AP 19252

SSMH
Top 154.44
℄ 139.41
1320'± East of East R/W Rock Road
283'± South of South R/W Kellogg

8"VCP

STA. 0+00 Const. Std. Manhole Type "P"
℄ 139.77±

STA. 0+00 PLUG AND ABANDON EXISTING LINE

Existing Canopy (to be removed)

6"PVC @ 1%

LP (to be removed)

4" SEWER SERVICE

90°BEND, 6"
℄ 151.3

Existing Building (to be removed)

Elect. Conduit to be removed

Elect. & Tele. Conduits See Sh. C5

Exist curb & walk to be removed

8"VCP

EXIST. CURB to be Removed

8"x6" REDUCER
8"x6"x6" TEE
℄ 150.8

6"PVC @ 8.2%
8" PVC @ 1%
6"PVC @ 3.3%

SSMH
Top 155.02
℄ 140.52

8"VCP
90°

SWMH
Top 151.14
℄ 142.09

30" CMP

LP to be removed

Inlet
Top 154.92
℄ 145.32

Elect. Conduit to be abandoned

NEW BUILDING
FF=156.4

LP to be removed

6"x6" REDUCER
8"x6"x6" TEE ℄ 150.5
8" CHIMNEY
6" SADDLE BRANCH TOP OF EXIST. PIPE 146.1±

SIGN

NEW CANOPY

New Curb

90°BEND, 6"
℄ 151.1

END ALL THREE STORM DRAIN LINES ℄ 1.17' FROM FACE OF CURB, I.e. 5.0' FROM FACE OF COLUMN, AND ℄ ELEV. 151.4, SEE PLUMBING PLANS FOR CONTINUATION.

GAS LINE

WATER LINE

Gas to be plugged and abandoned

Exist. edge of pavement

Exist Signs to be removed

6" Water Line to be plugged and abandoned, (By General Contractor)

Property Line

Approx. location of sewer line to be plugged and abandoned.

2+03.4

STA. ~~1+33.5~~ Const. Std. Manhole Type "P"
℄ 140.55

Note: This Manhole to be constructed in the median, not in the parking.

3+13.5

STA. ~~3+02.5~~ Const. Std. Manhole Type "P"
℄ 140.98±

Existing Building (to be removed)

Exist. Canopy to be removed

Exist. Curb to be removed

8"VCP

Exist. Water Line to be plugged and abandoned (by General Contractor)

SSMH
Top 155.21
℄ 141.71

Inlet
Top 154.49
℄ 149.95
932'± East of East R/W Rock Road
124'± South of South R/W Kellogg

Inlet
Top 154.92
℄ 153.97

Exist. Sign to be removed

STA. 3+01.5
Plug and abandon exist. line

SADDLE BRANCH DETAIL
n. t. s.

Saddle Plate 16 Ga. Corr. Metal

24" Min. Shop Weld

Section A-A

Plug existing lines. Fill existing Manholes with compacted backfill. Remove and dispose of lids, rings and masonry collars.

BENCH MARK:
CHISELED SQUARE TOP OF CURB AT NORTH SIDE KELLOG DRIVE
ELEV. 151.58

SCALE
30 0 30 60
PLAN: LAT. & LONG.
PROFILE: HORIZ. SAME AS ABOVE
VERT.

NOTE: All lines to be plugged, shall be plugged with concrete.

NOTE: CONTRACTOR SHALL VERIFY EXISTING LINE LOCATIONS AND ELEVATIONS PRIOR TO START OF CONSTRUCTION, AND SHALL MAINTAIN SEWAGE FLOWS (IF ANY) THROUGHOUT CONSTRUCTION.

PLAN
SURVEYED
PLOTTED
NOTE BOOK
GRADE CHECKED
ALIGNMENT CHECKED
NO.
BY
DATE
RT. OF WAY CHECKED

SANITARY SEWER LINE NO-3

(1+00)

Top Manhole Elev. ~~154.0~~ 153.42

Existing Ground

Exist. Building to be removed

Exist. Elect. Conduit to be removed

Sta. 1+00
4" Sewer Service w/cap
End ℄ 150

Top Manhole Elev. ~~156.0~~ 156.14

Proposed Grade

Top Manhole Elev. ~~156.0~~ 155.19

2+03.4 (1+98.6)

3+13.5 (3+02.5)

160
155
150
145
140
135
130

S = 10.00

6" VCP
0.500% Grade Existing (PRIVATE)

193.5 L.F. 8" PVC PIPE
0.30~~0~~% ± Grade (PRIVATE)
0.36%

107 L.F. 8" PVC PIPE
0.30~~0~~% ± Grade (PRIVATE)
0.39%

8" VCP
0.508% Grade Existing (PRIVATE)

39.54 L. out
140.46 E. IN (PRIVATE)
40.19 Cm

40.35 L. out
140.46 E. IN (PRIVATE)
40.19 Cm

40.89 L. out
140.86 E. IN (PRIVATE)
40.19 Cm

0+00 0+60 1+20 1+80 2+40 3+00 3+60

As-Bilt Plans
S. E. Anderson
Whitewater, Ks.

Contractor:
W. B. Carter

October, 1990

NO. | BY | DATE

EASTGATE SHOPPING CENTER
BUILDING "L"
SANITARY SEWER ——— LINE 3
(PRIVATE)

POE & ASSOCIATES OF KANSAS, INC.
WICHITA, KANSAS

Designed by: W B & K H | Job No.
Drawn by: D M | Date: JULY, 1990
SHEET C3 of 7

PROFILE
SURVEYED
PLOTTED
NOTE BOOK
GRADE CHECKED
NO.
BY
DATE
R.W. NOTED (QUATRE CHK)
RECORDED (QUATRE CHK)

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CONSTRUCTION PLANS FOR

~~PAVING,~~ SANITARY SEWER, ~~STORM DRAIN, AND WATERLINE~~

FOR

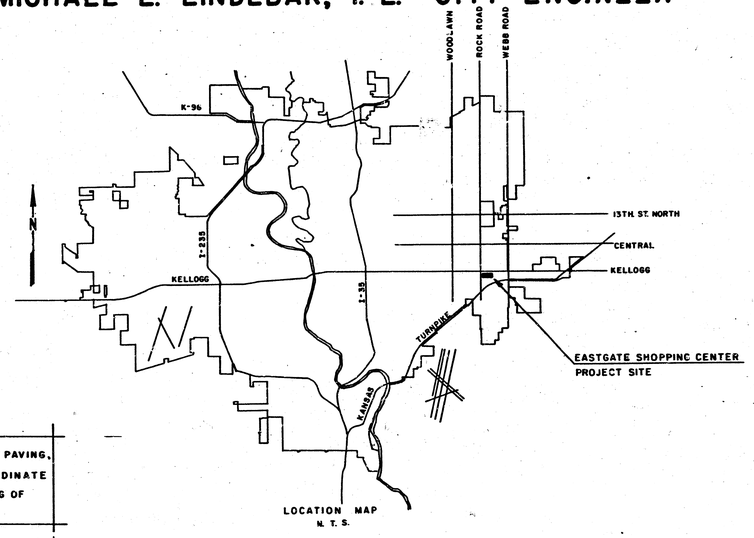
EASTGATE SHOPPING CENTER

BUILDING "L"

THE CITY OF WICHITA

SEDGWICK COUNTY, KANSAS

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



LOCATION MAP
N. T. S.

INDEX CODE 258PPS607861

JULY 1990

PLANS PREPARED BY

POE & ASSOCIATES OF KANSAS, INC.

ENGINEERS

WICHITA, KANSAS

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 General Contractor shall limit the extent of trench to remain open overnight to less than 50 feet.

4. General Contractor will be required to provide a minimum advance notice of twenty-four (24) hours to utility companies prior to starting any excavation as follows:

Kansas One-Call	1-800-344-7233

The General Contractor must notify the following in case of emergency:

Arkla Gas Company	942-8350 or 263-8161
Cablevision	262-4270 or 263-2061
KPL/Gas Service Company	263-7511
Kansas Gas and Electric	264-1141
City of Wichita Water Department	268-4908
City of Wichita Sewer Maintenance	268-4071
Southwestern Bell Telephone Company	1-571-2611

5. Existing utilities and their location, as shown on the plans, represent the best information obtainable for design. General Contractor shall confirm the location of all utilities prior to the start of construction. The General Contractor will be required to work around existing utilities which do not conflict with proposed construction.

6. The General Contractor shall give all property owners and/or tenants of developed property abutting the construction of this project a minimum of ten days advance notice prior to start of construction.

7. The General Contractor shall be responsible for preserving property irons. The General 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.

8. The General Contractor shall restore all ditches, swales, road shoulders, entrances, and slopes to the original slopes and grades except a shown otherwise on the plans.

9. All grassed areas disturbed by the General Contractor shall be seeded, fertilized and mulched in accordance with the City of Wichita Standard Specifications.

10. The General Contractor shall maintain traffic at all times, including necessary fire lanes. The General Contractor shall utilize barricades, guards and flagmen in accordance with the Manual of Uniform Traffic Control Devices.

11. Trees and shrubs which are in direct conflict with proposed new construction shall be removed by the General 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.

12. General 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.

13. The General Contractor shall be responsible for maintaining continuous flow of sewage through construction.

14. General Contractor shall provide positive drainage away from all manhole covers.

15. All water mains and appurtenances shall be installed in accordance with City of Wichita Standard Specifications for Water Installations No. 14533.

16. Opening and closing water valves shall be done slowly to prevent damage to the water distribution system from water hammer. All valves closed by the General Contractor must be reopened as new construction permits. General Contractor will be permitted to operate water valves only when the project inspector assigned to the project is present.

17. Electric conduit sizes and locations, light pole details, telephone conduit sizes and locations and sign details are shown on the Electric plans. All conduits will be installed prior to the start of any pavement construction, except for pavement repair.

18. Unless noted otherwise, all dimensions are to center of pipes, center of manholes and face of curb.

19. Irrigation sleeve sizes and locations are shown on the Architectural plans. All sleeves will be installed by the General Contractor prior to the start of any pavement construction, except for pavement repair.

20. All existing inlets, manholes, valve boxes and similar items which are to remain, must be adjusted by the General Contractor to meet the final pavement grades.

21. All sanitary sewer manholes will be "Type P" manholes.

NOTE: PRIOR TO INSTALLATION OF PAVING, GENERAL CONTRACTOR SHALL COORDINATE WITH THE OWNER AS TO SCHEDULING OF PAVING CONSTRUCTION.

NOTE: THE WATER DEPARTMENT REQUIRES DEPOSITS FOR ESTIMATED COST OF TAPS, SERVICES AND METER SET, WHERE PLANS INDICATE "FURNISHED" OR "BY CITY OF WICHITA."

INDEX OF SHEETS

C 1	Title sheet
C 2	Water and Sewer Layout
C 3	Sanitary Sewer 3
C 4	Details

WICHITA STANDARD DRAWINGS

C 5	Sewer Appurtenances Details
C 6	Manhole Frame and Cover Detail
C 7	Vertical Riser Detail

APPROVED AS NOTED
By CITY ENGINEER OF WICHITA

Sanitary Sewers 2/19/90

Storm Sewers _____

Driveway Approaches _____

Water Mains _____

Paving _____

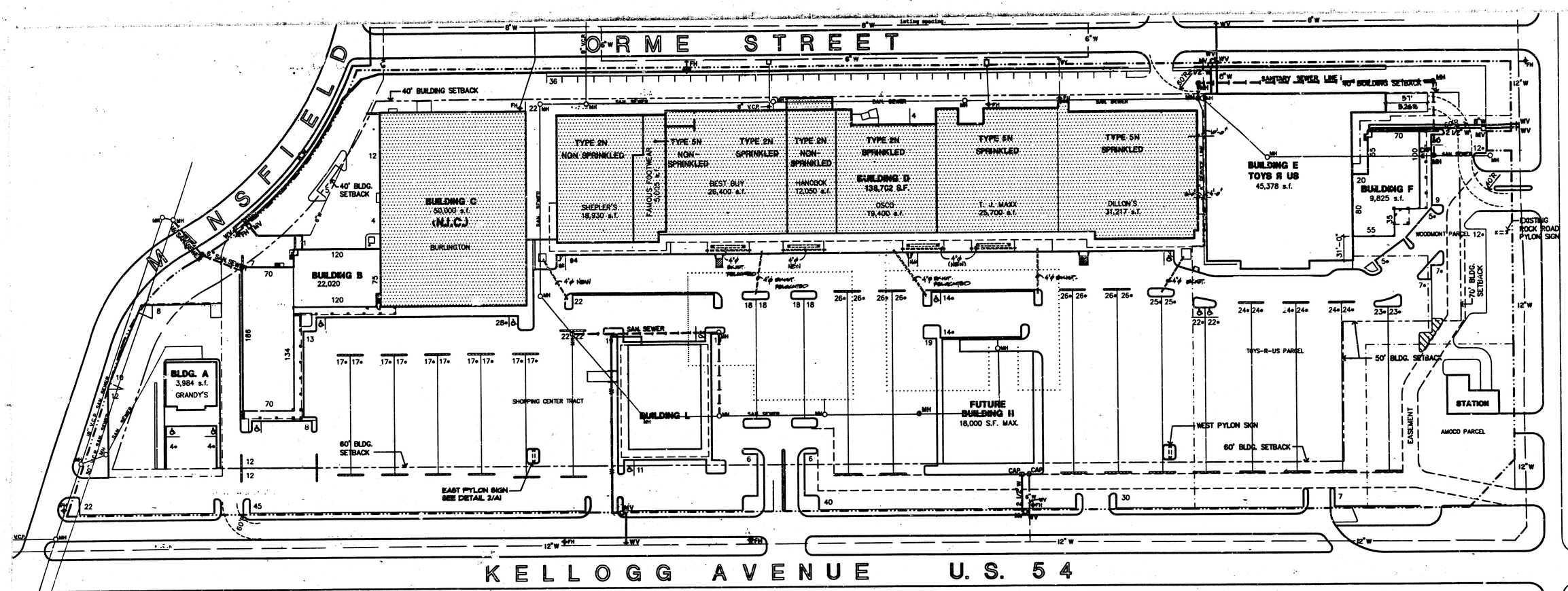
NOTE TO CONTRACTOR

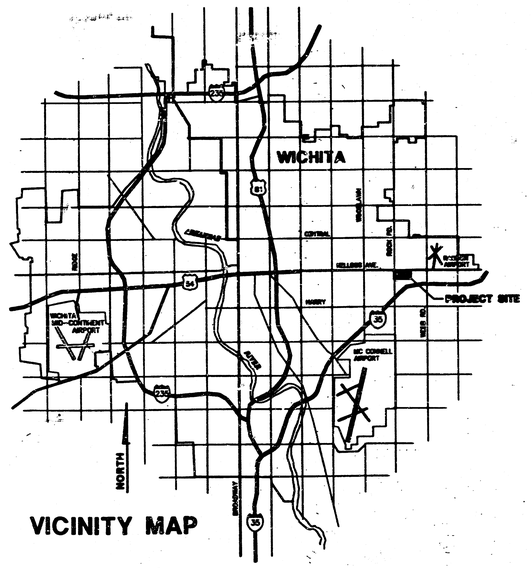
INSPECTION AND TESTING FOR THIS PROJECT IS TO BE PROVIDED BY A LICENSED CONSULTING ENGINEERING FIRM UNDER CONTRACT WITH THE OWNER/DEVELOPER. SAID INSPECTION TO BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD CONSTRUCTION ENGINEERING PRACTICES AND CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER. NO WORK SHALL BE PERFORMED IN DEDICATED EASEMENTS OR THE PUBLIC RIGHT-OF-WAY BY THE CONTRACTOR WITHOUT SUCH INSPECTION NOR SHALL ANY WORK BE COMMENCED IN DEDICATED EASEMENTS OR PUBLIC RIGHT-OF-WAY WITHOUT WRITTEN AUTHORIZATION BY THE CITY ENGINEER.

KENNY E. HILL LICENSED 7690 KANSAS PROFESSIONAL ENGINEER 2/19/90

2/9

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VICINITY MAP

NOTE:- PER SHEETS A2.1 & A2.2. FOR PAVING, WALLS & LANDSCAPE AREAS.
- G.C. - GENERAL CONTRACTOR.

NORTH

1 / A1.0 SITE PLAN
SCALE: 1" = 60'-0"

8933-A10

TABULATION:

LAND AREA				
SHOPPING CENTER TRACT	18.15 AC.			
WOODMONT - PARCEL	1.17			
TOTAL WOODMONT LAND AREA	19.32 AC.			
TOYS R US - PARCEL	3.40			
AMOCO - PARCEL	0.92			
TOTAL LAND AREA =	23.73 AC.	x .30 =	310,104 s.f.	

BUILDING AREA	PROJECT AREAS	REQUIRED RATIOS	PARKING REQUIRED	PARKING PROVIDED
BUILDING A - GRANDY'S	3,984 s.f.	1/ 125	32	
BUILDING B	22,020	1/ 250	88	
BUILDING C - BURLINGTON	50,000	1/ 250	200	
BUILDING D	139,782	1/ 250	556	
BUILDING F	9,825	1/ 250	39	
BUILDING H	18,000	1/ 250	72	
BUILDING L	13,500	1/ 250	54	
TOTALS =	257,691 s.f.		1049	1195
AMOCO STATION	3,000 s.f.	1/ 250	12	
TOYS R US - BUILDING E	45,378 s.f.	1/ 220	206	224
TOTALS =	305,469 s.f. of coverage		1268	1419 CARS

EASTGATE SHOPPING CENTER
WATER & SANITARY SEWER LAYOUT
DATE: JULY 1990
BUILDING L

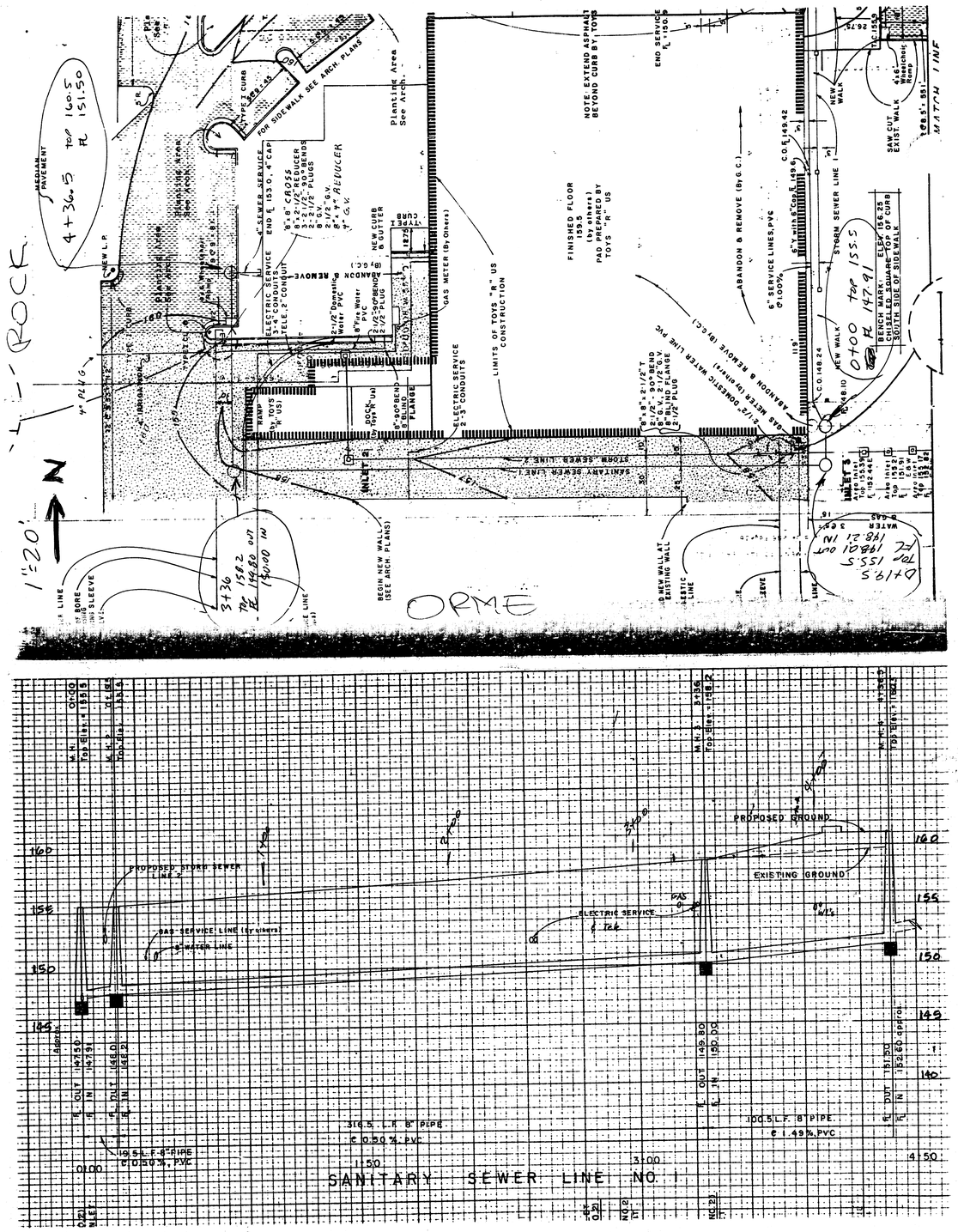
POE & ASSOCIATES OF KANSAS, INC.

LEGEND

- PROPERTY LINE
- BUILDING SETBACK
- PARCEL LINE
- BUILDING TO BE DEMOLISHED
- SPOT GRADE
- PAINTED ISLAND 4" STRIPES
- RAISED CURBS PARKING COUNT
- HANDICAP SPACE
- SPOT ELEVATION
- PROPOSED BLDGS. TO BE RENOVATED
- PROPOSED SANITARY SEWER LINE
- PROPOSED WATER LINE
- EXISTING WATER LINE
- EXISTING SANITARY SEWER

C2 OF 7

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PROJECT DESCRIPTION

LINE 1

PROJECT NUMBER

SHEET C-2A

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AF 19252

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS

SSMH
Top 154.44
℄ 139.41
1320'± East of East R/W Rock Road
283'± South of South R/W Kellogg

8"VCP

STA. 0+00 Const. Std. Manhole Type "P"
℄ 139.77±

STA. 0+00 PLUG AND ABANDON EXISTING LINE

Elect Conduit to be removed

6"PVC @ 1%

90°BEND, 6"
℄ 151.3

Elect. & Tele Conduits See Sh. C5

8"x6" REDUCER, 8"x6" TEE
℄ 150.8

6"PVC @ 8.2%

8"PVC @ 1%

6"PVC @ 3.3%

SWMH
Top 151.14
℄ 142.09

231.8'

Saddle Plate 16 Ga. Corr. Metal

2½" Min. Shop Weld

Section A-A

SADDLE BRANCH DETAIL
n. t. s.

Plug existing lines. Fill existing Manholes with compacted backfill. Remove and dispose of lids, rings and masonry collars.

8"x6" REDUCER
8"x8"x8" TEE ℄ 150.5
8" CHIMNEY
8" SADDLE BRANCH
TOP OF EXIST. PIPE
146.1±

90°BEND, 8"
℄ 151.1

GAS LINE

2" WATER LINE

BENCH MARK:
CHISELED SQUARE TOP OF CURB AT NORTH SIDE KELLOG DRIVE
ELEV. 151.58

Existing Canopy (to be removed)

6"PVC @ 1%

LP (to be removed)

4" SEWER SERVICE

90°BEND, 6"
℄ 151.3

28'

17.67'

Existing Building (to be removed)

6"PVC @ 1%

Exist. curb & walk to be removed

50'

EXIST. CURB & GUTTER REMOVED

8"VCP

SSMH
Top 155.02
℄ 140.52

3"VCP

90°±

30" CMP

LP to be removed

Top ℄ 145.32

Inlet Top 154.92

Elect. Conduit to be abandoned

NEW BUILDING
FF=156.4

LP to be removed

NEW CANOPY

New Curb

END ALL THREE STORM DRAIN LINES ℄ 1.17' FROM FACE OF CURB, i.e. 5.0' FROM FACE OF COLUMN, AND ℄ ELEV. 151.4, SEE PLUMBING PLANS FOR CONTINUATION.

Gas to be plugged and abandoned

Exist. edge of pavement

Approx. location of sewer line to be plugged and abandoned.

STA. 1+95.5 Const. Std. Manhole Type "P"
℄ 140.55

Note: This Manhole to be constructed in the median, not in the parking.

STA. 3+02.5 Const. Std. Manhole Type "P"
℄ 140.98±

Existing Building (to be removed)

Exist. Canopy to be removed

Exist. Curb to be removed

145'±

8"VCP

Exist. Water Line to be plugged and abandoned (By General Contractor)

SSMH
Top 155.21
℄ 141.71

Inlet
Top 154.49
℄ 149.95
932'± East of East R/W Rock Road
124'± South of South R/W Kellogg
Exist. Sign to be removed

Inlet
Top 154.92
℄ 153.97

STA. 3+01.5 Plug and abandon exist. line

6" Water Line to be plugged and abandoned, (By General Contractor)

Property Line

Exist Signs to be removed

SCALE
30 0 30 60

PLAN: LAT. & LONG.
PROFILE: HORIZ. SAME AS ABOVE
VERT.

NOTE: All lines to be plugged, shall be plugged with concrete.

NOTE: CONTRACTOR SHALL VERIFY EXISTING LINE LOCATIONS AND ELEVATIONS PRIOR TO START OF CONSTRUCTION, AND SHALL MAINTAIN SEWAGE FLOWS (IF ANY) THROUGHOUT CONSTRUCTION.

PLAN
SURVEYED
PLOTTED
NOTE BOOK
ALIGNMENT CHECKED
RT. OF WAY CHECKED
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
LOCATION CHECKED
NOTE BOOK
B. M.'s NOTED
STRUCTURE NOTATN'S CHKD.
NO.
BY
DATE

SANITARY SEWER LINE NO-3

(1100) (1195.5) (1302.5)

Top Manhole Elev. 154.2

Top Manhole Elev. 156.2

Top Manhole Elev. 156.2

Existing Ground

Exist. Building to be removed

Proposed Grade

Exist Elect Conduit to be removed

Sta. 1+05
4" Sewer Service w/cap
End ℄ 150

160
155
150
145
140
135
130

8" VCP
℄ 0.500% Grade
Existing
(PRIVATE)

195.5 L.F. 8" PVC PIPE
℄ 0.302% ± Grade
(PRIVATE)

107 L.F. 8" PVC PIPE
℄ 0.308% ± Grade
(PRIVATE)

8" VCP
℄ 0.508% Grade
Existing
(PRIVATE)

139.77 ℄ OUT
139.87 ℄ IN
(PRIVATE)

140.46 ℄ OUT
140.55 ℄ IN
(PRIVATE)

140.86 ℄ OUT
140.96 ℄ IN
(PRIVATE)

0+00 0+60 1+20 1+80 2+40 3+00 3+60

NO.	BY	DATE

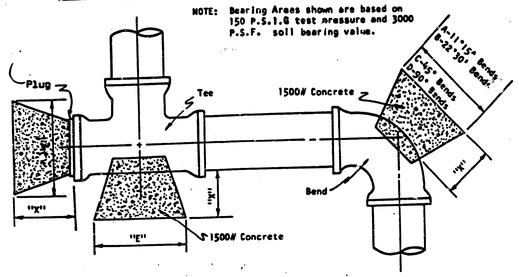
EASTGATE SHOPPING CENTER
BUILDING "L"
SANITARY SEWER ——— LINE 3
(PRIVATE)

POE & ASSOCIATES OF KANSAS, INC.
WICHITA, KANSAS

Designed by: W B & K H	Job No.	SHEET C3 of 7
Drawn by: D M	Date: JULY, 1990	

5/9

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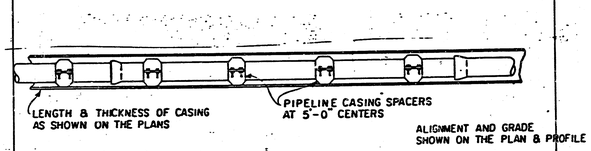
HORIZONTAL BLOCKING TABLE

*Dimension "X" May Vary If Necessary To Provide Bearing Against Undisturbed Trench Wall

Pipe Size	X-o Dim. Ft.	11° - 15°			22° - 30°			45°			90°			Tee & Plug		
		"A"	Min. Area	Max. Vol	"B"	Min. Area	Max. Vol	"C"	Min. Area	Max. Vol.	"D"	Min. Area	Max. Vol.	"E"	Min. Area	Max. Vol
4"	1	.90	.80	.05	.95	.90	.05	.95	.90	.05	.91	.82	.05	1.16	.58	.05
6"	1.5	.90	.80	.05	.95	.90	.05	1.05	1.10	.05	1.73	1.98	.05	1.18	1.43	.05
8"	1.5	.90	.80	.05	.95	.90	.05	1.41	2.00	.05	1.86	3.42	.1	1.57	2.46	.1
10"	1.5	.90	.80	.05	1.26	1.60	.05	1.79	3.20	.1	2.18	5.62	.2	1.99	3.98	.15
12"	1.5	1.10	1.20	.05	1.48	2.30	.1	2.14	4.50	.2	2.83	8.00	.3	2.38	5.65	.2
16"	2	1.41	2.00	.1	2.00	4.00	.1	2.83	8.00	.4	3.75	14.10	.65	3.16	10.00	.5
20"	2	1.77	3.10	.2	2.54	6.20	.3	3.52	12.40	.6	4.70	22.00	1.15	3.94	15.55	.75
24"	2	2.14	4.50	.25	3.00	9.00	.5	4.25	18.10	.95	5.65	32.00	1.85	4.76	22.60	1.05
30"	2.5	2.66	7.10	.55	3.78	14.20	1.0	5.30	28.20	1.75	7.05	49.20	3.4	5.91	35.33	2.1
36"	2.5	3.33	10.00	.75	4.50	20.40	1.4	6.36	40.80	2.65	8.50	72.00	5.1	7.20	51.00	2.95
42"	3	3.72	13.80	1.2	5.25	27.60	2.2	7.41	55.30	4.1	9.90	97.50	7.9	8.30	69.00	4.75
48"	3	4.38	18.30	1.6	6.00	36.00	2.9	8.48	72.00	5.4	11.14	126.50	10.4	9.50	90.03	6.15
54"	4.0	4.00	22.50	1.00	6.70	4500	7.00	9.40	8800	0.00	13.00	6200	16.00	10.70	115.00	12.00

NOTES: Minimum areas shown are in square feet. Volumes shown are in cubic yards. Vertical dimensions of all block bearing areas shall be identical to the horizontal dimension shown.

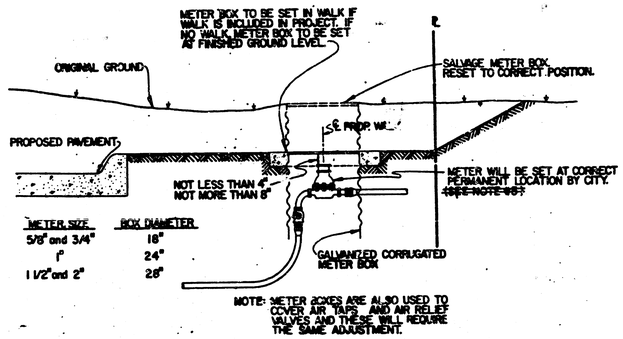
HORIZONTAL BLOCKING DETAIL



TYPICAL PIPELINE INSTALLATION

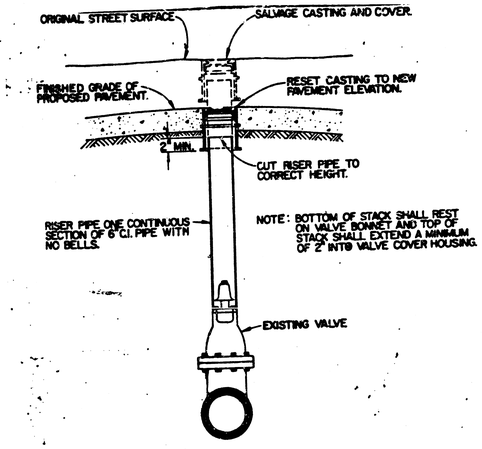
BY BORING AND JACKING

NO SCALE



METER BOX

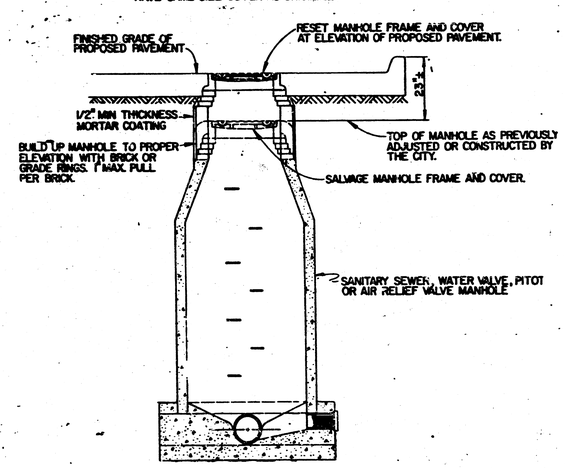
NO SCALE



VALVE COVER AND RISER PIPE

NO SCALE

STANDARD SIZE MANHOLE RINGS AND COVERS ARE 24" AND 42". COMPLETED MANHOLE MUST HAVE SAME SIZE COVER AS ORIGINAL.



STANDARD BRICK OR PRE-CAST MANHOLE

NO SCALE

NOTES

1. SANITARY SEWERS MUST BE KEPT CLEAR OF BROKEN CONCRETE, DIRT OR ANY OTHER DEBRIS RESULTING FROM CONSTRUCTION OPERATIONS.
2. PIPE TO BE EXTENDED OR REPLACED WILL BE OF THE SAME TYPE AS THE EXISTING UNLESS ALTERNATE TYPE IS APPROVED BY THE ENGINEER.
3. CASTINGS, COVERS OR ANY OTHER MATERIAL PARTS WHICH MAY BE DAMAGED OR LOST BY THE CONTRACTOR'S OPERATIONS WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE WITH CITY STANDARD APPURTENANCES.
4. THE ADJUSTED FACILITIES MUST BE CLEAN, FULLY OPERATIONAL AND EQUAL IN QUALITY WITH NEW CONSTRUCTION AT THE TIME OF FINAL INSPECTION OF THE PROJECT.

UTILITY ADJUSTMENTS

KENNY E. HILL LICENSED 7690 PROFESSIONAL ENGINEER

NO.		BY	DATE

EASTGATE SHOPPING CENTER
BUILDING "L"
DETAILS

POE & ASSOCIATES OF KANSAS, INC.
WICHITA, KANSAS

Designed by: WB & KH	Job No.	SHEET C4 of 9
Drawn by: DM	Date: JULY, 1990	

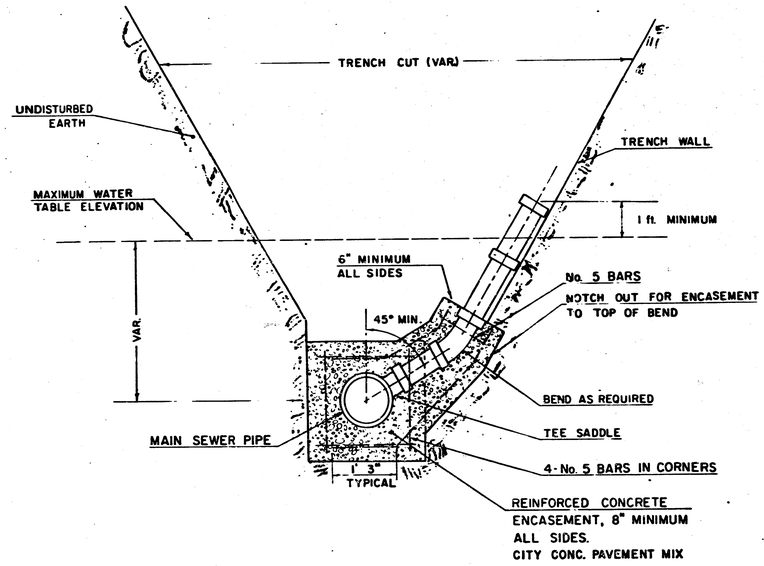
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REVISED APRIL, 1980
REVISED SEPT. 1989

VERTICAL RISER DETAIL

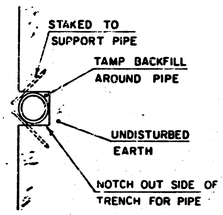
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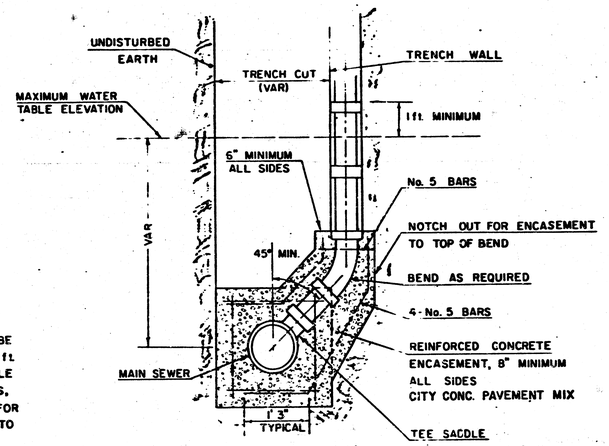
CITY OF WICHITA, KANSAS



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

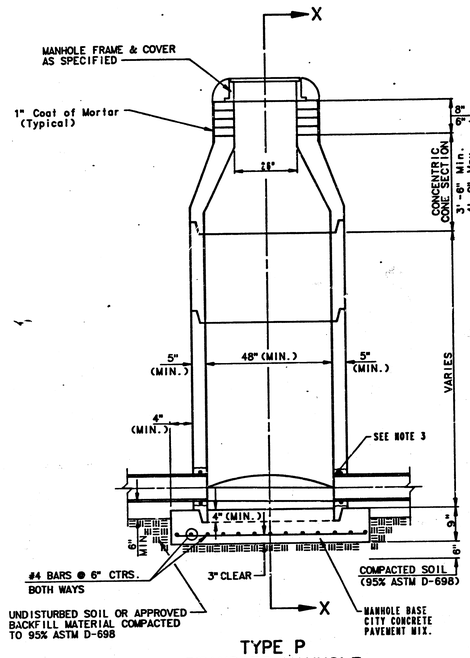
RISERS SHALL BE INSTALLED TO SERVE ALL LOTS OR TRACTS WHEN THE MAIN SEWER LINE IS BELOW THE WATER TABLE. RISERS SHALL ALSO BE INSTALLED TO SERVE ALL LOTS AND TRACTS WHEN THE MAIN SEWER LINE DEPTH IS SO GREAT THAT WOULD MAKE THE BUILDING SEWER LINE CONNECTION DIFFICULT. INSTALLATION OF RISERS BECAUSE 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 8 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 4 INCH OR 6 INCH DEPENDING UPON THE AVAILABLE GRADE AND THE SIZE OF THE LOT AS DETERMINED BY THE FIELD ENGINEER. ENCASEMENT OF SPECIFIED 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 4 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 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 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. **SUCH GREEN PLASTIC TAPE SHALL BE 4 MIL POLYETHYLENE FILM WITH A MINIMUM WIDTH OF 3" SPECIALLY MANUFACTURED FOR THE PURPOSE OF IDENTIFICATION OF UNDERGROUND SEWERS.** 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.

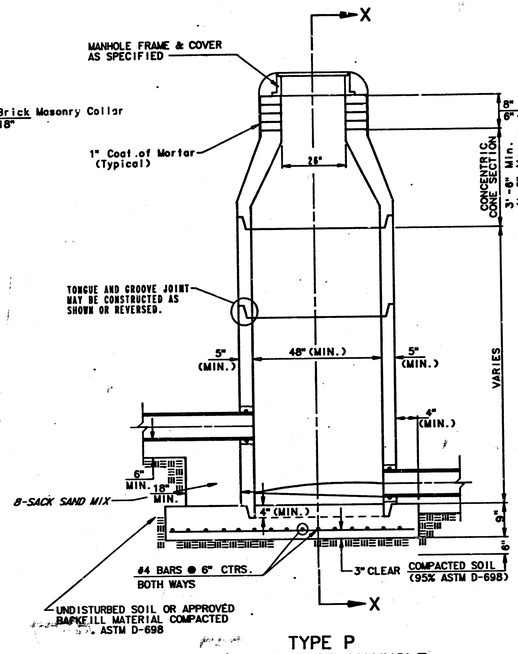
THE PROJECT INSPECTOR SHALL REPORT ON INSPECTOR CARDS THE LOCATION OF ALL RISERS CONSTRUCTED AS MEASURED FROM THE NEAREST MANHOLE, THE DIRECTION OF SERVICE, THE ELEVATION OF THE TOP OF THE RISER, AND THE PAY QUANTITIES INVOLVED. THE PROJECT INSPECTOR SHALL ALSO REPORT ON INSPECTOR CARDS THE LOCATION,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

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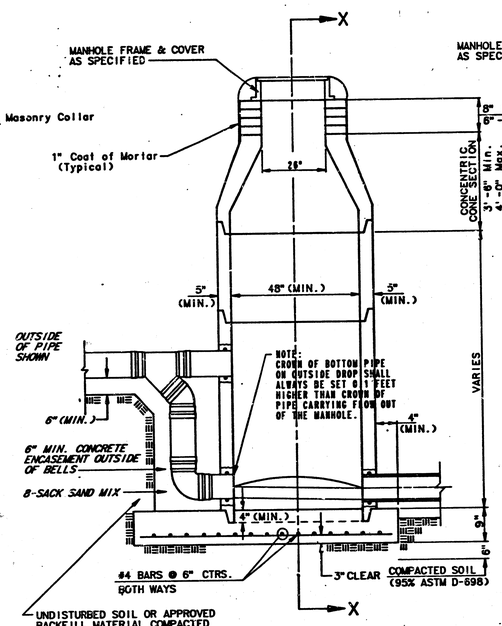
SEWER APPURTENANCES DETAILS
ADOPTED AS STANDARD DESIGN
BY
CITY OF WICHITA



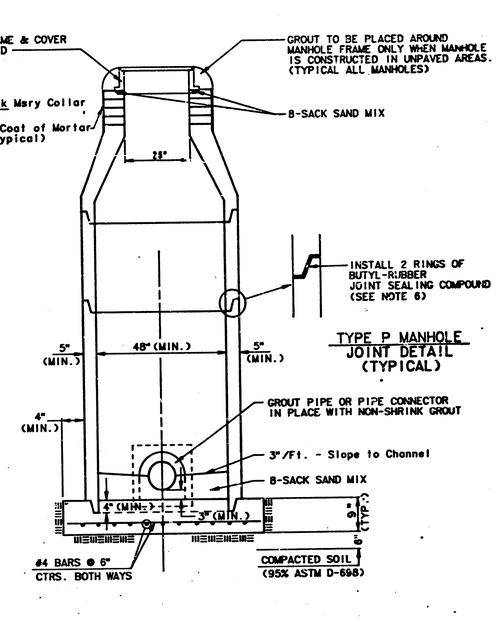
TYPE P
STANDARD MANHOLE



TYPE P
INSIDE DROP MANHOLE



TYPE P
OUTSIDE DROP MANHOLE



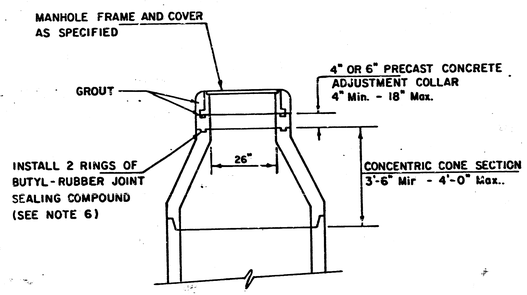
TYPE P MANHOLE
JOINT DETAIL
(TYPICAL)

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.



ALTERNATE CONSTRUCTION
IN UNPAVED AREAS

Revised 3-21-89
Revised 8-10-88
Revised: June 12, 1986

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MANHOLE FRAME AND COVER DETAIL

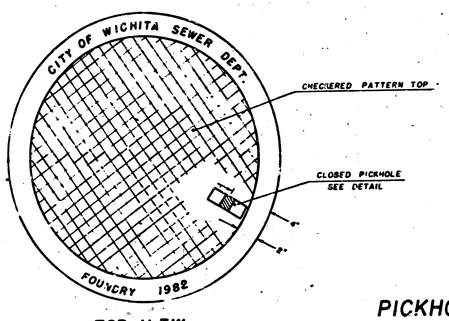
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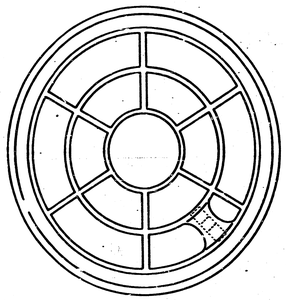
City of Wichita, Kansas

MANHOLE COVER

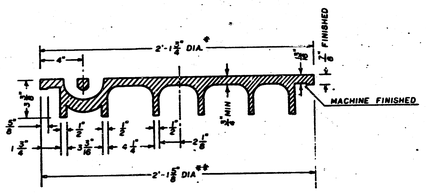
Weight: 180 Lbs.



TOP VIEW



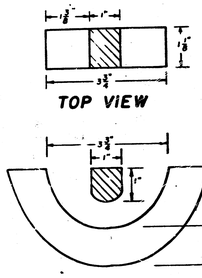
BOTTOM VIEW



SECTION VIEW

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

PICKHOLE DETAIL

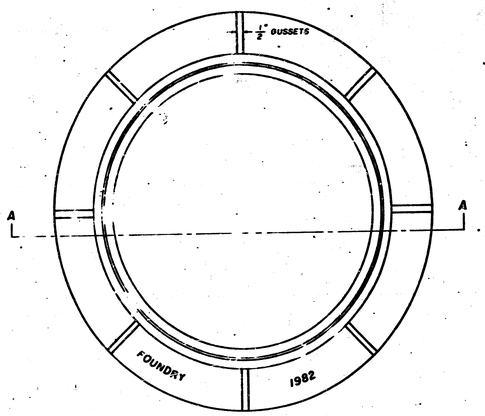


TOP VIEW

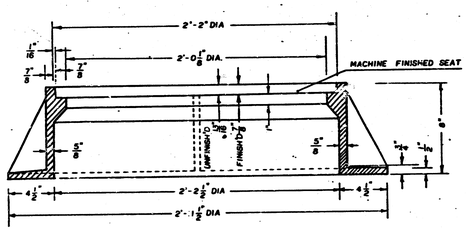
SECTION VIEW

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

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