PLANS FOR

REPLACEMENT SANITARY SEWER
TO SERVE PROPERTY BETWEEN YALE AND YALE BOULEVARD FROM 13TH STREET NORTH TO 14TH STREET NORTH

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, CITY ENGINEER

1997

PROJECT NO. 468-82646
INDEX CODE 621458

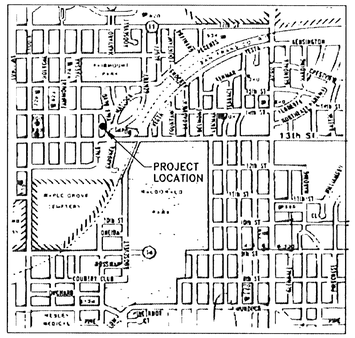
INDEX OF SHEETS

1. TITLE SHEET
2. PLAT/VICINITY MAP
3–4. PLAN AND PROFILES
5. MANHOLE DETAILS

BENCHMARKS:
ROOSEVELT AND 13TH ST. NORTH,
COW BENCH MARK: 1/2 MILE EAST OF HILLSIDE
RAILROAD CROSSING SIGNAL, 28.7' SOUTH OF CENTER-
LINE 13TH ST. 67.9' EAST OF CENTER LINE LAVON.
98.9' WEST OF CENTER LINE ROOSEVELT.

CHISLED " □ " ON TOP OF CURB EAST END OF SIDEWALK
ON MEDIAN AT 13TH ST. NO. AND YALE BLVD,
ELEV. 170.13 C.O.W. DATUM,

TOP OF MANHOLE LOCATED AT THE CENTER LINE OF
OF YALE AND THE SOUTH R-O-W OF 14TH ST. NO.
ELEV. 178.99 C.O.W. DATUM



LOCATION MAP

GENERAL NOTES

1. ALL ELEVATIONS SHOWN ARE CITY OF WICHITA DATUM.

2. CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF FORTY-EIGHT (48) HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:

KANSAS ONE-CALL 283-7270

THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF AN EMERGENCY:

MULTI-MEDIA CABLEVISION 283-7270
K G & E - ELECTRIC AND GAS 284-5721
SOUTHWESTERN BELL TELEPHONE CO. 865-1647
CITY OF WICHITA WATER DEPARTMENT 268-4908
CITY OF WICHITA SEWER MAINTENANCE 268-4908

3. 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.

4. THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY DIRECTLY ABUTTING THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF TEN (10) DAYS ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION.

5. CONTRACTOR SHALL NOT START WORK ON THE PROJECT UNTIL THE PROJECT INSPECTOR IS ASSIGNED TO THE PROJECT AND IS PRESENT ON THE SITE. ANY WORK DONE WITHOUT INSPECTION WILL BE REQUIRED TO BE UNCOVERED FOR INSPECTION.

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 IN ACCORDANCE WITH STATE LAWS. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO SITE RESTORATION.

7. THE CONTRACTOR SHALL RESTORE ALL DITCHES, SWALES, ROAD SHOULDERS, ENTRANCES, AND BANK LINES TO THEIR ORIGINAL SLOPES AND GRADES EXCEPT AS SHOWN OTHERWISE.

8. INTERURBAN TRAFFIC GENERATED OUTSIDE THE PROJECT AREA AND LOCAL BUSINESS OR RESIDENTIAL TRAFFIC GENERATED WITHIN THE PROJECT AREA ARE TO BE CARRIED THROUGH CONSTRUCTION AS FURTHER PROMULGATED BY PROJECT SPECIAL PROVISIONS.

9. RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE AND SITE LOCATION. LOCATIONS THAT, IN THE OPINION OF THE ENGINEER, WILL LEAVE AN UNSIGHTLY APPEARANCE WILL NOT BE APPROVED. ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOODPLAIN WOULD REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIAL DUMPED IN WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS WOULD REQUIRE ADDITIONAL ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.

10. THE CONTRACTOR MUST EXAMINE THE CONSTRUCTION SITE PRIOR TO BIDDING AND BE SATISFIED AS TO THE WORK SHOWN FOR COMPLETION. AFTER BIDS HAVE BEEN RECEIVED, THE CONTRACTOR SHALL NOT ASSERT THAT THERE WAS A MISUNDERSTANDING OF THE QUANTITIES OF WORK OR THE NATURE OF THE WORK TO BE COMPLETED.

11. ALL LAWN/TURF AREAS DISTURBED BY CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE RESTORED WITH THE SAME GRASS/SOD AS EXISTING. RESTORATION OF DISTURBED AREAS SHALL INCLUDE, BUT NOT BE LIMITED TO, TOP SOIL PREPARATION, SEEDING, MULCH, AND/OR RESEEDING. ALL SEEDING/SODDING WORK SHALL BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD SPECIFICATIONS AND THE CITY OF WICHITA ADMINISTRATIVE REGULATION NO. AR78 WHICH GOVERNS CLEANUP AND RESTORATION OR REPLACEMENT FOLLOWING CONSTRUCTION. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO THE LUMP SUM PRICE BID FOR "SITE RESTORATION".

12. A SAW CUT OF AT LEAST ONE-HALF THE DEPTH OF EXISTING SURFACE COURSES OR ONE-FOURTH THE DEPTH OF THE EXISTING TOTAL PAVEMENT THICKNESS SHALL BE PROVIDED AT LOCATIONS WHERE PROPOSED CONSTRUCTION ABUTS AN EXISTING SURFACE COURSE OR PAVEMENT FOR WHICH PARTIAL REMOVAL OF THAT SURFACE OR PAVEMENT IS REQUIRED. SAWED JOINT TO FACILITATE REMOVAL WITHIN 3 FEET (3') OF EXISTING JOINTS WILL NOT BE PERMITTED AND FOR SUCH INSTANCES THE LIMITS OF REMOVAL SHALL EXTEND TO THE EXISTING JOINT. SUCH SAW CUTS WILL NOT BE PAID FOR DIRECTLY AND THIS COST SHALL BE CONSIDERED AS SUBSIDIARY TO THE REMOVAL OF THE SURFACE OR PAVEMENT.

13. PROPERTIES WITHIN THE PROJECT LIMITS MAY HAVE UNDERGROUND SPRINKLER SYSTEM IN PUBLIC RIGHT-OF-WAY OR EASEMENT WHICH CONFLICT WITH NEW CONSTRUCTION. CONTRACTOR WILL BE REQUIRED TO REMOVE SUCH IMPROVEMENTS SHOULD THEY NOT BE REMOVED BY THEIR OWNER AT THE TIME OF CONSTRUCTION OF THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SALVAGE ALL SPRINKLER HEADS AND/OR VALVES AND GIVE SUCH MATERIAL TO THEIR OWNER. PORTIONS OF UNDERGROUND SPRINKLER SYSTEMS NOT IN CONFLICT WITH NEW CONSTRUCTION SHALL BE PROTECTED FROM DAMAGE AND SHALL REMAIN IN PLACE. ALL WORK IN CONNECTION WITH UNDERGROUND SPRINKLER SYSTEM SHALL BE CONSIDERED AS SUBSIDIARY TO THE CONTRACT PAY ITEMS OF WORK.

14. THREES AND SHRUBS IN PUBLIC RIGHT-OF-WAY AND EASEMENT WHICH ARE IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR WITH THE ENGINEER'S APPROVAL. TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE SAVED AND PROTECTED FROM DAMAGE.

15. ONLY ACTIVE BUILDING SEWER LINES WHICH CONNECT ACTUAL BUILDINGS TO THE SEWER SYSTEM ARE TO BE RECONNECTED TO THE NEW SEWER CONSTRUCTION. BUILDING SEWER LINES AND/OR CONNECTIONS WHICH HAVE BEEN ABANDONED ARE NOT TO BE RECONNECTED TO THE NEW SEWER CONSTRUCTION. IT WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO ASCERTAIN WHICH SUCH BUILDING SEWER LINES AND/OR CONNECTIONS ARE ACTIVE AND WHICH SUCH SEWERS AND/OR CONNECTIONS HAVE BEEN ABANDONED. ALL WORK INVOLVED WITH BUILDING SEWER LINE CONSTRUCTION AND/OR BUILDING SEWER CONNECTIONS SHALL CONFORM TO THE APPLICABLE SECTION OF THE STANDARD SPECIFICATIONS.

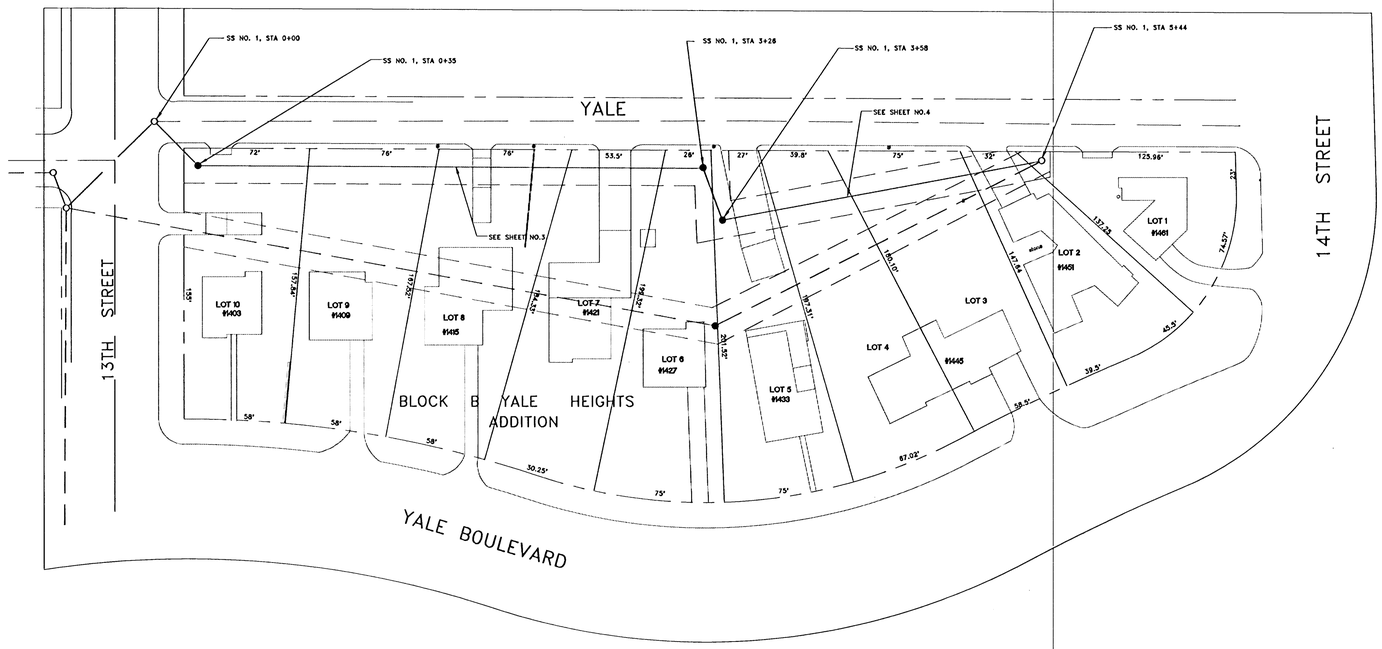
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONTINUOUS FLOW OF SEWAGE THROUGH CONSTRUCTION. CONTRACTOR'S PROPOSED METHOD FOR MAINTAINING SEWAGE FLOW SHALL BE APPROVED BY THE ENGINEER. COST OF MAINTAINING FLOW OF SEWAGE THROUGH CONSTRUCTION WILL NOT BE PAID FOR DIRECTLY AND THIS COST SHALL BE CONSIDERED AS SUBSIDIARY TO THE OTHER PAY ITEMS OF WORK.

17. PAVEMENT REMOVAL AND/OR REPLACEMENT WILL BE MEASURED AND PAID FOR ON THE LINEAL FOOT BASIS AS MEASURED ALONG THE CENTERLINE OF THE SEWER REGARDLESS OF WIDTH OR THICKNESS. MINIMUM LIMITS OF SUCH PAVEMENT REMOVAL AND REPLACEMENT SHALL BE ONE FOOT BEYOND THE LIMITS OF THE EXCAVATION MADE FOR THE SEWER OR THE STRUCTURE, EXCEPT WHEN THE LINES OF REMOVAL ARE WITHIN THREE (3) FEET OF AN EXISTING JOINT THE LIMITS OF REMOVAL SHALL BE EXTENDED TO THE EXISTING JOINT. REMOVAL AND REPLACEMENT OF EXISTING PAVEMENT SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE CITY OF WICHITA STANDARD SPECIFICATIONS.

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REVISION	DIRECTORY	DRAWN BY	FILENAME	CHECKED BY	DESIGNED BY	PROJECT	CUSTOMER	SCALE: NONE	PROJECT NO. SE1598
	YALE	C.E.	FCOVER	RP	RP			DATE: 4-1-97	SHEET 1 OF 5



1" = 40'

ADOLF E. REISS
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#1119
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REVISION	DIRECTORY	DRAWN BY	FILENAME	CHECKED BY	DESIGNED BY	PROJECT	CUSTOMER	SCALE: 1" = 40'	PROJ. SE1596
	YALE	C.E.	BASEPLT	B.P.	B.P.	PLAT/VICINITY MAP	REPLACEMENT SANITARY SEWER BETWEEN YALE & YALE BOULEVARD	DATE: 4-1-97	SHEET: 2 OF 5

SS NO. 1, STA 0+00
EXISTING BRICK MANHOLE
CORE MANHOLE WALL AND INSTALL NEW 8" PIPE. GROUT IN PLACE WATERTIGHT WITH NON-SHRINK GROUT
RESHAPE INVERT TO MATCH NEW 8" PIPE

SS NO. 1, STA 0+35
CONSTRUCT MANHOLE 1, STANDARD TYPE "P"

EXISTING 8" SANITARY SEWER

SS NO. 1, STA 3+26
CONSTRUCT MANHOLE 2, STANDARD TYPE "P"

SS NO. 1, STA 3+58
CONSTRUCT MANHOLE 3, STANDARD TYPE "P"

YALE

30' R-O-W

REMOVE AND REPLACE FENCE AS NECESSARY

PLUG ABANDONED LINE TO NORTH. RESHAPE INVERT

EXISTING 8" SANITARY SEWER

13TH STREET

ASPHALT PAVEMENT

CONCRETE PAVEMENT

TELE. PD.

U.G.

IBT SIGN

24' UTILITY EASEMENT

PROPOSED 4" SERVICE LINE

45° BEND

STONE WALL

22.5° BEND

CONC. DRIVE

GRAVEL

CONC. GARAGE

ABANDON EXISTING LINE

CONC. PAN

EXISTING CO. (BURIED)

LOT 8

LOT 10 #1403

LOT 9 #1409

LOT 7 #1421

LOT 6 #1427

5' EXIST. SERVICE EXITS HOUSE NO CLEAN-OUT

6' EXIST. SERVICE EXITS HOUSE NO CLEAN-OUT

5' EXIST. SERVICE EXITS HOUSE

CLEAN-OUT AT FACE OF HOUSE

CONC. PATIO

SIDEWALK

W.M.

TELEPHONE VAULT

EXIST. CO.

4" EXIST. SERVICE EXITS HOUSE

ABANDON MANHOLE

REMOVE AND REPLACE FENCE AS NECESSARY

* CITY RECORDS INDICATE A MAIN LINE TAP 86 FEET NORTH OF MH. TO SOUTH.

* CITY RECORDS INDICATE A MAIN LINE TAP 155 FEET NORTH OF MH. TO SOUTH.

* CITY RECORDS INDICATE A MAIN LINE TAP 165 FEET SOUTH OF MH. TO NORTH.

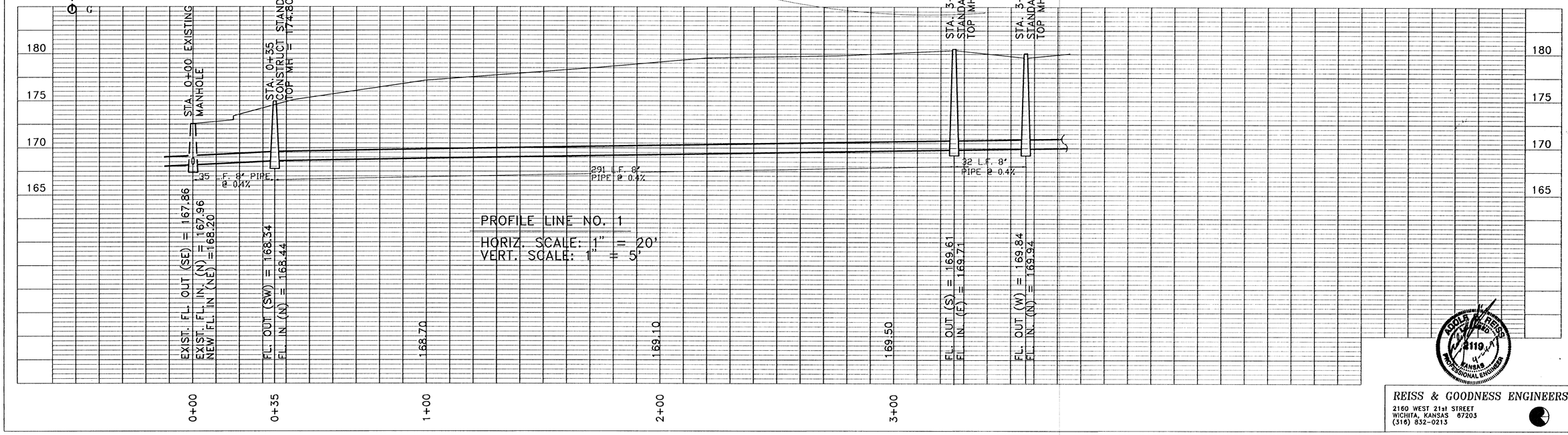
* CITY RECORDS INDICATE A MAIN LINE TAP 96 FEET SOUTH OF MH. TO NORTH.

* CITY RECORDS INDICATE A MAIN LINE TAP 40 FEET SOUTH OF MH. TO NORTH.

BLOCK B YALE HEIGHTS ADDITION

YALE BOULEVARD

SCALE:
PLAN:
1" = 20'
PROFILE:
HORZ. 1" = 20'
VERT. 1" = 5'



PROFILE LINE NO. 1

HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 5'

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ADOLF A. REISS 2119 4-1-97 KANSAS PROFESSIONAL ENGINEER

REVISION	DIRECTORY	DRAWN BY	FILE NAME	CHECKED BY	DESIGNED BY	PROJECT	CUSTOMER
	YALE	C.E.	PROF1	B.P.	B.P.	STA. 0+00 TO 3+58	REPLACEMNET SANITARY SEWER BETWEEN YALE & YALE BOULEVARD

SCALE: NOTED	PROJECT NO. SE1996
DATE: 4-1-97	SHEET 3 OF 5

SCALE:
PLAN:
1" = 20'
PROFILE:
HORZ. 1" = 20'
VERT. 1" = 5'

SS NO. 1, STA 3+26
CONSTRUCT MANHOLE 2,
STANDARD TYPE "P"

SS NO. 1, STA 3+58
CONSTRUCT MANHOLE 3,
STANDARD TYPE "P"

SS NO. 1, STA 5+44
EXISTING BRICK MANHOLE
CORE MANHOLE WALL & INSTALL NEW 8" PIPE
GROUT IN PLACE WATER TIGHT WITH
NON-SHRINK GROUT. PLUG EXISTING 8" LINE TO SOUTHEAST
AT THE MANHOLE. RESHAPE THE INVERT TO
MATCH THE NEW 8" PIPE.

YALE

EXISTING 8" SANITARY SEWER

STA. 5+39 INSTALL 8" X 4" X 45° WYE

8" G
4" G

TELE. PD.

EX. MH

PP 180.27

180.54

PP

182.40

182.30

125.96'

GM.

12" DIA. TREE

DEFLECT PIPE AS REQUIRED

2' EXIST. SERVICE EXITS HOUSE NO CLEAN-OUT

179.05

171.95

PROPOSED 4" SERVICE LINE

137.25'

22.5° BEND

22.5° BEND DEFLECT PIPE AS REQUIRED

20' UTILITY EASEMENT

27'

39.8'

75'

32'

5'

40'

10'

5'

GARAGE

PINE TREES

EXISTING 8" SANITARY SEWER

180.10'

147.64'

stone

REMOVE & REPLACE FENCE AS NECESSARY

LOT 1
#1461

LOT 2
(SEE NOTE)
#1451

LOT 3

#1445

LOT 4

LOT 5
#1433

PROPOSED 4" SERVICE LINE

45° BEND

ABANDON EXISTING LINE

22.5° BEND

197.31'

45° BEND

RETAINING WALL

EXIST. CO.

GM.

CONC. BRICK

4' EXIST. SERVICE EXITS HOUSE

176.18

175.67

176.07

175.65

175.05

174.57'

177.30

45.5'

39.5'

58.5'

99'

67.02'

75'

14TH STREET

YALE BOULEVARD

* CITY RECORDS INDICATE A MAIN LINE TAP 5 FEET SOUTH OF MH. TO NORTH.

* CITY RECORDS INDICATE A MAIN LINE TAP 39 FEET SOUTH OF MH. TO NORTH.
EVIDENCE OF WHERE THE 4" SERVICE LINE EXITS HOUSE #1451 COULD NOT BE DETERMINED BY SURVEY OR RECORD INFORMATION
IT IS SUGGESTED THAT THE MAIN LINE TAP BE UNCOVERED AND TRACED BACK TOWARDS THE HOUSE TO FIND AN APPROPRIATE POINT OF RECONNECTION.

* CITY RECORDS INDICATE A MAIN LINE TAP 40 FEET SOUTH OF MH. TO NORTH.

* CITY RECORDS INDICATE A MAIN LINE TAP 86 FEET NORTH OF MH. TO SOUTH.

* CITY RECORDS INDICATE A MAIN LINE TAP 24 FEET NORTH OF MH. TO SOUTH.

PROFILE LINE NO.1

HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 5'

STA. 3+58 CONSTRUCT STANDARD MANHOLE
TOP MH. 179.80
FL. OUT (W) = 169.84
FL. IN. (N) = 169.94

MATCH EXISTING GROUND ABOVE 8" PIPE

186 L.F. 8" PIPE @ 0.4%

STA. 5+44 EXISTING BRICK MANHOLE
FL. OUT (S) = 170.68
EXISTNG FL. OUT = 170.50

185
180
175
170
165

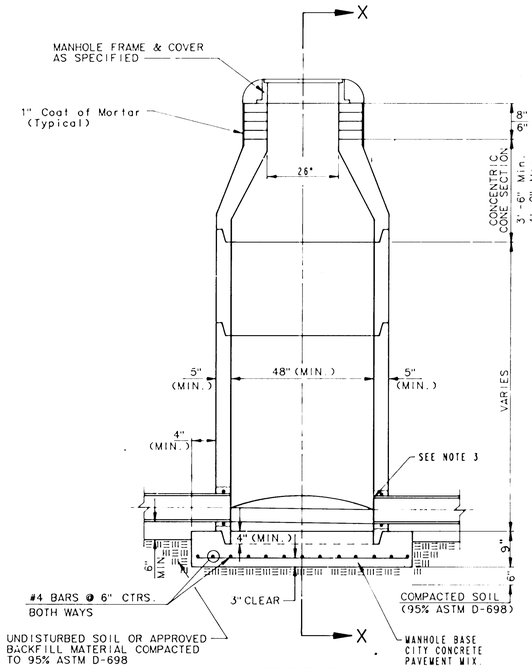
0+00
3+00
4+00
5+00
6+00

KANSAS REGISTERED 2119 PROFESSIONAL ENGINEER

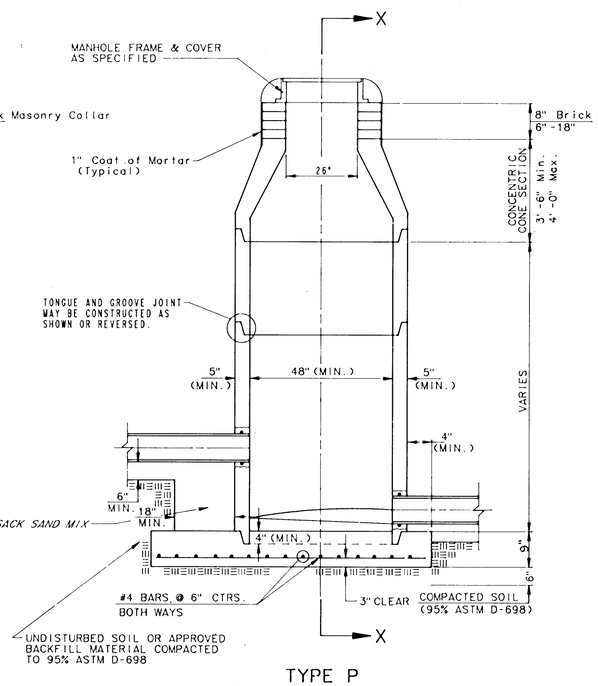
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REVISION	DIRECTORY	DRAWN BY	FILE NAME	CHECKED BY	DESIGNED BY	PROJECT	CUSTOMER	SCALE: NOTED	PROJECT NO. SE1596
	YALE	C.E.	PROF2	B.P.	B.P.	STA. 3+58 TO STA. 5+44	REPLACEMENT SANITARY SEWER BETWEEN YALE AND YALE BOULEVARD	DATE: 4-1-97	SHEET 4 OF 5

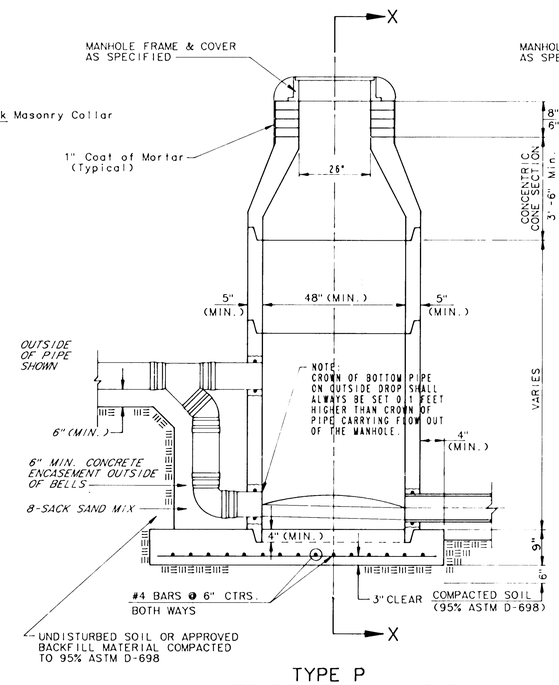
SEWER APPURTENANCES DETAILS
ADOPTED AS STANDARD DESIGN
BY
CITY OF WICHITA



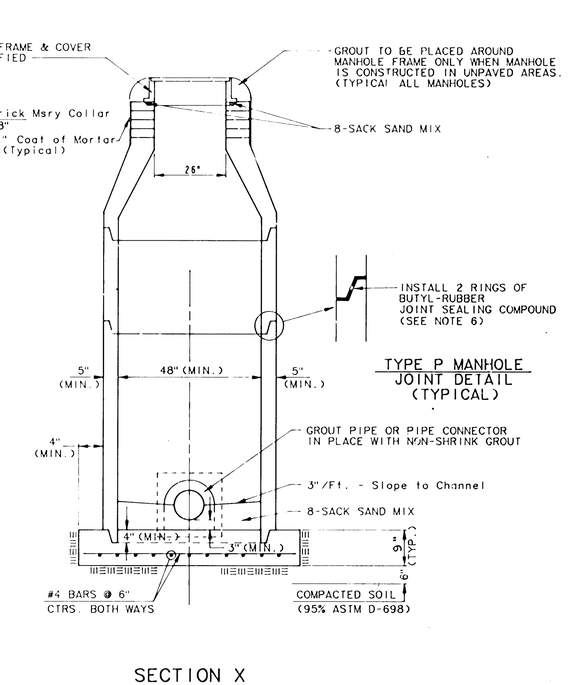
TYPE P
STANDARD MANHOLE



TYPE P
INSIDE DROP MANHOLE



TYPE P
OUTSIDE DROP MANHOLE



TYPE P MANHOLE
JOINT DETAIL
(TYPICAL)

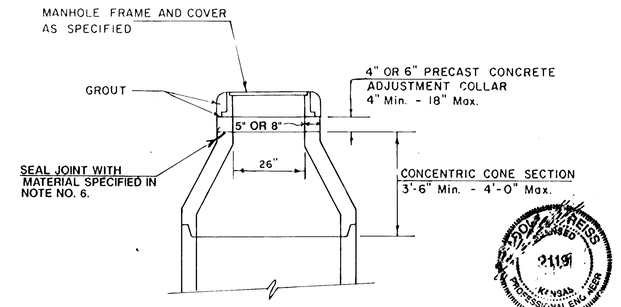
SECTION X
(TYPICAL)

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 FREE FALL DROP INSIDE MANHOLES SHALL NOT EXCEED 2'.

    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.



ALTERNATE CONSTRUCTION
IN UNPAVED AREAS

REVISED NOV. 1993
NOTE NO. 16 REVISED JAN. 1991
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