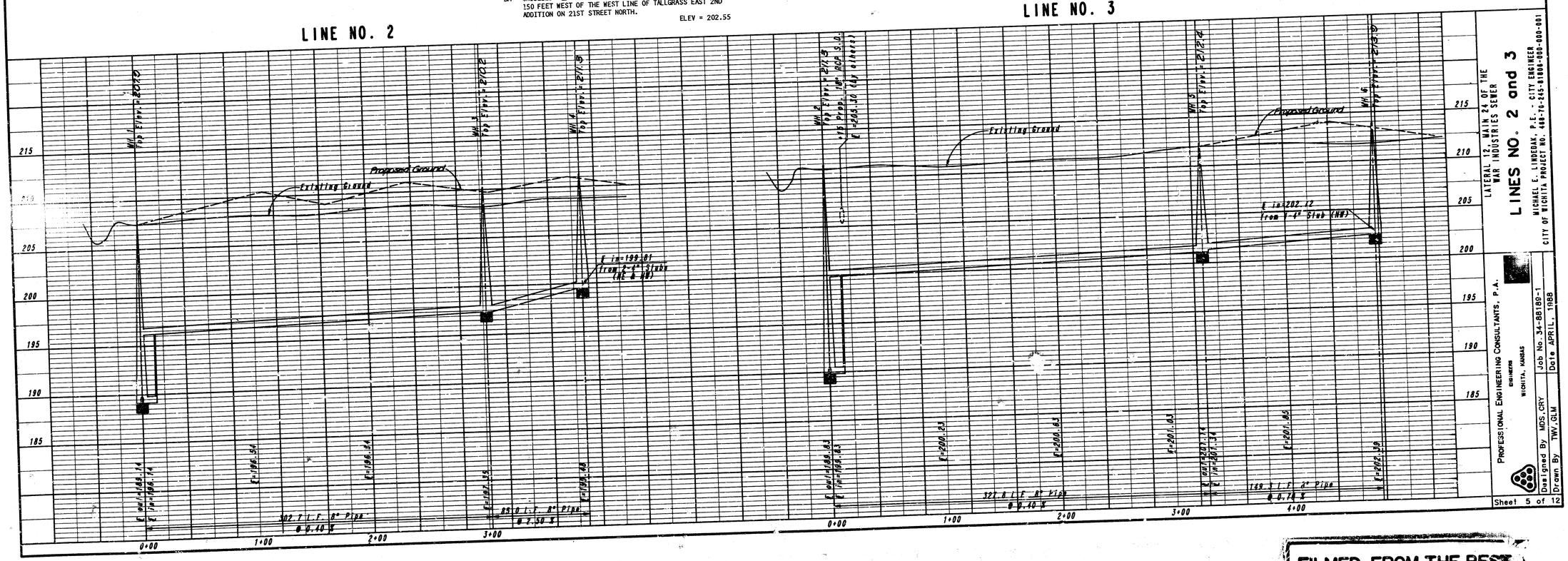
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed By WDS, CRY | Job No. 34-86189-1
Drawn By TWV, GLM | Date APRIL, 1988

Sheet 4 of 12




BM - CHISELED "□" NORTHEAST CORNER RCB HEADWALL APPROXIMATELY 150 FEET WEST OF THE WEST LINE OF TALLGRASS EAST 2ND ADDITION ON 21ST STREET NORTH. ELEV = 202.55




LATERAL 12, MAIN 24 OF THE WAR INDUSTRIES SEWER

# LINES NO. 2 and 3

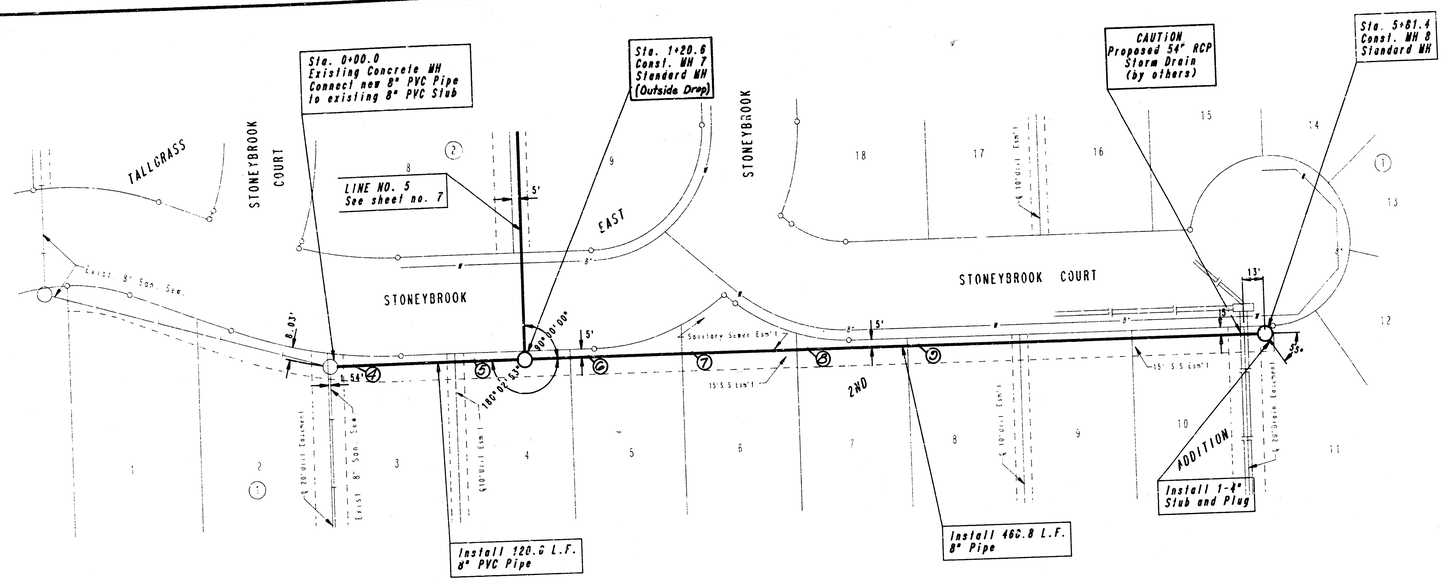
MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 468-78-245-81000-000-001

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

Job No. 34-88180-1
Date APRIL, 1988
Designed By MDS, CRY
Drawn By TWV, GLM

Sheet 5 of 12

MICHAEL D. SCHOMAKER LICENSED 8778 KANSAS PROFESSIONAL ENGINEER



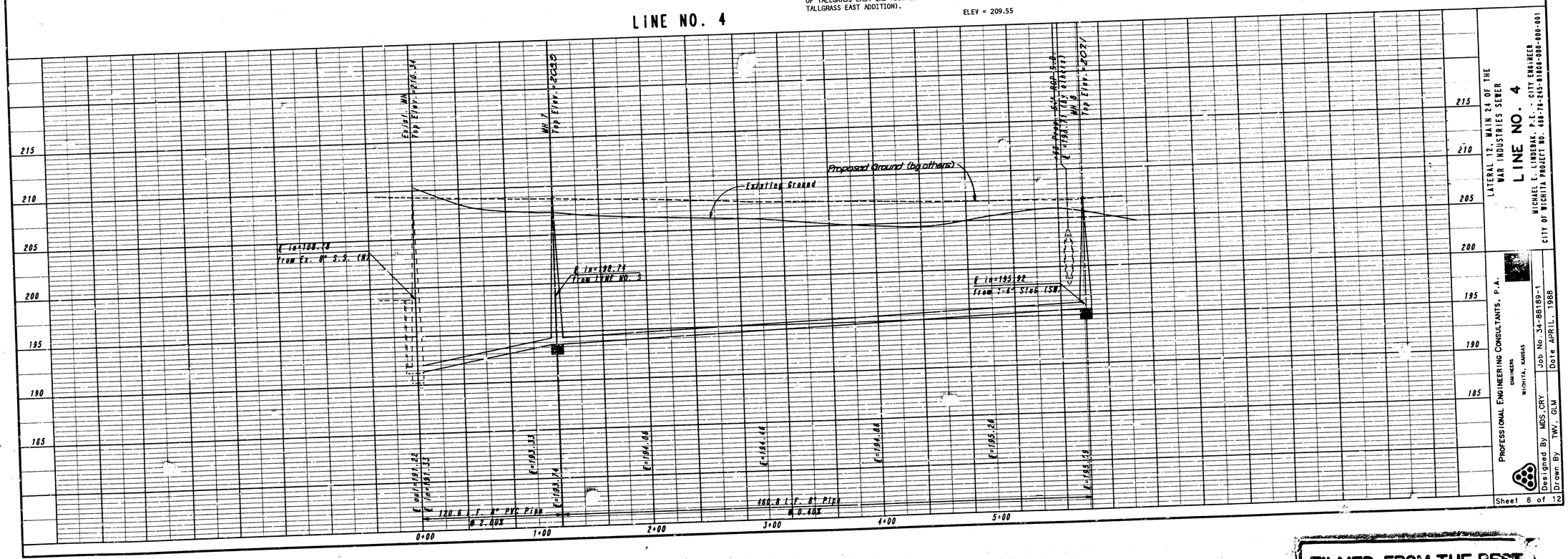

SCALE:
40 0 40 80
PLAN: LAT. & LONG.
PROFILE: HORIZ. SAME AS ABOVE
VERT.

PBS

MICHAEL B. SCHOMAKER
LICENSED
#778
KANSAS
PROFESSIONAL ENGINEER

BM - CHISELED "□" IN TOP OF CURB AT P.C. ALONG WEST SIDE OF STONEYBROOK APPROXIMATELY 220 FEET NORTH OF THE NORTH LINE OF TALLGRASS EAST 2ND ADDITION (AT LOT 48, BLOCK 2 IN TALLGRASS EAST ADDITION).
ELEV = 209.55

## LINE NO. 4

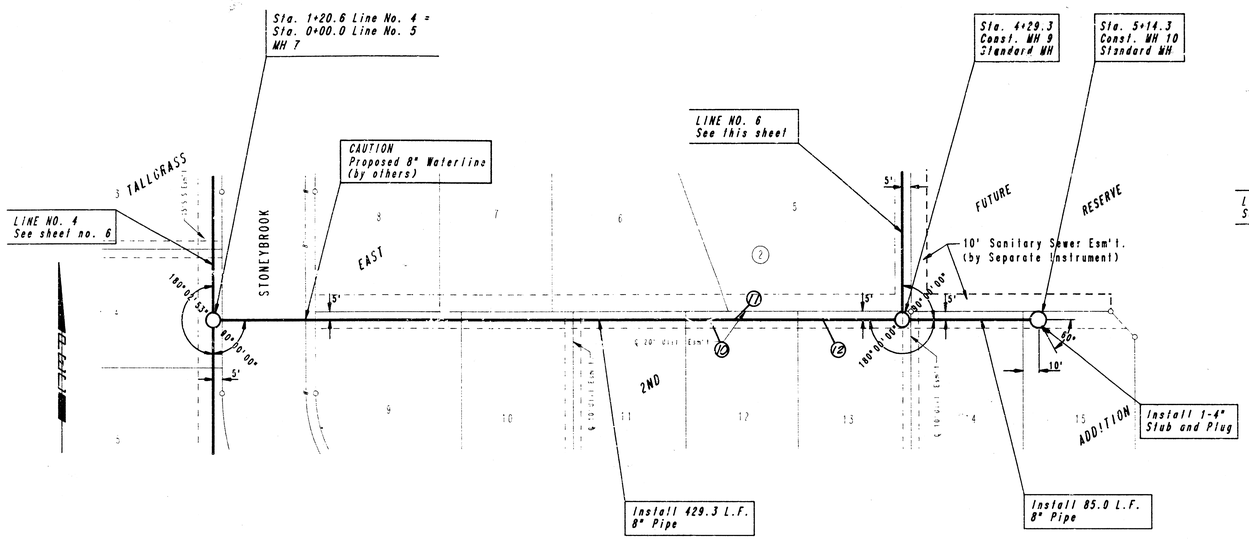


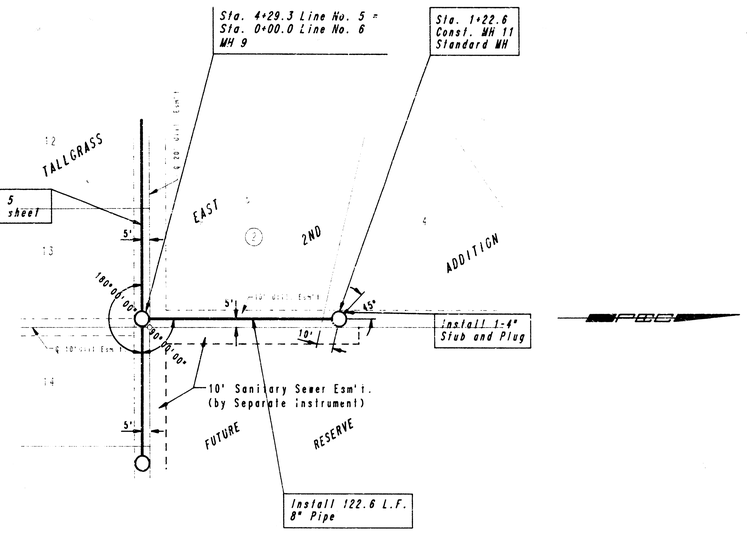

LATERAL 12, MAIN 24 OF THE
WAR INDUSTRIES SEWER
LINE NO. 4
MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 468-78-245-81868-000-000-001

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

| | |
|---|---|
| Designed By | MDS, CRY |
| Drawn By | TWV, GLM |
| Job No. | 34-88189-1 |
| Date | APRIL, 1988 |

Sheet 6 of 12




BM - CHISELED "□" IN TOP OF CURB AT P.C. ALONG WEST SIDE OF STONEYBROOK APPROXIMATELY 220 FEET NORTH OF THE NORTH LINE OF TALLGRASS EAST 2ND ADDITION (AT LOT 48, BLOCK 2 IN TALLGRASS EAST ADDITION).

ELEV = 209.55

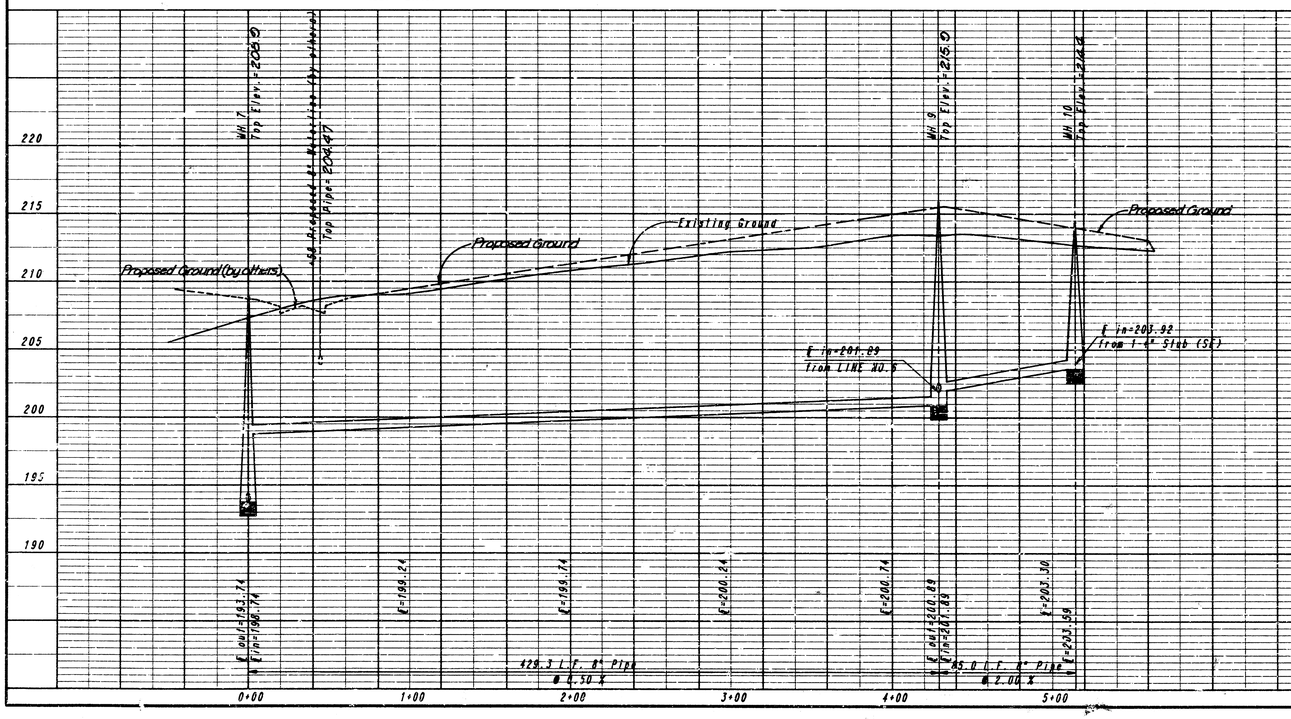
SCALE:

PLAN: LAT. & LONG. 40 0 40 80

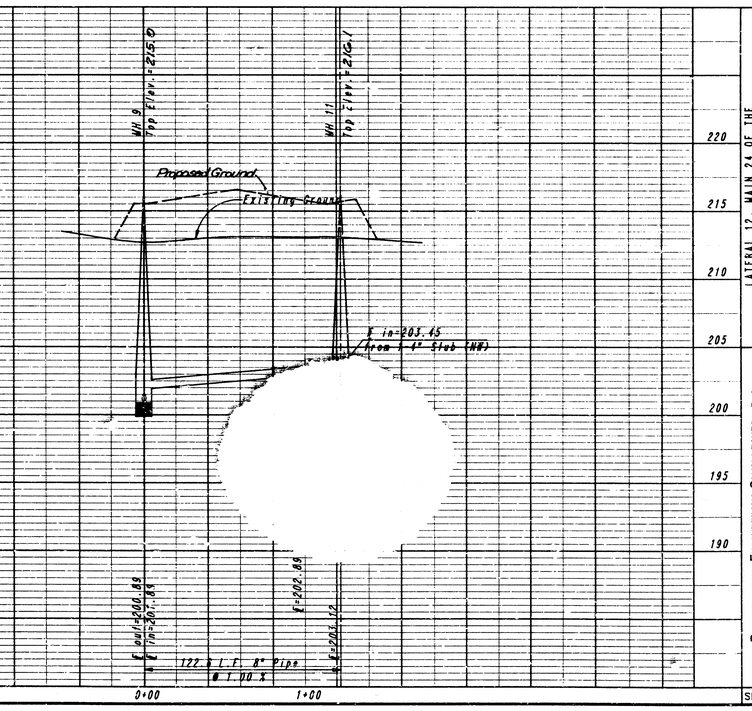
PROFILE: HORIZ. SAME AS ABOVE

VERT.

## LINE NO. 5




## LINE NO. 6




MICHAEL E. SCHOMAKER LICENSED 0778 KANSAS PROFESSIONAL ENGINEER

LATERAL 12, MAIN 24 OF THE WAR INDUSTRIES SEWER

# LINES NO. 5 and 6

MICHAEL E. LINDENAU, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 468-74-245-81808-000-000-001

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

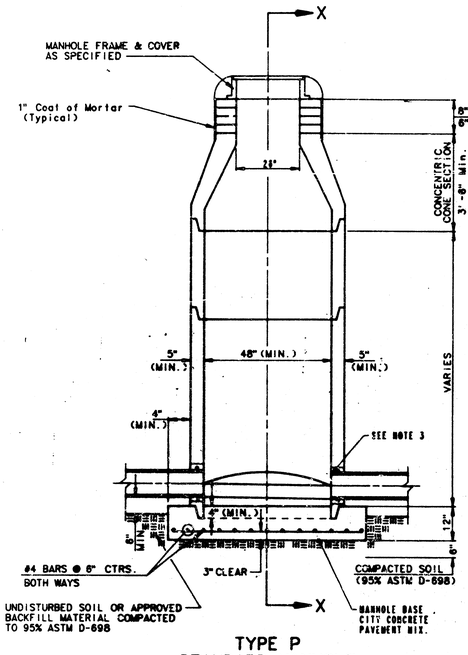
Designed By: MDS, CRY | Job No. 34-88189-1
Drawn By: TWV, GLM | Date APRIL, 1988

Sheet 7 of 12

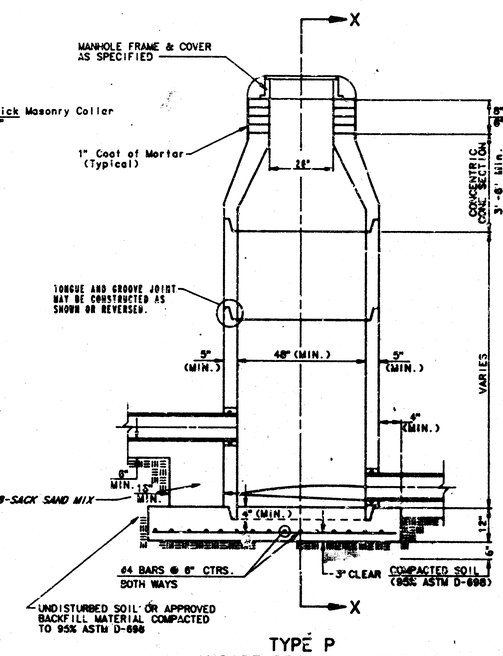
Feb 13, 1989 Tallgrass East 2 SS PP4

# SEWER APPURTENANCES DETAILS

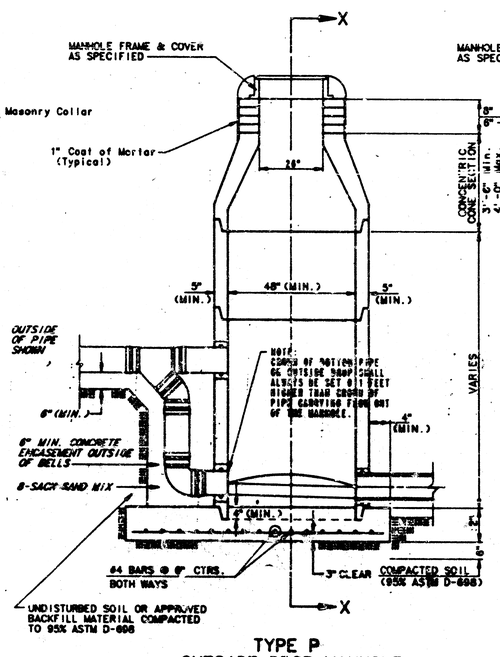
## ADOPTED AS STANDARD DESIGN BY CITY OF WICHITA



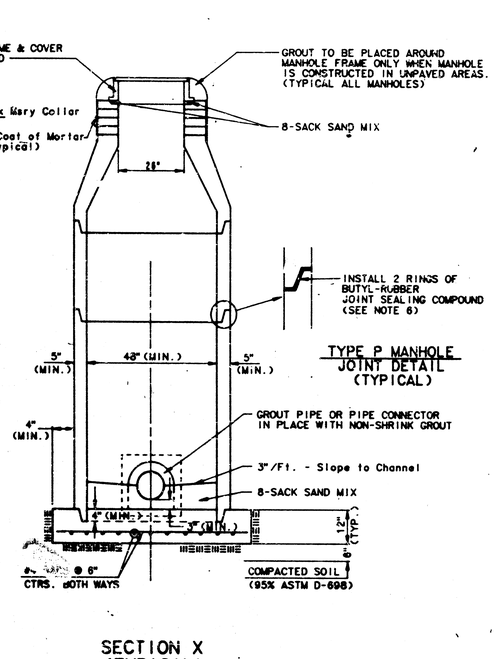

TYPE P
STANDARD MANHOLE




TYPE P
INSIDE DROP MANHOLE




TYPE P
OUTSIDE DROP MANHOLE




SECTION X
(TYPICAL)

### GENERAL NOTES

### PRECAST MANHOLE NOTES

1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISION OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
2. NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
3. APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN A.B.S. COMPOSITE PIPE OR P.V.C. PIPE IS USED. FOR OTHER TYPES OF PIPE THE SEWER SHALL BE GROUTED IN PLACE WITH NON-SHRINK GROUT. THE SEWER PIPE SHALL BE SUPPORTED WITH CONCRETE ENCASEMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL AND TO THE FIRST JOINT FOR V.C.P. SUCH THAT THE JOINT REMAINS FLEXIBLE
4. ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS TNEMEC SERIES 46 HI-BUILD EPOXOLINE, DRY THICKNESS OF 8 MILS (MIN.)
5. EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINOUS 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 OR 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 CLEARING 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 6" 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.



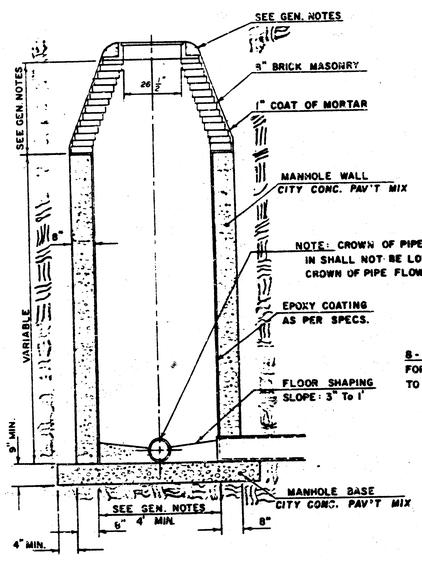
Revised: June 12, 1986

# SEWER APPURTENANCES DETAILS

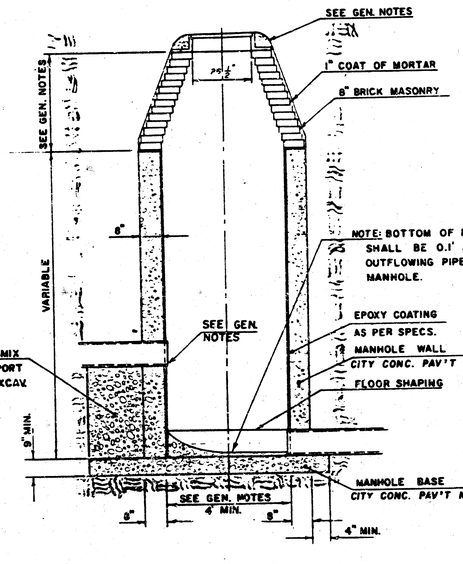
## ADOPTED AS STANDARD DESIGN BY

## CITY OF WICHITA, KANSAS

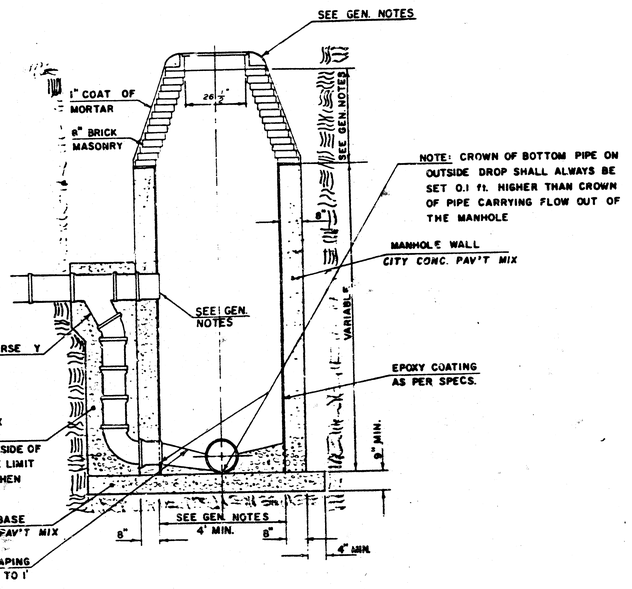
TYPE "D" MANHOLE




TYPE "D" INSIDE DROP MANHOLE




TYPE "D" OUTSIDE DROP MANHOLE




GENERAL NOTES

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.

   ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WALL WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE PROTECTED BY AN APPROVED EPOXY COATING. TYPE "D" MANHOLES MAY BE USED ON PIPE SIZES 8" TO 36" WHEN THE MANHOLE DEPTH EXCEEDS THE REQUIRED CORBEL HEIGHT BY 1' PLUS THE OUTSIDE DIAMETER OF THE LARGEST PIPE IN THE MANHOLE.

   MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24" SHALL HAVE A DIAMETER OF 4'. MANHOLES CONSTRUCTED WHERE THE PIPE SIZES ARE 24" OR LARGER SHALL HAVE A DIAMETER OF 5'. THE HEIGHT OF THE CORBELS ON 4' DIAMETER MANHOLES SHALL BE 4' MANHOLES HAVING A DIAMETER OF 5' SHALL HAVE CORBELS 6' IN HEIGHT. 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. THE INTERIOR PLASTIC LINING SHALL BE SEALED AROUND THE INLET PIPE OPENING IN SUCH A MANNER THAT WILL EFFECTIVELY MAINTAIN THE INTEGRITY OF THE PROTECTIVE PLASTIC LINER.

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

NOTE: EPOXY COATING ON INTERIOR CONCRETE SURFACES MAY BE DELETED WHEN TYPE "D" MANHOLES ARE CONSTRUCTED ON SEWERS WITH DIAMETERS SMALLER THAN 10".



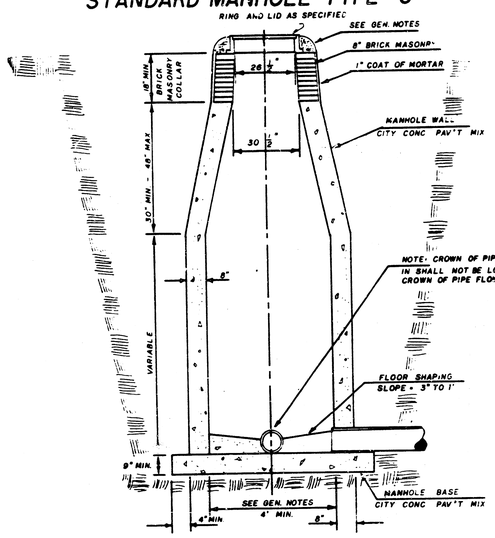
APRIL 1987

# SEWER APPURTENANCES DETAILS

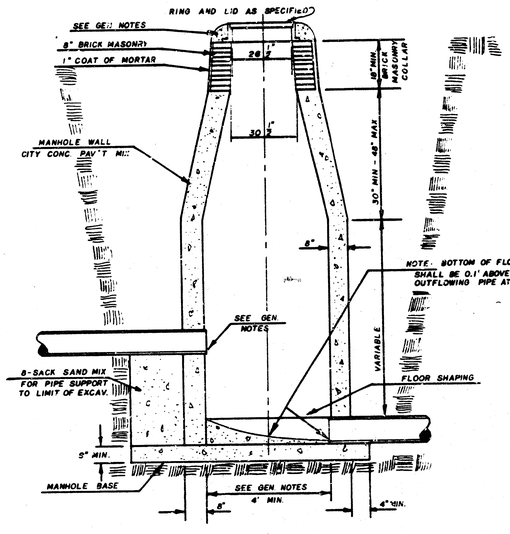
## ADOPTED AS STANDARD DESIGN
## BY

## City of Wichita, Kansas

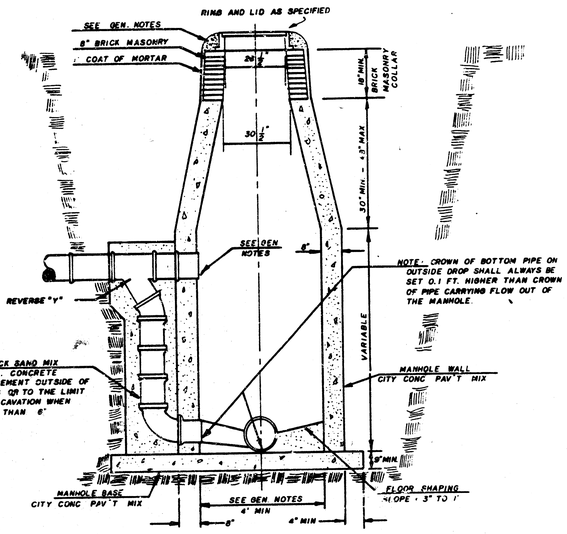
### STANDARD MANHOLE TYPE "C"




### INSIDE DROP MANHOLE TYPE "C"




### OUTSIDE DROP MANHOLE TYPE "C"




### GENERAL NOTES

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

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

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

4. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS EXCEPT FOR INSIDE DROP MANHOLES. FLOW CHANNELS FOR INSIDE DROP MANHOLES SHALL BE CONSTRUCTED AS INDICATED BY THE DRAWING. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO NEAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.

5. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. WHEN CLAY PIPE IS USED, THE CRADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MANHOLE. THE CRADLE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. COST OF CRADLE WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.

6. MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWING.

7. THE VERTICAL 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.

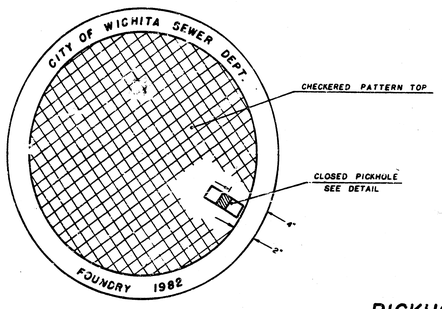


JNL JAN. 1982

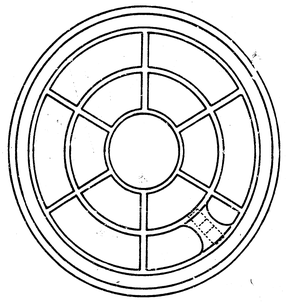
# MANHOLE FRAME AND COVER DETAIL

## ADOPTED AS STANDARD DESIGN
## BY
## City of Wichita, Kansas

### MANHOLE COVER
Weight: 180 Lbs.

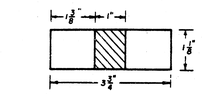



TOP VIEW

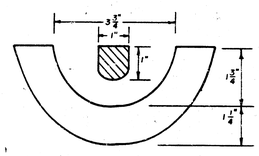


BOTTOM VIEW

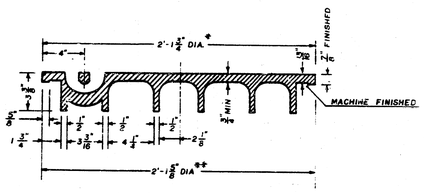
### PICKHOLE DETAIL



TOP VIEW



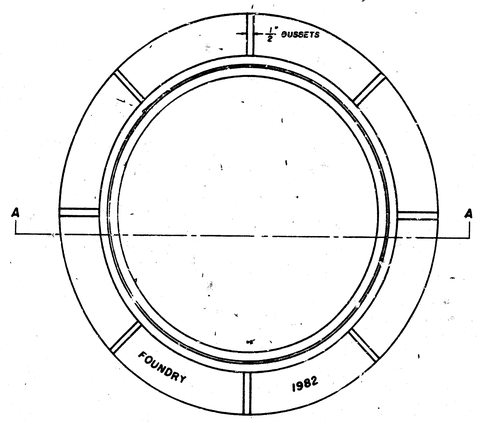
SECTION VIEW



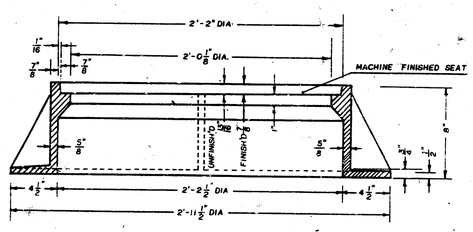

SECTION VIEW

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

### MANHOLE FRAME
Weight: 240 Lbs.




TOP VIEW




SECTION A-A

### GENERAL 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.

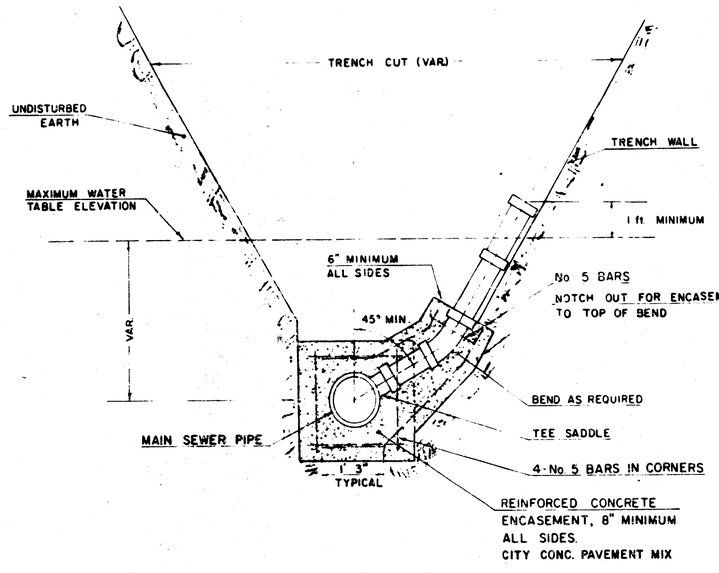
JNL DEC. 1981

REVISED APRIL, 1980

# VERTICAL RISER DETAIL

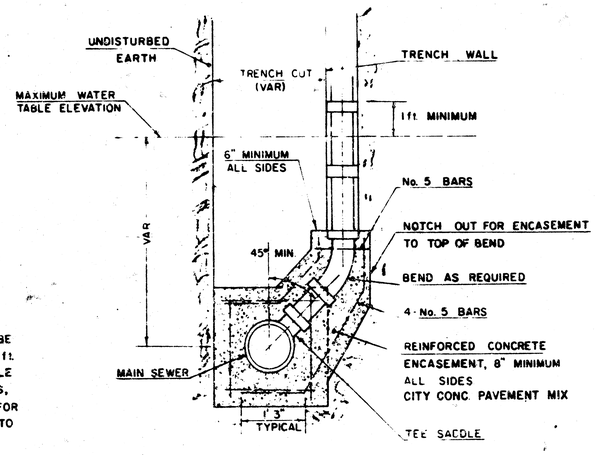
## ADOPTED AS STANDARD DESIGN BY

## CITY OF WICHITA, KANSAS

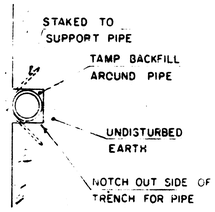



TYPICAL RISER FOR SLOPING TRENCH WALLS

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 BUILDING SITES. WHERE A MAIN SEWER LINE IS STAKED OR WATER AGLE, RISERS SHALL ALSO BE INSTALLED TO SERVE ALL LOTS AND TRACTS. WHERE A MAIN SEWER LINE IS CONSTRUCTED WITHOUT SUCH STAKING OR FLAGGING, THE LOCATIONS OF RISER INSTALLATIONS OR RISER DEPTHS SHALL BE APPROVED BY THE ENGINEER. THE LOCATION OF RISERS TO SERVE UNPLATTED PROPERTIES SHALL BE APPROVED BY THE PROPERTY OWNER. WHERE RISERS SHALL BE INSTALLED IN MANHOLES OTHER LOCATIONS OF MANHOLES WITH PROPER SATISFACTORY SERVICE CONNECTIONS AS DETERMINED BY THE FIELD ENGINEER, MAY BE USED IN LIEU OF INSTALLATION OF RISERS. THE FLOW LINE OF THE MANHOLE PIPE STUBS AND THE FLOW LINE OF THE MAIN SEWER LINE SHALL BE INSTALLED AT SUCH ELEVATIONS AS WILL PERMIT THE TOP OF THE RISER TO MATCH THE TOP OF THE CURB ON THE SIDE OF THE MAIN SEWER PIPE. PIPE STUBS AND RISERS INSTALLED TO SERVE COMMERCIAL OR INDUSTRIAL PROPERTY SHALL BE FOUR INCH. PIPE STUBS AND RISERS INSTALLED TO SERVE RESIDENTIAL PROPERTY MAY BE FOUR INCH OR SIX INCH DEPENDING UPON THE AVAILABLE GRADE AND THE SIZE OF LOT AS DETERMINED BY THE FIELD ENGINEER. EXCAVATION FOR INSTALLATION OF MAIN SEWER PIPE SHALL BE EXTENDED TWO FEET BEYOND EACH SIDE OF THE RISER INSTALLATION. EXCAVATION OF A.C.P., COMPOSITE OR P.V.C. MAIN SEWER PIPE SHALL BE MADE A MINIMUM OF TWO FEET ON BOTH SIDES OF THE CENTERLINE OF THE RISER. FOUR INCH AND SIX INCH RISER PIPE SHALL BE ENCASED WITH CONCRETE AS INDICATED IN 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 C-700 WITH COMPRESSION JOINTS AS SPECIFIED FOR CLAY PIPE IN THE STANDARD SPECIFICATIONS. FOUR INCH AND SIX INCH A.C.P., OR P.V.C. PIPE SHALL BE OF TYPE 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 ENDS OF RISERS SHALL BE MARKED BY FAS EXTENDED GREEN COLORED PLASTIC ROD TO THE END OF THE RISER WHICH SHALL BE EXTENDED TO THE GROUND SURFACE AS THE EXCAVATION IS BACKFILLED SUCH THAT THE COLORED ROD 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 4" PIPE, 6" 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.