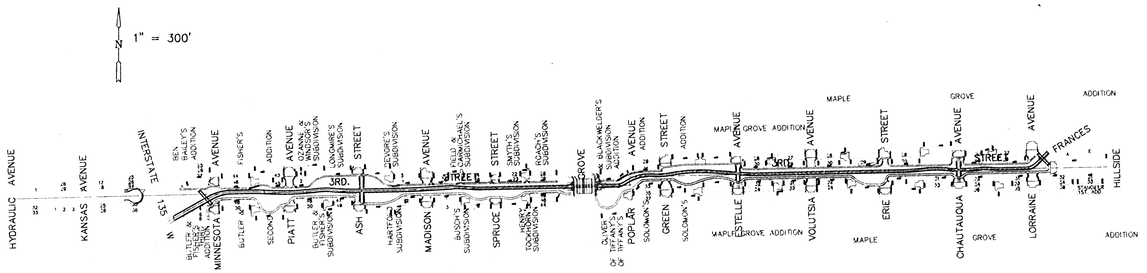
3RD ST. DRAINAGE IMPROVEMENTS

WICHITA DRAINAGE CANAL TO LORRAINE

PROJ. NO. 468-82520

THE CITY OF WICHITA
SEDGWICK COUNTY, KANSAS
MICHAEL E. LINDEBAK, CITY ENGINEER

INDEX CODE 660563



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HORIZONTAL CONTROL

DESCRIPTION	LOCATION	BASELINE STATION	NORTHERLY	EASTERLY
IRON PIN	I-135	10+68.27	5422.052	3084.270
X-CUT	PIATT ST.	16+19.23	5434.880	3635.080
IRON PIN	ASH ST.	19+54.93	5412.758	3971.388
IRON PIN	MADISON ST.	22+81.08	5451.149	4296.731
IRON PIN	SPRUCE ST.	26+12.0	5458.879	4627.560
IRON PIN	POPLAR ST. (S)	32+60.17	5473.766	5275.560
IRON PIN	POPLAR ST. (N)	33+00.85	5514.440	5274.867
IRON PIN	GREEN ST.	34+74.49	5518.241	5448.466
IRON PIN	ESTELLE ST.	38+21.48	5525.870	5795.372
IRON PIN	VOLUTSIA ST.	41+76.69	5534.135	6150.486
IRON PIN	ERIE ST.	45+31.54	5542.210	6505.244
IRON PIN	CHAUTAUQUA ST.	48+86.85	5550.481	6860.458
IRON PIN	LORRAINE ST.	52+41.68	5558.789	7215.191
IRON PIN	HILLSIDE AVE.	56+04.28	5567.075	7577.696

BENCHMARKS

BM#1 "□" CUT ON THE SW COR. OF WATER METER VAULT UNDER NORTHBOUND LANES I-135 ON N. SIDE OF 3RD.
ELEV.=112.87

BM#2 "□" CUT ON TOP OF E. CURB ON PIATT BETWEEN HOUSE #340 & #344.
ELEV.=111.20

BM#3 "□" CUT ON TOP OF W. CURB ON ASH BETWEEN HOUSE #407 & #415.
ELEV.=112.40

BM#4 "□" CUT ON TOP OF W. CURB ON MADISON BETWEEN HOUSE #335 & #341.
ELEV.=114.135

BM#5 "□" CUT ON TOP OF W. CURB ON SPRUCE BETWEEN HOUSE #405 & #407.
ELEV.=115.375

BM#6 "□" CUT ON NW. COR. OF W. HEADWALL OF RCB ON GROVE OVER 3RD ST.
ELEV.=120.625

BM#7 "□" CUT ON TOP OF E. CURB ON GREEN BETWEEN HOUSE #406 & #410.
ELEV.=119.20

BM#8 "□" CUT ON TOP OF E. CURB ON ESTELLE BETWEEN HOUSE #351 & #355.
ELEV.=122.19

BM#9 "□" CUT ON TOP OF W. CURB ON VOLUTSIA BETWEEN HOUSE #409 & #415.
ELEV.=123.79

BM#10 "□" CUT ON TOP OF W. CURB ON ERIE BETWEEN HOUSE # 355 & #357.
ELEV.=126.43

BM#11 "□" CUT ON TOP OF E. CURB ON CHAUTAUQUA BETWEEN HOUSE #406 & #412.
ELEV.=129.93

BM#12 "□" CUT ON TOP OF W. CURB ON LORRAINE BETWEEN HOUSE #335 & #339.
ELEV.=132.18

BM#13 "□" CUT ON TOP OF W. CURB ON HILLSIDE @ SW. RCB UNDER HILLSIDE.
ELEV.=137.50

BM#14 "□" CUT ON TOP OF N. SIDE OF SIGNAL POLE BASE ON NE. COR. CENTRAL & HILLSIDE.
ELEV.=144.08

San. Sewer
Booked
P. 138
8-1-00
RNL
per Plan

KENNETH R. BRUTON — LICENSED — 1-1-96 — KANSAS — PROFESSIONAL ENGINEER

JOHN A. HARGIS — LICENSED — 11428 — 5-31-97 — KANSAS — PROFESSIONAL ENGINEER

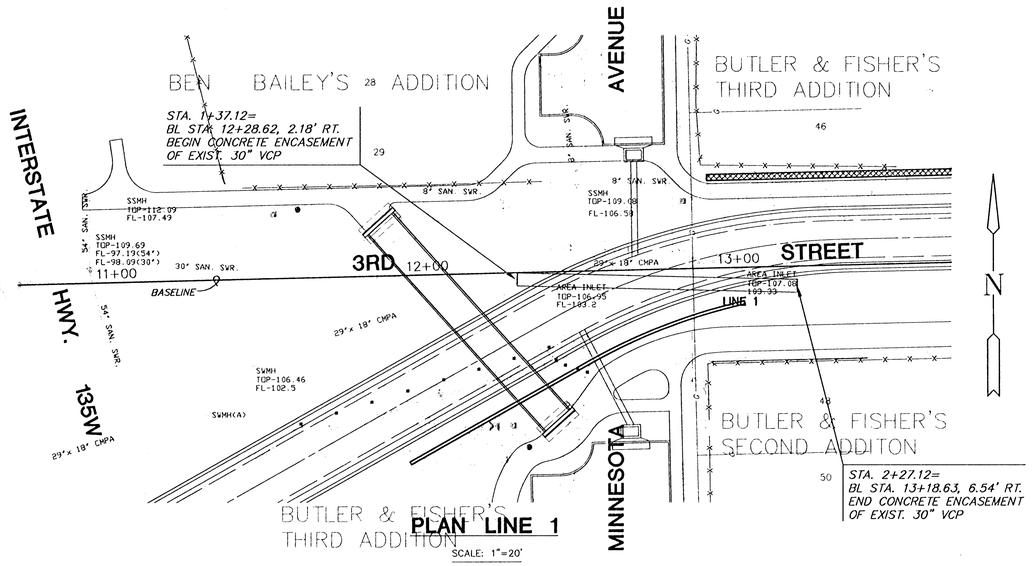
MID-KANSAS ENGINEERING CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

AREA "K" - 3RD. STREET
STORM WATER IMPROVEMENTS
PROJECT NAME

TITLE SHEET
SHEET TITLE

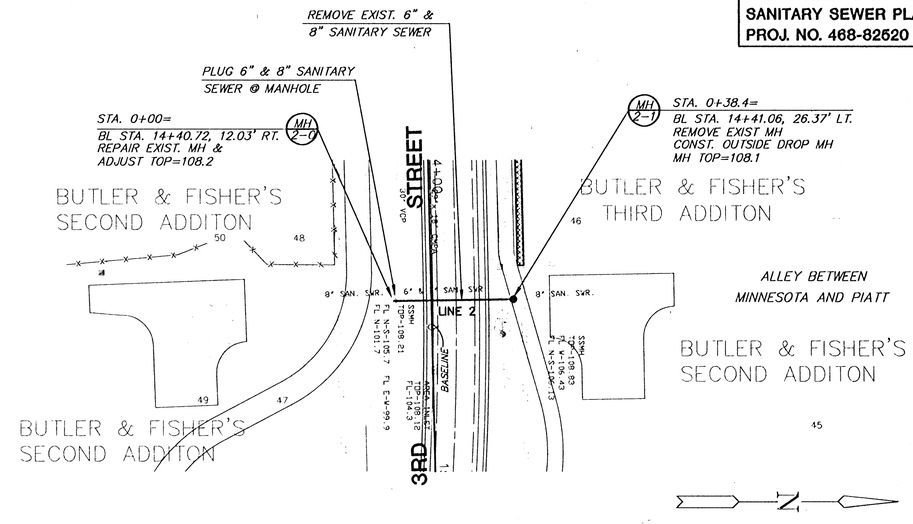
JNJ	DLH, KKL	JNJ
DESIGN BY:	DRAWN BY:	CHECKED BY:
JUNE, 1996	93031_DT	1 / 77
DATE	JOB NO.	SHEET/OF

3RD STREET DRAINAGE
SANITARY SEWER PLANS
PROJ. NO. 468-82520



PLAN LINE 1

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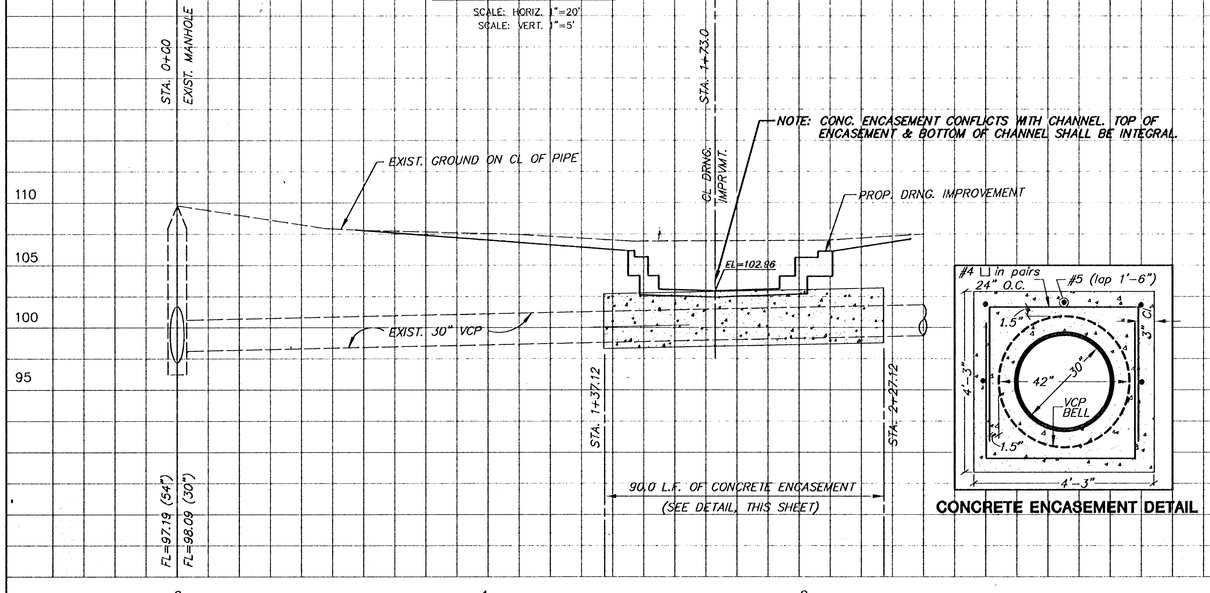


PLAN LINE 2

SCALE: 1"=20'

PROFILE LINE 1

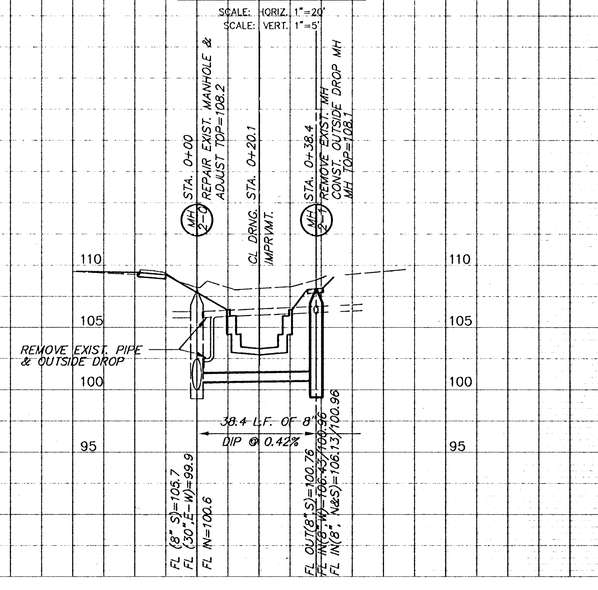
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SCALE: VERT. 1"=5'



CONCRETE ENCASEMENT DETAIL

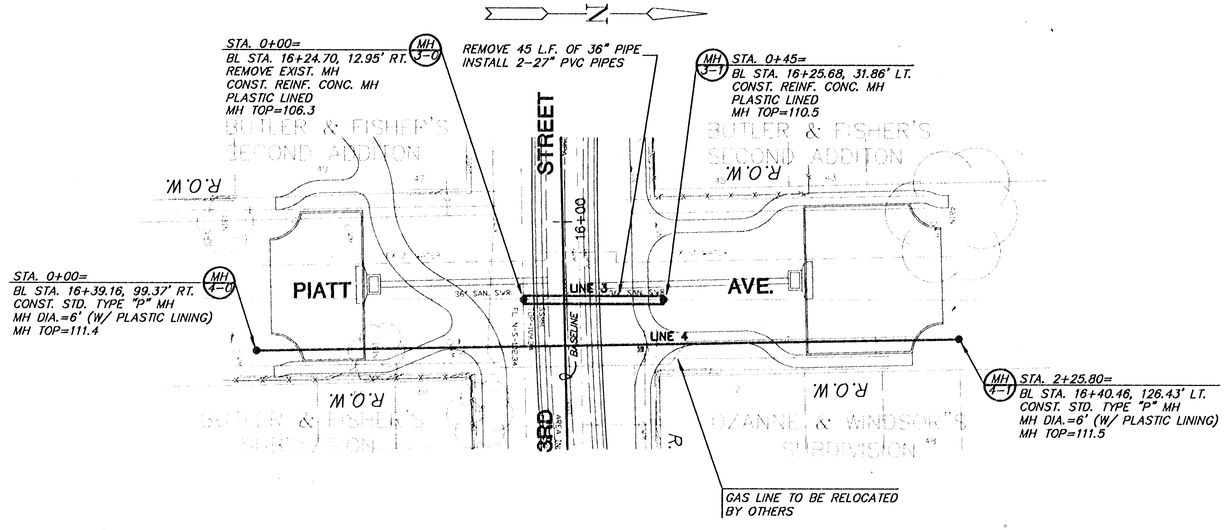
PROFILE LINE 2

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



94014_B1

3RD STREET DRAINAGE
SANITARY SEWER PLANS
PROJ. NO. 468-82520

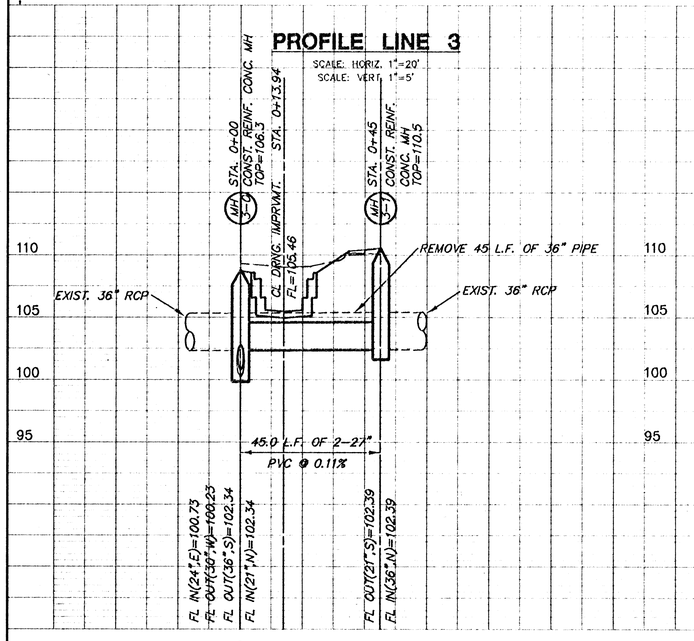


PLAN LINE 3 and 4

SCALE: 1"=20'

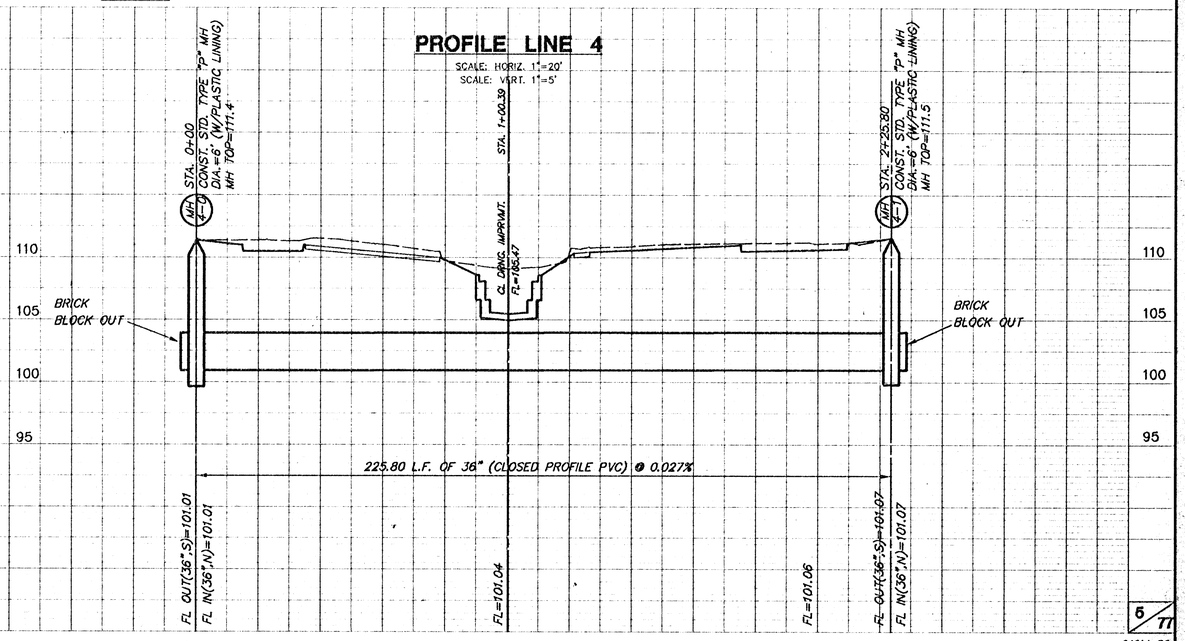
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PROFILE LINE 4

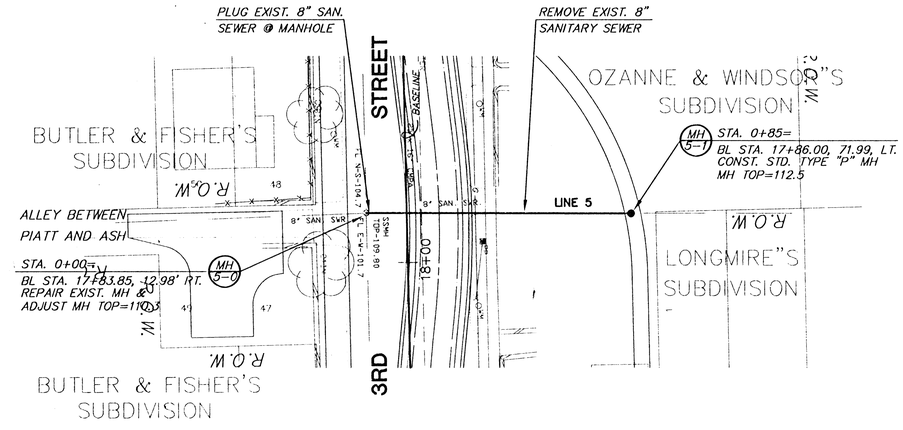
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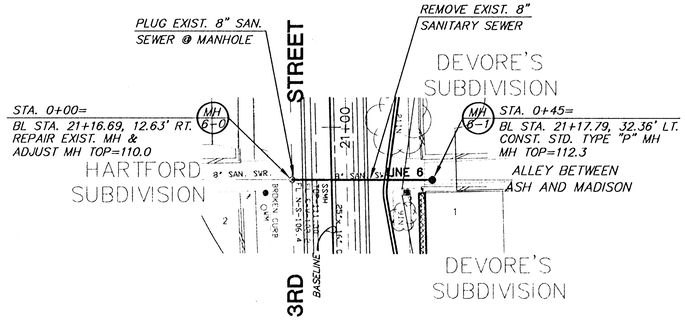


6/11

94014_B2

3RD STREET DRAINAGE
SANITARY SEWER PLANS
PROJ. NO. 468-82520



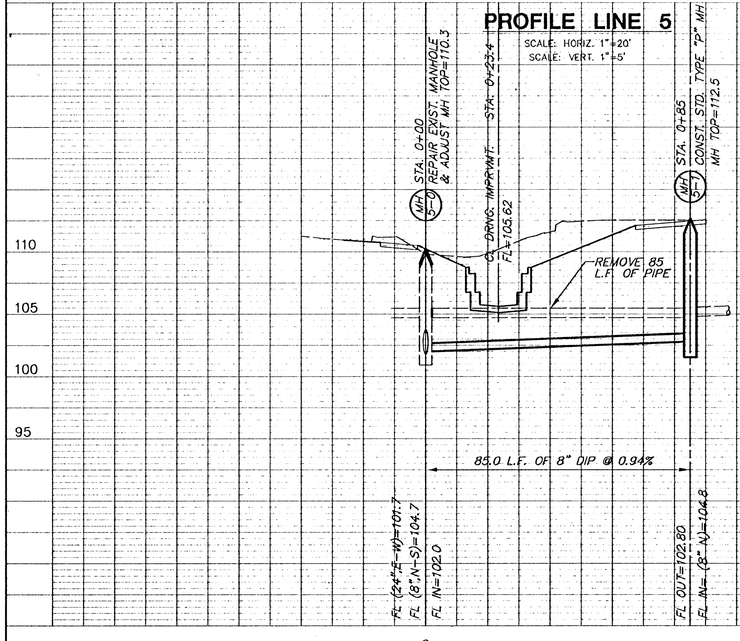


PLAN LINE 5

SCALE: 1"=20'

PROFILE LINE 5

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

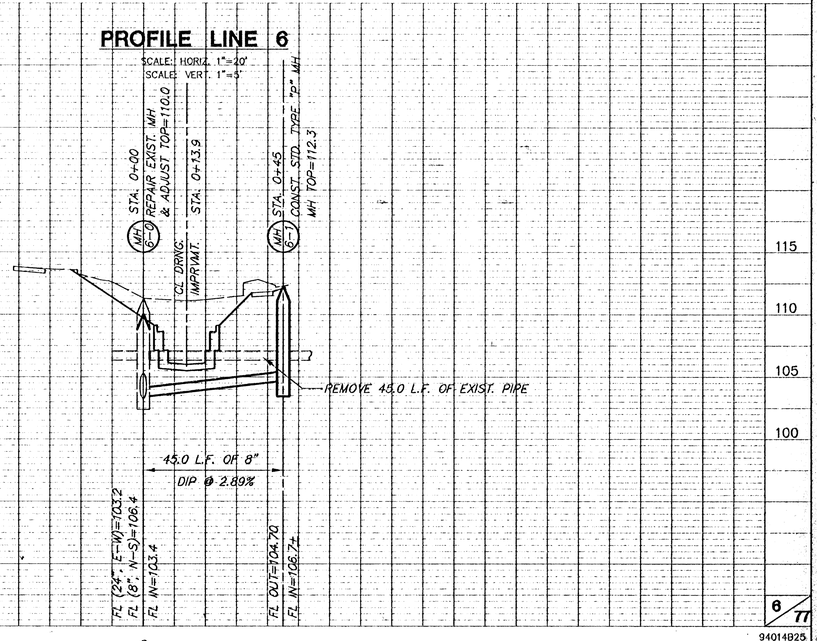


PLAN LINE 6

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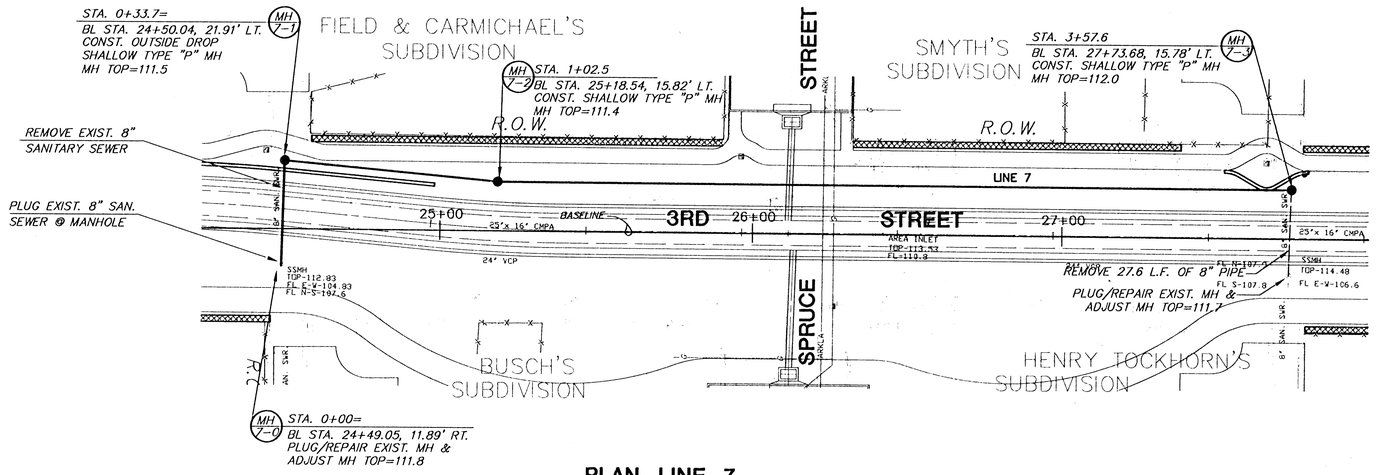
PROFILE LINE 6

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



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3RD STREET DRAINAGE
SANITARY SEWER PLANS
PROJ. NO. 468-82520

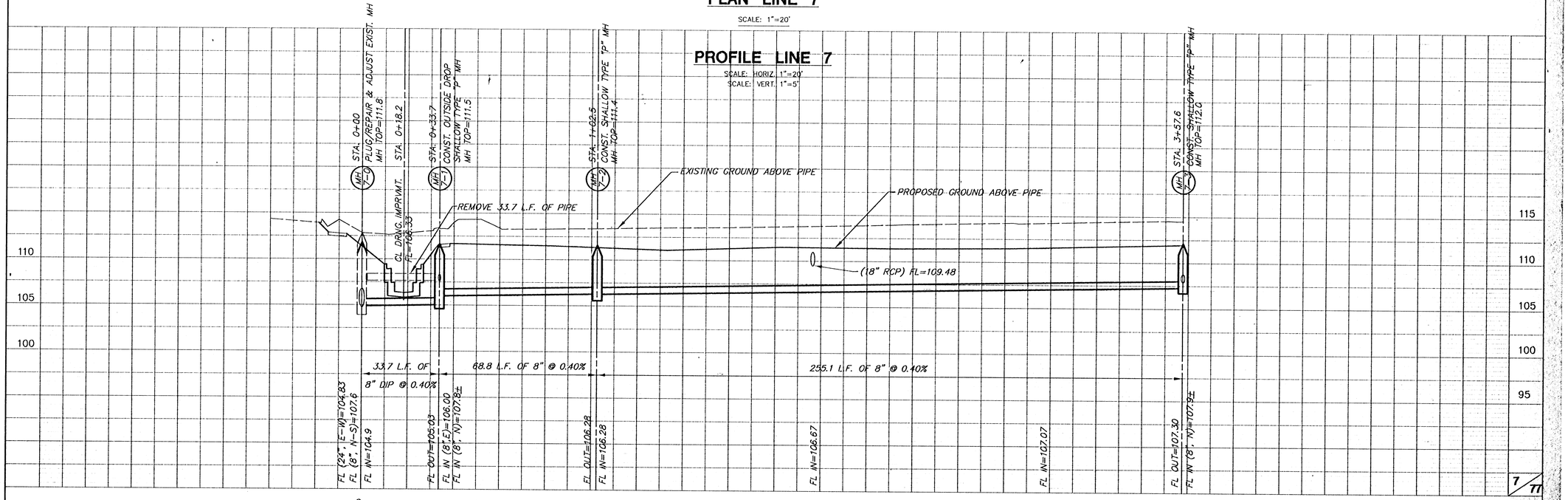


PLAN LINE 7

SCALE: 1"=20'

PROFILE LINE 7

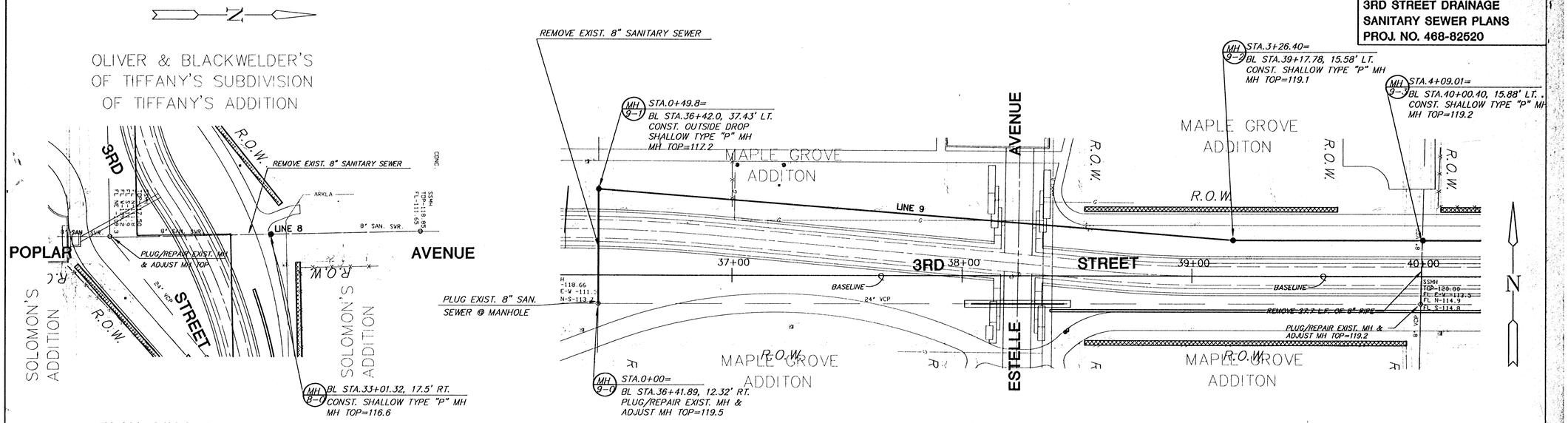
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SCALE: VERT. 1"=5'



7/11

94014_B3

3RD STREET DRAINAGE
SANITARY SEWER PLANS
PROJ. NO. 468-82520



PLAN LINE 8

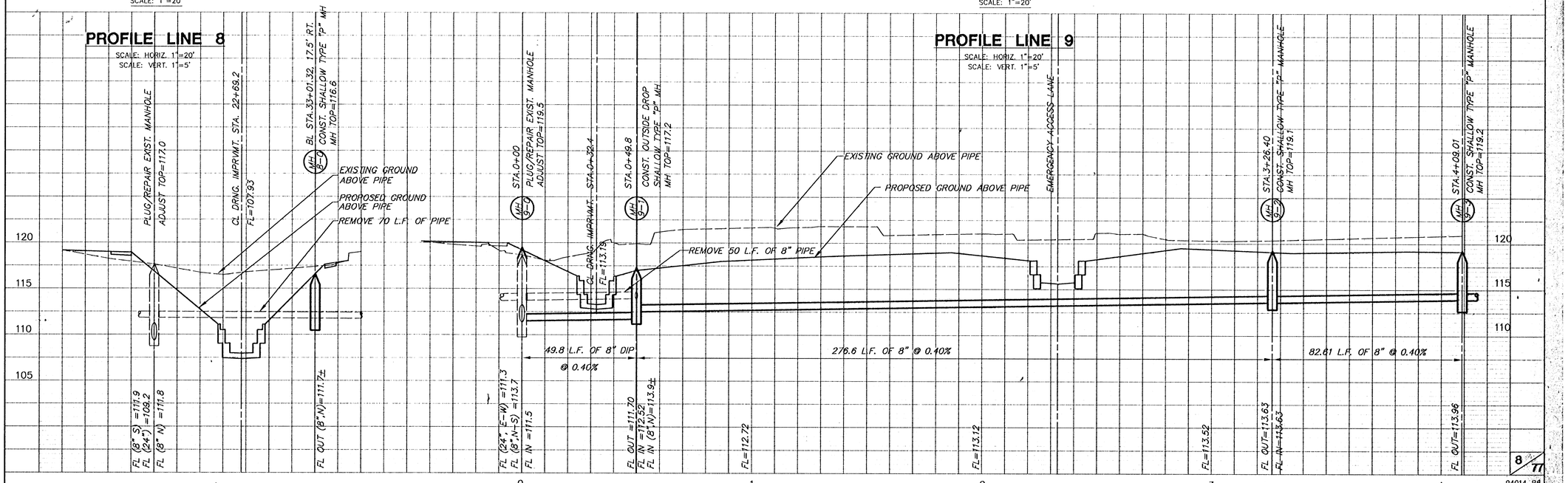
SCALE: 1"=20'

PLAN LINE 9

SCALE: 1"=20'

PROFILE LINE 8

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

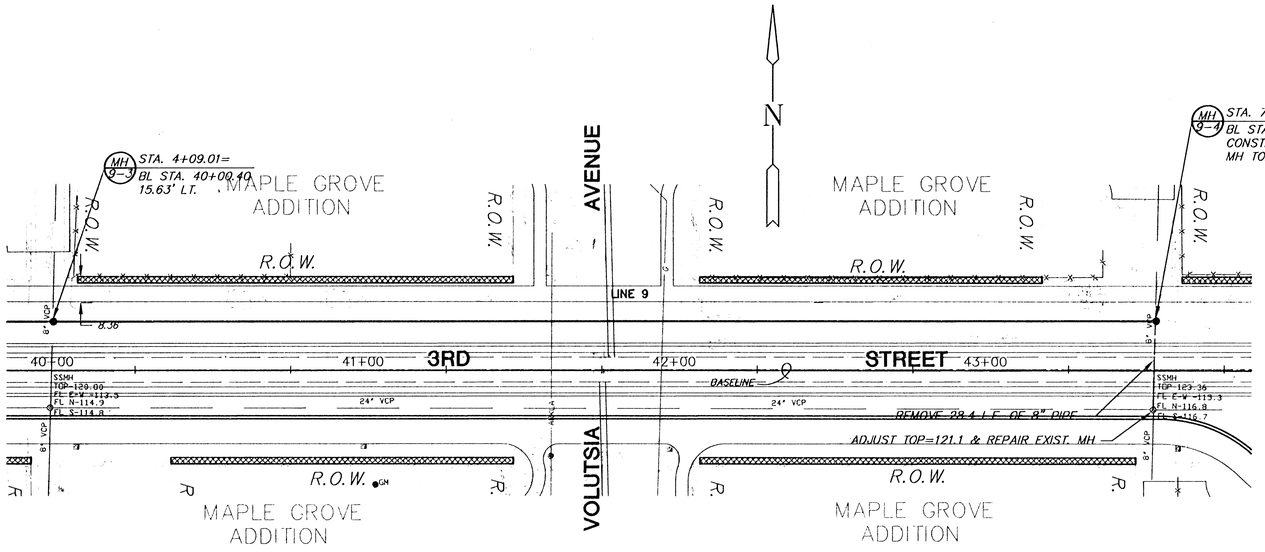


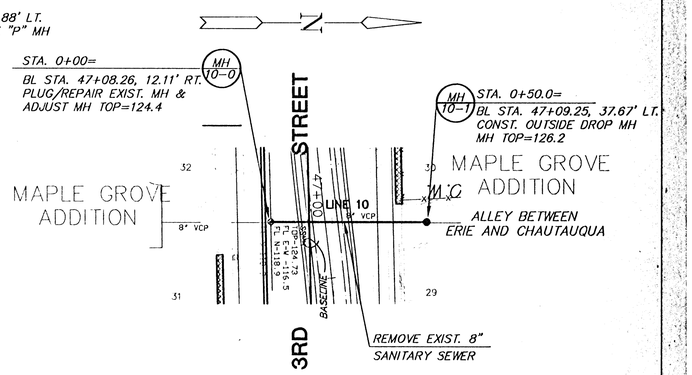
PROFILE LINE 9

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

94014_86

3RD STREET DRAINAGE
SANITARY SEWER PLANS
PROJ. NO. 468-82620



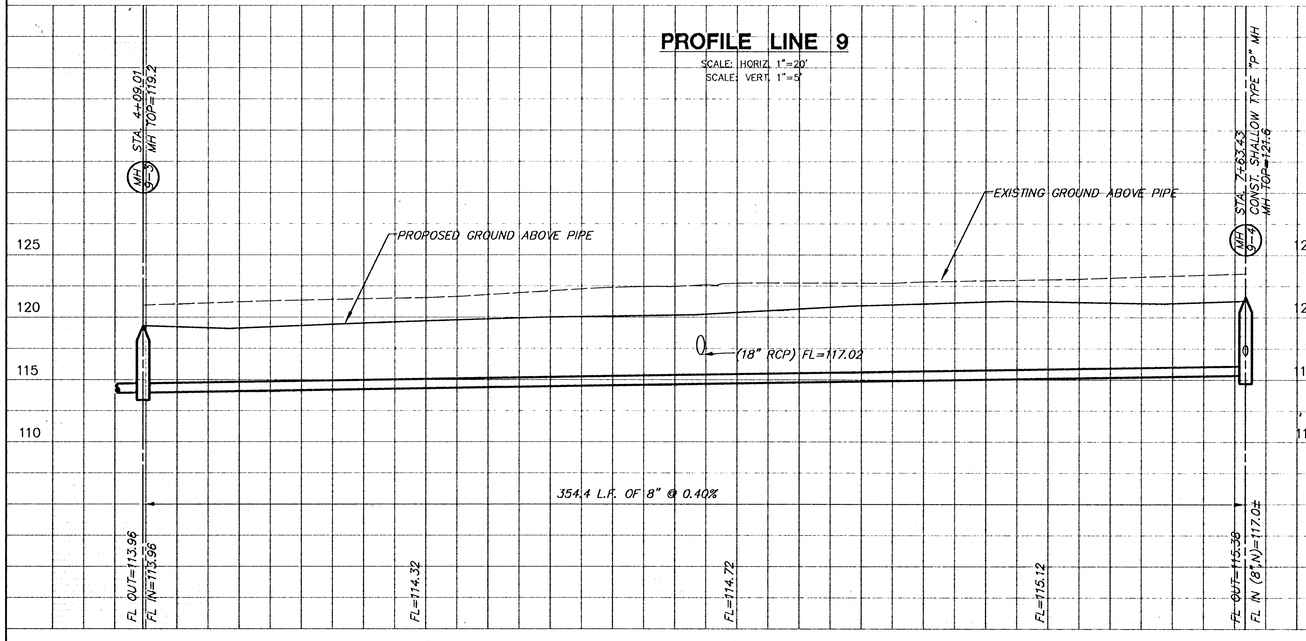


PLAN LINE 9

SCALE: 1"=20'

PROFILE LINE 9

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

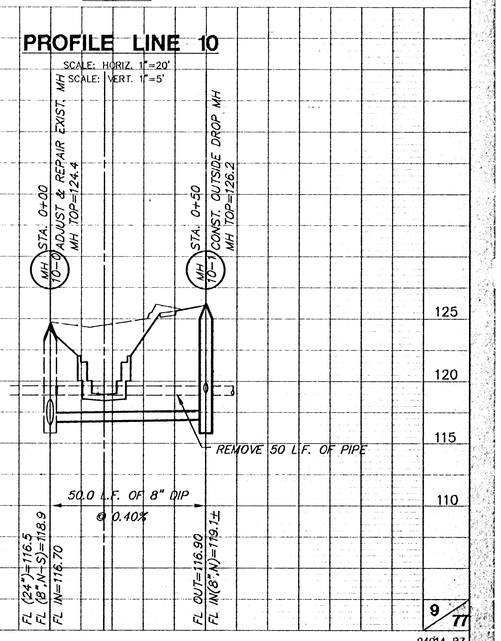


PLAN LINE 10

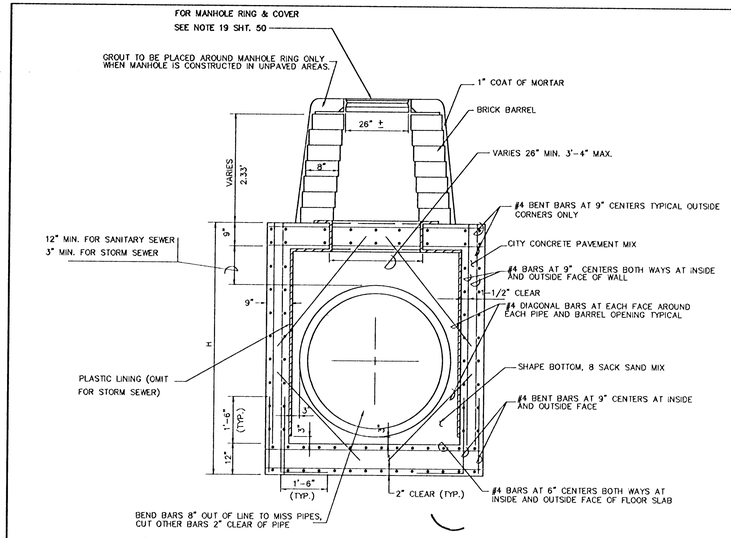
SCALE: 1"=20'

PROFILE LINE 10

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

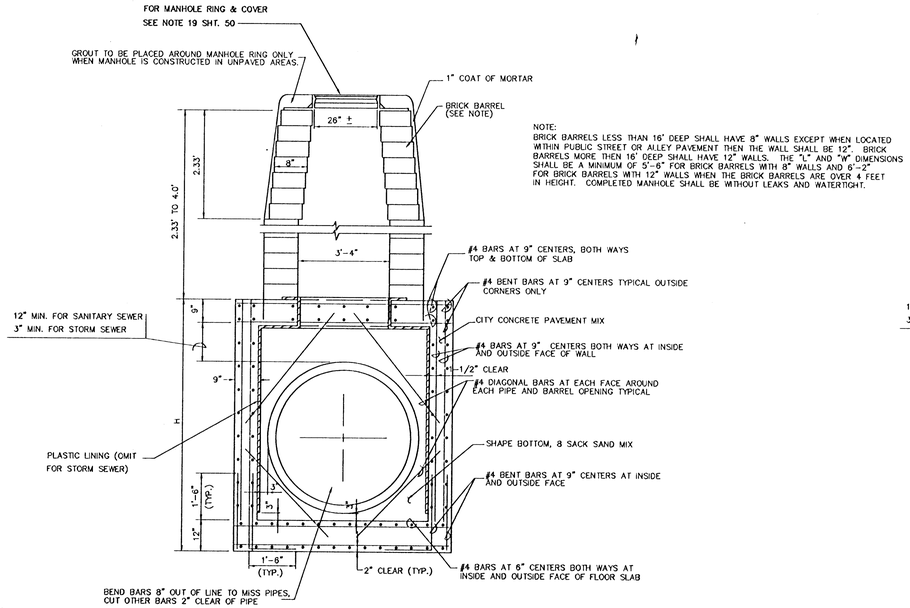


94014_B7



REINFORCED CONCRETE MANHOLE

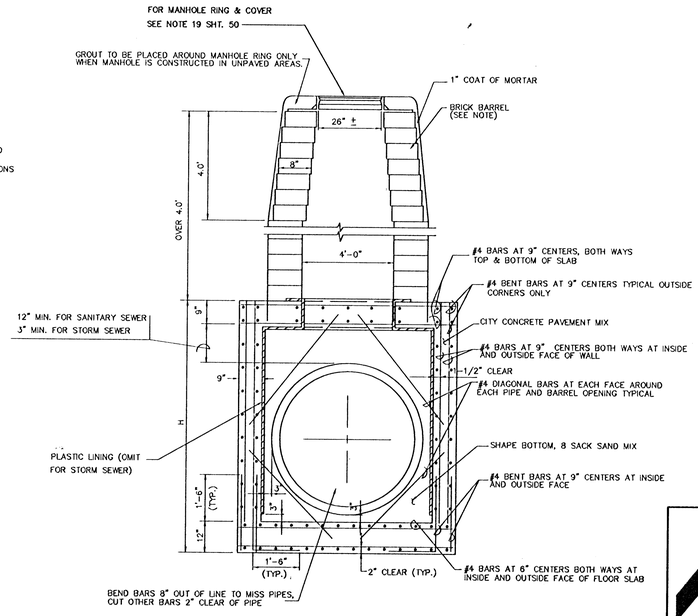
DEPTH OF STACK: 0' TO 2.33'



NOTE:
BRICK BARRELS LESS THAN 16' DEEP SHALL HAVE 8" WALLS EXCEPT WHEN LOCATED WITHIN PUBLIC STREET OR ALLEY PAVEMENT THEN THE WALL SHALL BE 12". BRICK BARRELS MORE THEN 16' DEEP SHALL HAVE 12" WALLS. THE "L" AND "W" DIMENSIONS SHALL BE A MINIMUM OF 5'-6" FOR BRICK BARRELS WITH 8" WALLS AND 6'-2" FOR BRICK BARRELS WITH 12" WALLS WHEN THE BRICK BARRELS ARE OVER 4 FEET IN HEIGHT. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATERTIGHT.

REINFORCED CONCRETE MANHOLE

DEPTH OF STACK: 2.33' TO 4.0'



REINFORCED CONCRETE MANHOLE

DEPTH OF STACK: OVER 4.0'

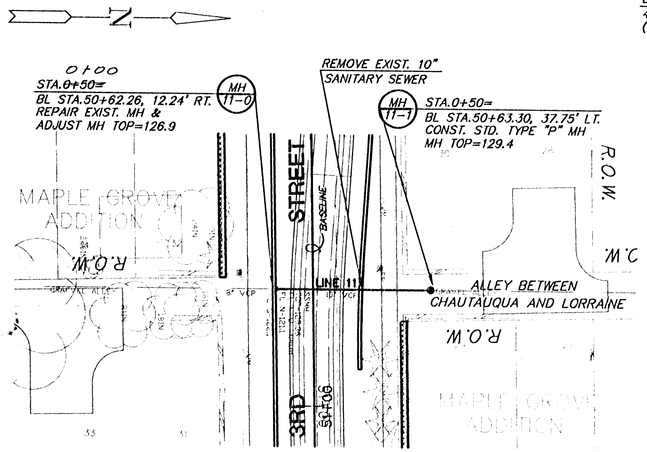
MID-KANSAS ENGINEERING CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

AREA "K" - 3RD STREET STORM WATER IMPROVEMENTS
PROJECT NAME

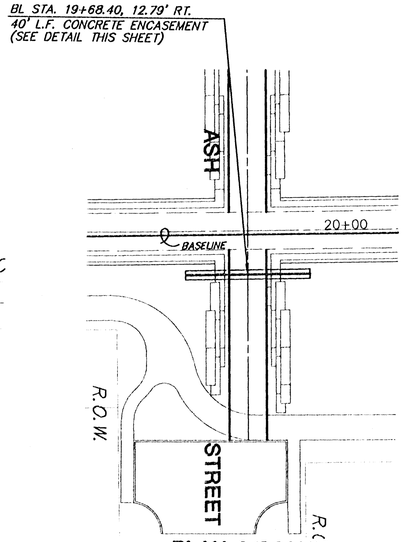
REINFORCED CONCRETE MANHOLE
SHEET TITLE

DESIGN BY:	DRAWN BY:	CHECKED BY:
FEB, 1996	93031	51 / 77
DATE	JOB NO.	SHEET OF

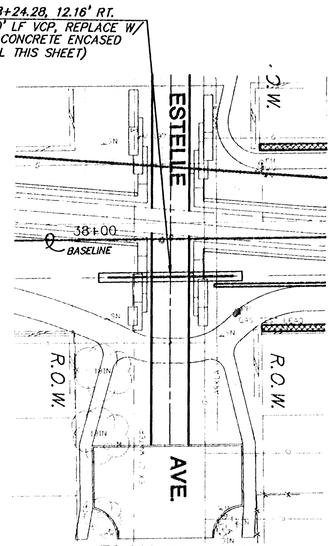
3RD STREET DRAINAGE
SANITARY SEWER PLANS
PROJ. NO. 468-82520



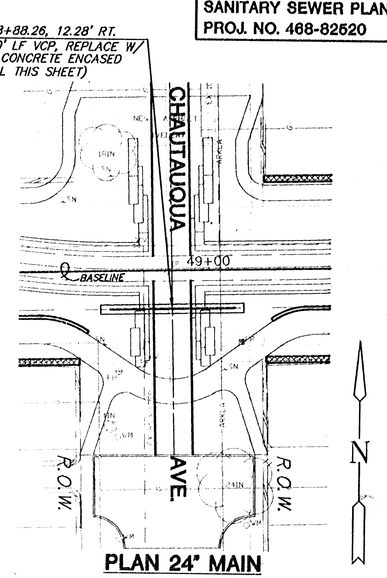
PLAN LINE 11



PLAN 24" MAIN
@ ASH ST. ACCESS CROSSING

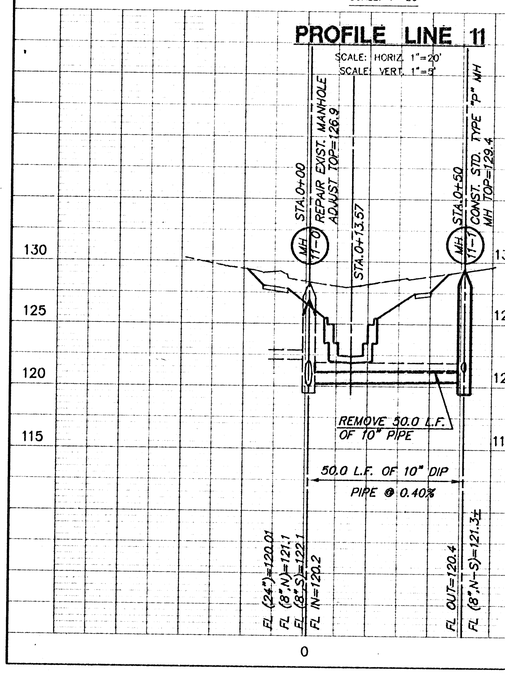


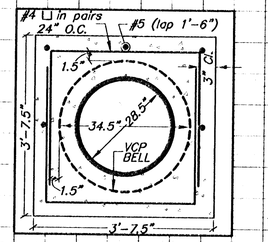
PLAN 24" MAIN
@ ESTELLE AVE. ACCESS CROSSING



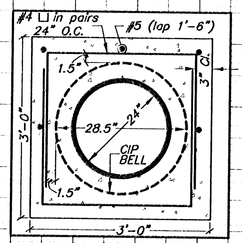
PLAN 24" MAIN
@ CHAUTAUQUA AVE. ACCESS CROSSING

SCALE: 1"=20'

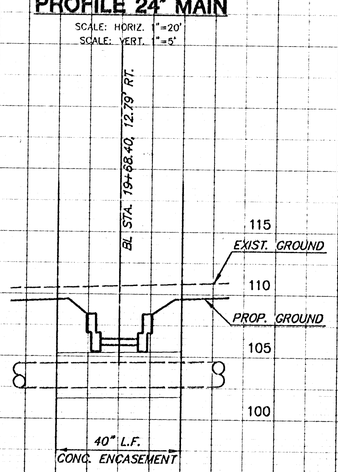


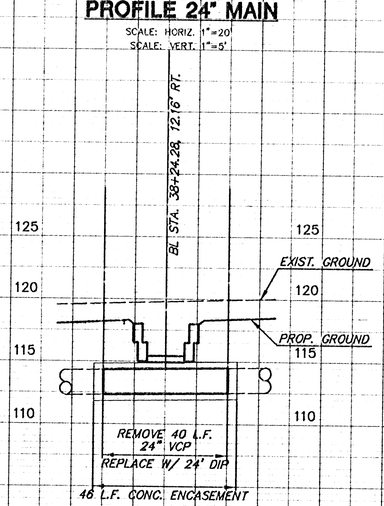


CONCRETE ENCASEMENT DETAIL
FOR EXIST. VITRIFIED CLAY PIPE

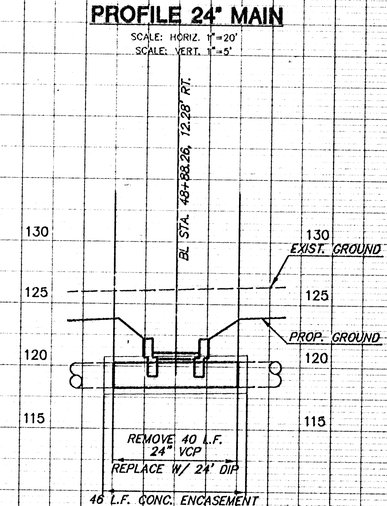


CONCRETE ENCASEMENT DETAIL
FOR PROPOSED CAST IRON PIPE





NOTE: CONC. ENCASEMENT CONFLICTS WITH GABIONS. SHAPE GABION CAGES AROUND CONC. ENCASEMENT.
USE PIPE ADAPTER AS REQUIRED TO MAKE JOINTS AT VITRIFIED CLAY TO CAST IRON PIPE JUNCTION.

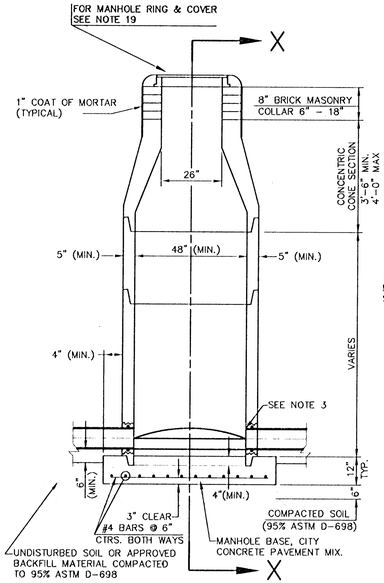


NOTE: CONC. ENCASEMENT CONFLICTS WITH PAVEMENT. TOP OF ENCASEMENT & PAVEMENT SHALL BE INTEGRAL.
CONC. ENCASEMENT CONFLICTS WITH GABIONS. SHAPE GABION CAGES AROUND CONC. ENCASEMENT.
USE PIPE ADAPTER AS REQUIRED TO MAKE JOINTS AT VITRIFIED CLAY TO CAST IRON PIPE JUNCTION.

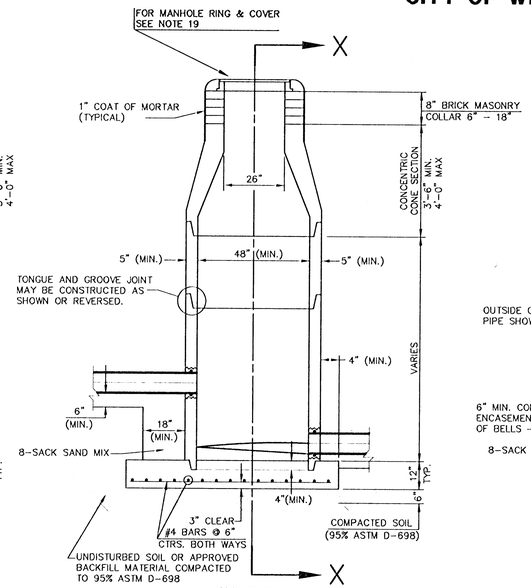
94014_B8

SEWER APPURTENANCES DETAILS

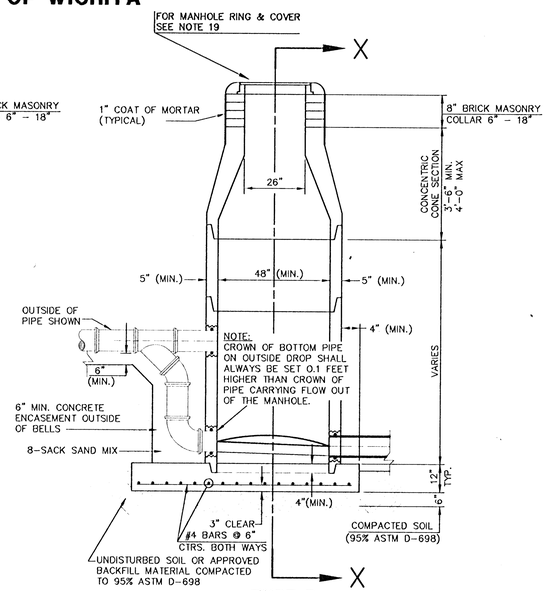
ADOPTED AS STANDARD DESIGN BY CITY OF WICHITA



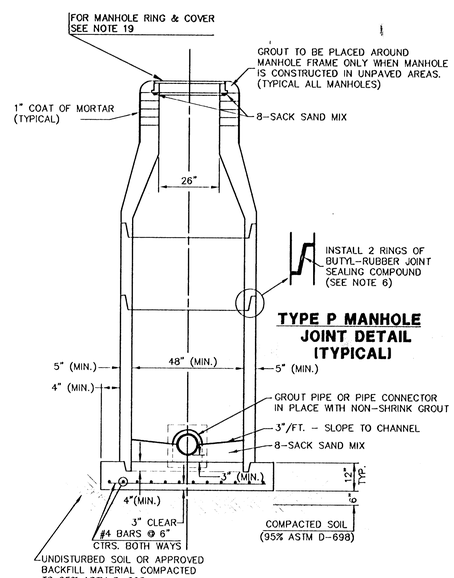
TYPE P
STANDARD MANHOLE



TYPE P
INSIDE DROP MANHOLE



TYPE P
OUTSIDE DROP MANHOLE

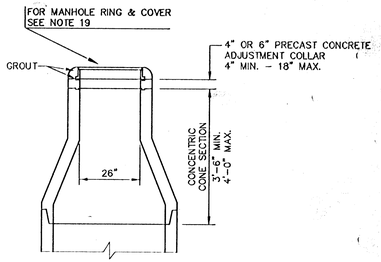


TYPE P MANHOLE JOINT DETAIL (TYPICAL)

SECTION X (TYPICAL)

GENERAL NOTES - PRECAST MANHOLE NOTES

1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS 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 INEMEC 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 2' FOR INFLOWING PIPES. 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.
19. CONTRACTOR SHALL INSTALL DEETER 1247-B (OR EQUAL) MANHOLE RING & COVER W/ 'O' RING GASKET ON ALL MANHOLES CONSTRUCTED OR ADJUSTED.



ALTERNATE CONSTRUCTION IN UNPAVED AREAS

REVISED: 6-12-86

MANHOLE DETAILS

CITY OF WICHITA, KANSAS

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