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

SANITARY SEWER AND STORM SEWER IMPROVEMENTS

IN

CROWN CHASE APARTMENTS
PRIVATE PROJECT NO. 784PPS
INDEX CODE 607861

LEGAL DESCRIPTION

Lot 1, Block 1, & Reserve A, in Silver Springs, an addition tp the City of Wichita, Sedgwick County, Kansas

GENERAL NOTES

1. The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these Construction Drawings are based upon records of the various utility companies. This information is not to be relied upon as being exact or complete. It shall be the responsibility of the respective Contractor to notify ONE-CALL at (316) 687-2470, a minimum of 48 hours in advance of any excavation to request the exact field locations of the existing underground utilities. It shall be the responsibility of the respective Contractor to relocate all existing utilities which conflict with the proposed improvements as shown on the Construction Drawings.

2. The Contractor must notify the following in case of an emergency:

Cablevision	(316) 262-4270 or (316) 263-2061
KGE - Gas	(316) 263-7511
KGE - Electric	(316) 264-1141
Peoples Natural Gas	(316) 942-8350 or (316) 263-8161
Soutnwestern Bell Telephone Co.	1-(316) 571-2611
City of Wichita Water Department	(316) 268-4908
City of Wichita Sewer Maintenance	(316) 268-4071

3. City of Wichita Benchmark:

   Brass Cap in Northeast corner of Concrete Headwall Approximately 675' North of Intersection of Silver Spring Blvd. and Ridge Road.

   Elevation: 1317.54 (U.S.G.S. Datum)
   130.14 (City of Wichita Datum)

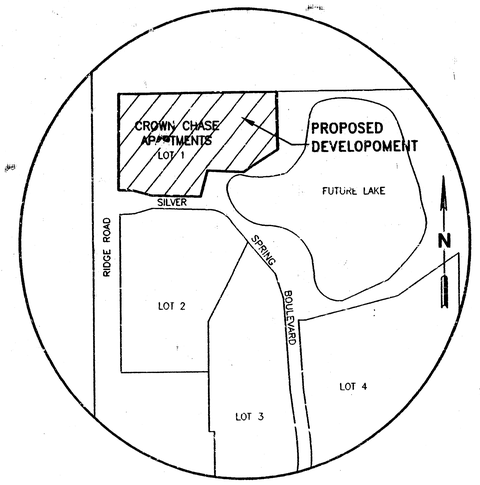
4. Preliminary Surveys: ROSS ENGINEERING, INC.

5. Trench excavation and backfill shall be mechanically tamped and tested. Compaction requirements shall be in accordance with the Sitework Specifications.

6. Cost of barricades, flashers and all items necessary for safe and efficient movement of traffic shall be considered subsidiary to the construction of the pavement and utilities.

7. The Contractor shall use extreme caution in the area of existing trees which are to remain, existing manholes, power poles, fences, pavement and utilities, and shall be responsible for any damages.

8. It will be the Contractor's responsibility to inform the Engineer of any control points including street centerline and lot corners that may be destroyed during construction so that these points may be offset. The cost of resetting points that have not been offset will be paid for by the Contractor. Requests for offsets must be made 48 hours in advance.



VICINITY MAP

AS-BUILT
Date: 6/25/98
Signed: [signature]

SHEET INDEX

STORM SEWER
BOOKED
7/20/98
MCG
D-395

San. Sewer
Booked
7/2/98
P-15
RDL

ENGINEER'S CERTIFICATE

I hereby certify that these Construction Drawings were prepared by me or under my direct supervision and that I am a Registered Professional Engineer under the laws of the State of Kansas. These Construction Drawings meet the requirements of subdivison approval and the City Engineer's Office design requirements as they apply to construction at the time of this certificate.

[signature] 3/24/98
Date

APPROVED AS NOTED
BY CITY ENGINEER OF WICHITA

Sanitary Sewers VRH 3/27/98
Storm Sewers VRH 3/27/98
Driveways/Approaches
Water Mains
Paving

NOTE TO CONTRACTORS

PUBLIC PROPERTY:
Inspection and testing for the Waterline is to be provided by a Licensed Consulting Engineering Firm under contract with the records of the Owner/Developer. Said inspection to be in upon as 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 public right-of-way by the Contractor without such inspection nor shall any work be commenced without written authorization by the City Engineer. All construction and materials shall comply with the City of Wichita Specifications and Standards (on file and available in the City Engineer's Office.

Ross Engineering, Inc.
ENGINEERS • PLANNERS • SURVEYORS
545 M Street, Suite 301, Lincoln, NE 68508
Phone 402-474-7677
FAX 402-474-7678

No.	Revisions	Rev. Date

Scale NONE
Designed LEF
Drawn TLH
Checked TLH
Approved TLH

Job # 98B-10
File 98B01C52
Date 12/5/97
Date 3/25/98

CROWN CHASE
RIDGE ROAD & SILVER SPRING BOULEVARD
WICHITA KANSAS

COVER SHEET

Sheet No. 1 OF 9

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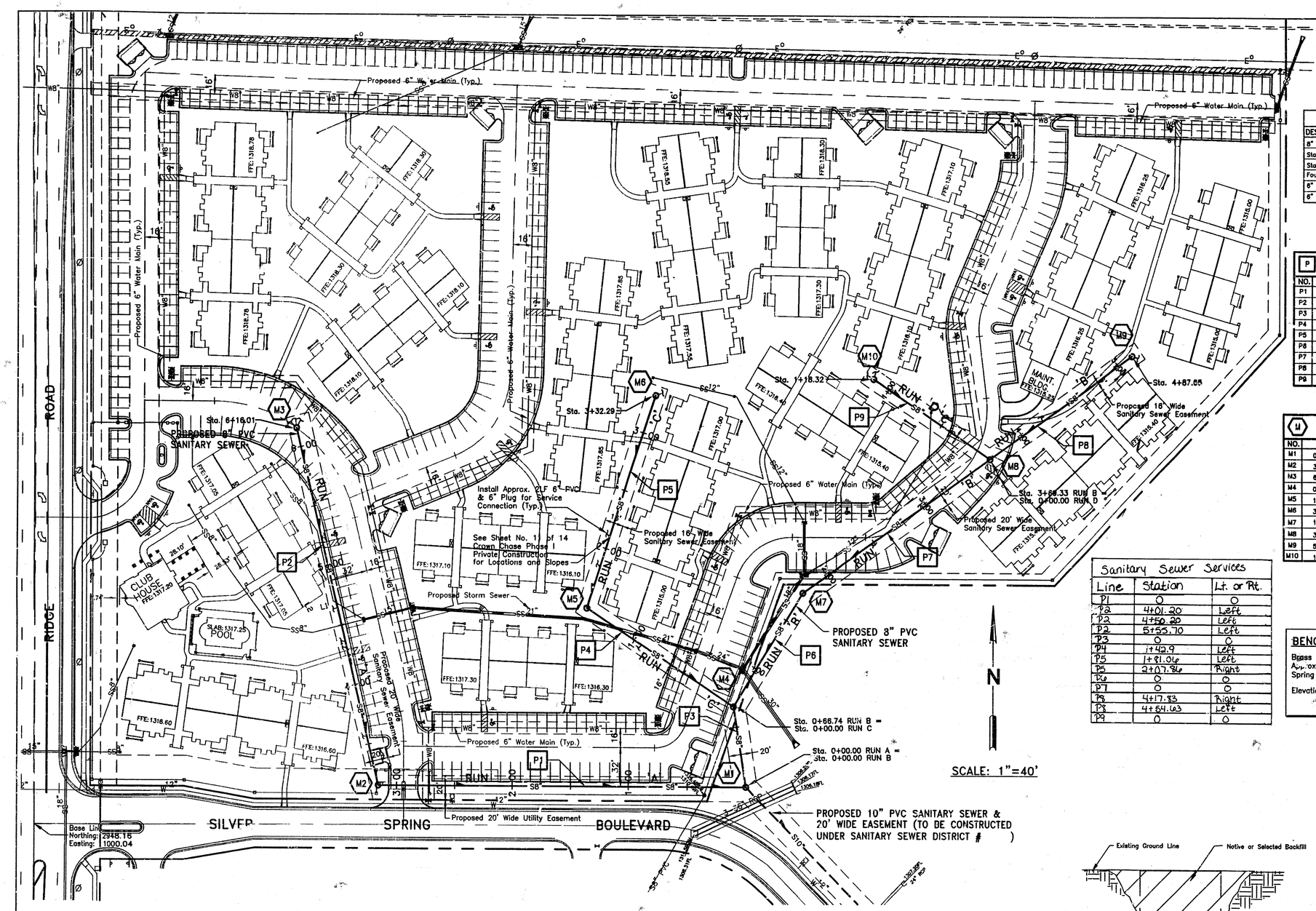


SCHEDULE OF APPROX. QUANTITIES

DESCRIPTION	UNITS	QUANT.
8" PVC Sanitary Sewer Pipe, SDR 35	LF	1585
Standard Sanitary Sewer Manhole, Type 'P'	Ea	10
Standard Sanitary Sewer Manhole, Type 'P'	VF	85
Foundation Material (In Place)	CY	240
6" Sanitary Sewer Service Pipe, Sch 40 PVC	LF	38
6" Plug	Ea	18

(P) BUILD 8" PVC SANITARY SEWER PIPE

NO.	STATION	SIZE	LENGTH	SLOPE
P1	0+00 to 3+15.20 Run "A"	8"	315 LF	0.00400
P2	3+15.20 to 6+16.01 Run "A"	8"	301 LF	0.00400
P3	0+00 to 0+66.74 Run "B"	8"	67 LF	0.00400
P4	0+00 to 1+48.73 Run "C"	8"	149 LF	0.00400
P5	1+48.73 to 3+32.39 Run "C"	8"	184 LF	0.00400
P6	0+66.74 to 1+76.30 Run "B"	8"	110 LF	0.00400
P7	1+76.30 to 3+69.33 Run "B"	8"	193 LF	0.00400
P8	3+69.33 to 5+17.51 Run "B"	8"	148 LF	0.00400
P9	0+00 to 1+18.32 Run "D"	8"	118 LF	0.00400

(M) BUILD SANITARY SEWER MANHOLE

NO.	STATION	VF	NORTHING	EASTING
M1	0+00.00 Run "A"	9.23	2981.6642	1812.4406
M2	3+15.20 Run "A"	10.45	2981.6642	1297.2356
M3	6+16.01 Run "A"	8.98	3273.8430	1225.7006
M4	0+66.74 Run "B"	8.17	3047.5646	1601.8997
M5	1+48.73 Run "C"	7.89	3127.3604	1478.3818
M6	3+32.39 Run "C"	9.63	3301.4356	1534.9208
M7	1+76.30 Run "B"	7.53	3140.0528	1680.6336
M8	3+69.33 Run "B"	7.85	3249.9800	1819.3069
M9	5+17.51 Run "B"	8.07	3335.3732	1940.4028
M10	1+18.32 Run "D"	7.59	3315.5204	1720.7965

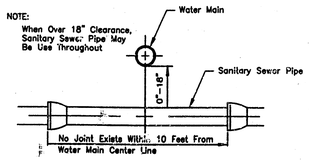
Sanitary Sewer Services

Line	Station	Lt. or Rt.
P1	0	0
P2	4+01.20	Left
P2	4+50.20	Left
P2	5+55.70	Left
P3	0	0
P4	1+42.9	Left
P5	1+81.06	Left
P6	2+07.86	Right
P6	0	0
P7	0	0
P8	4+17.83	Right
P8	4+64.63	Left
P9	0	0

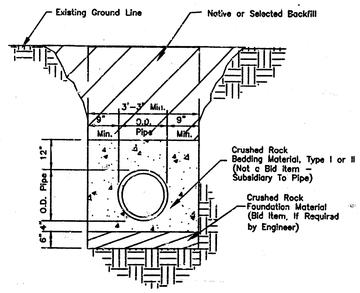
BENCHMARK

Brass Cap in Northeast corner of Concrete Headwall Approximately 675' North of Intersection of Silver Spring Blvd. and Ridge Road.

Elevation: 1317.54 (U.S.G.S. Datum)
130.14 (City of Wichita Datum)



SEWER-WATER CROSSING
NO SCALE



SANITARY SEWER PIPE BEDDING AND FOUNDATION
SANITARY SEWER
NO SCALE

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ENGINEERS • PLANNERS • SURVEYORS
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Phone 402-474-7677
FAX 402-474-7683

No.	Revisions:	Rev. Date

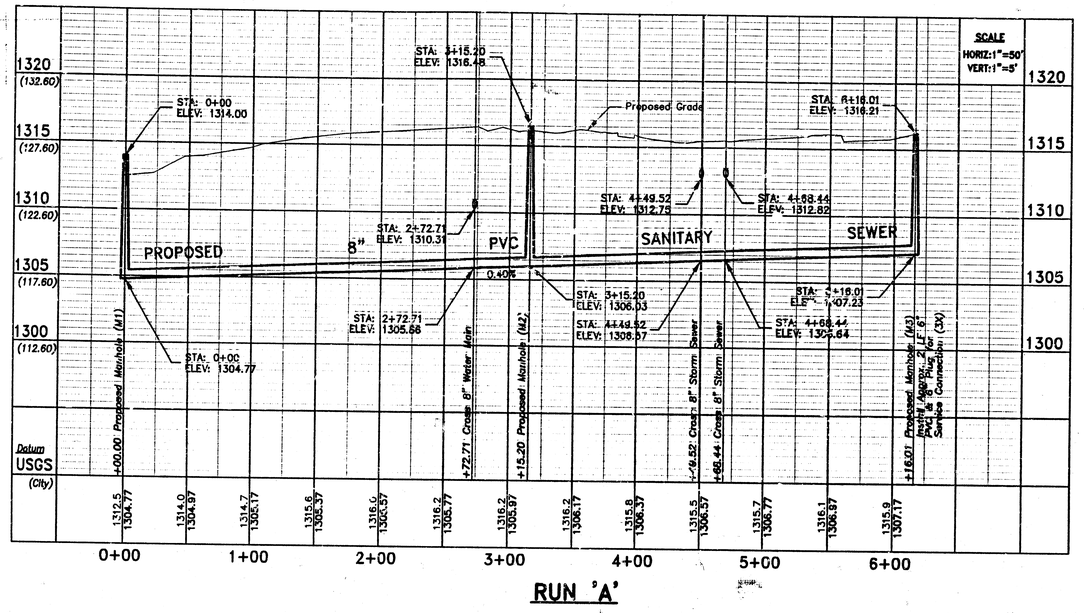
Scale 1"=40'
Drawn TH
Checked TH
Approved TH

Job # 985-ID
File 3B901SA
Date 12/02/97
Plate 1/23/98

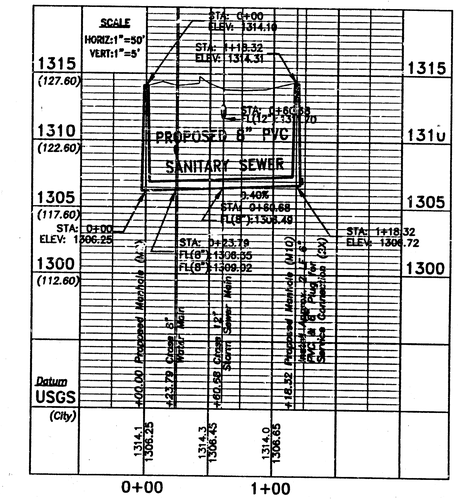
CROWN CHASE
RIDGE ROAD & SILVER SPRING BOULEVARD
WICHITA KANSAS

SANITARY PLAN

Sheet No.
2 OF 9

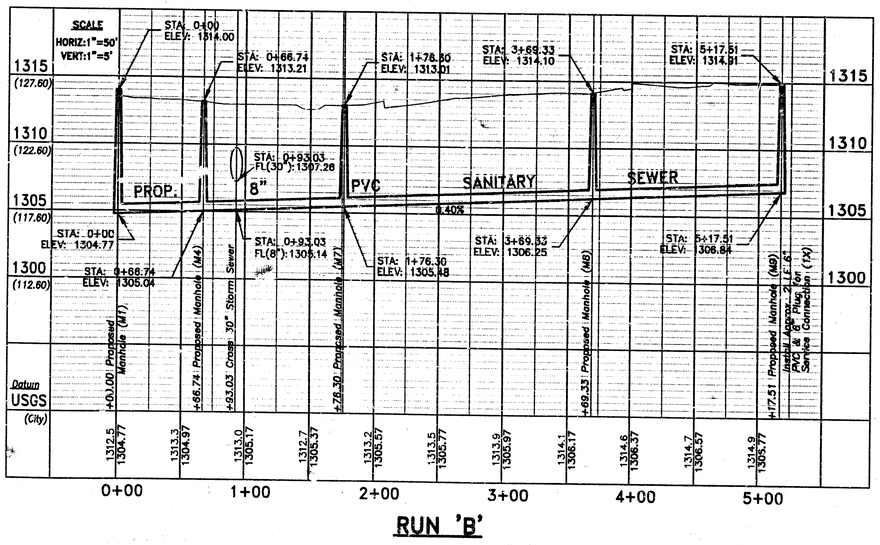


RUN 'A'

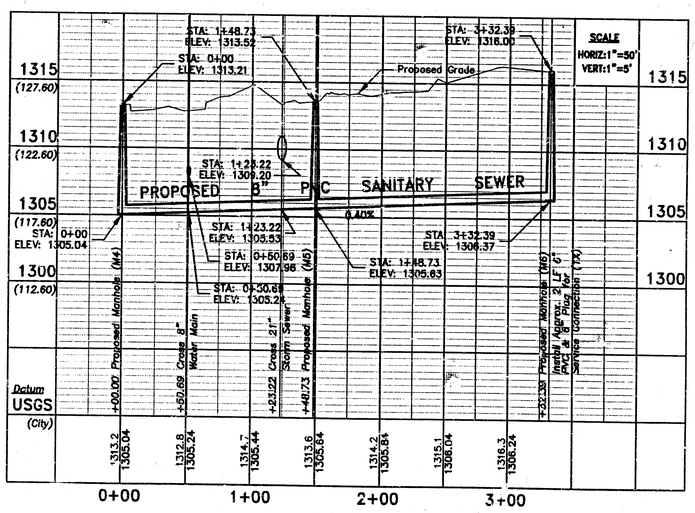


RUN 'D'

Elevations shown are in U.S.G.S. datum. Values in parentheses reference City of Wichita datum. City Datum = U.S.G.S. - 1187.40



RUN 'B'



RUN 'C'

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FAX 402-474-7578

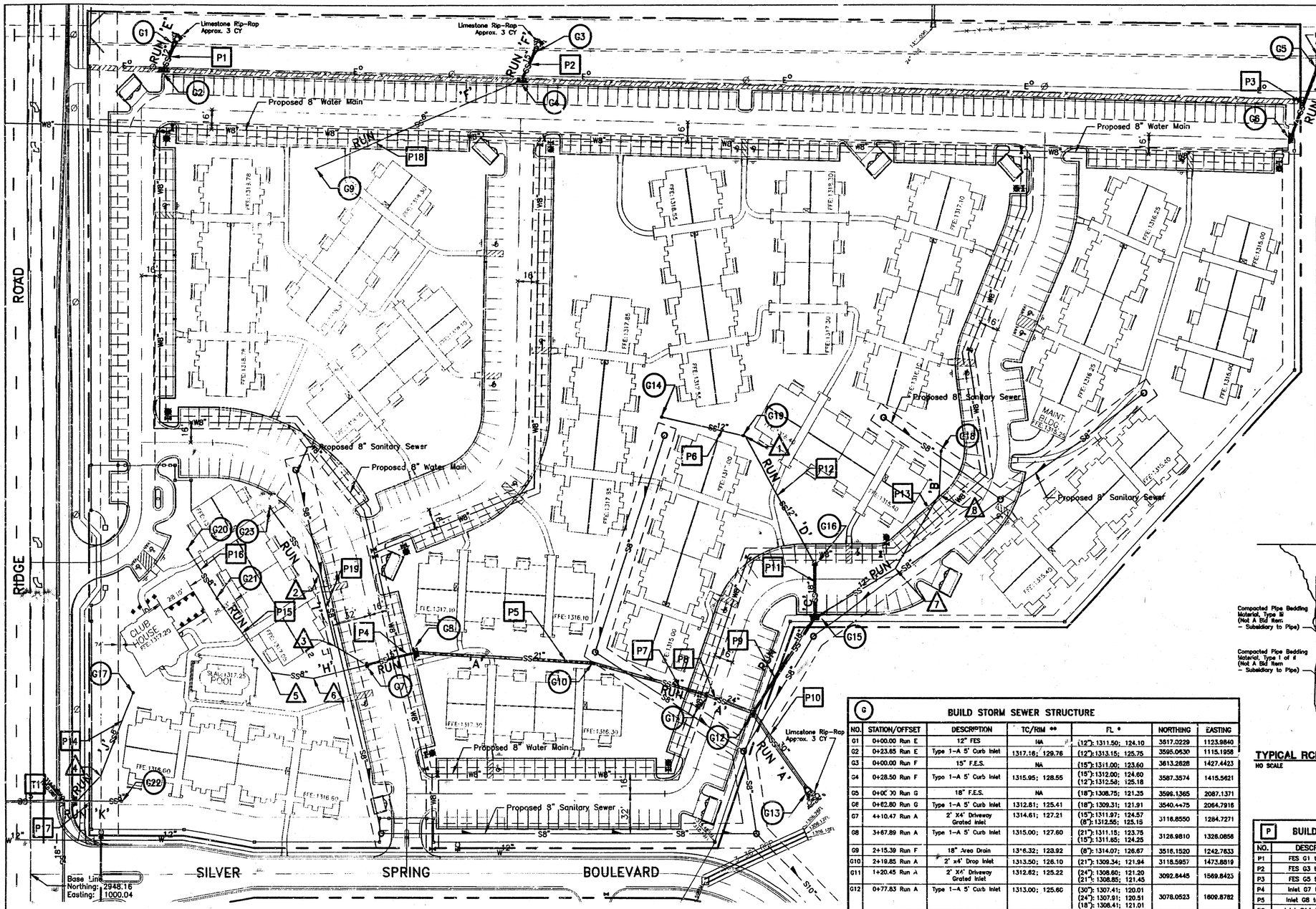
No.	Revisions	Rev. Date

Scale 1"=50'
Drawn TLH
Checked TLH
Approved TLH

Job# 388-10
File 388015A1
Date 12/02/97
Date 3/24/98

CROWNE CHASE
RIDGE ROAD & SILVER SPRING BOULEVARD
WICHITA KANSAS

SANITARY PROFILES



SCALE: 1"=40'

SCHEDULE OF APPROX. QUANTITIES

DESCRIPTION	UNITS	QUANT.
30" RCP Storm Sewer Pipe	LF	70
24" RCP Storm Sewer Pipe	LF	40
21" RCP Storm Sewer Pipe	LF	241
18" RCP Storm Sewer Pipe	LF	185
15" RCP Storm Sewer Pipe	LF	61
12" PVC Storm Sewer Pipe	LF	388
8" PVC Drain Pipe	LF	887
Type 1-A 5' Curb Inlet	Ea	6
2'x4' Driveway Inlet	Ea	3
2'x4' Drop Inlet	Ea	1
18" Area Drain	Ea	9
30" FES	Ea	1
18" FES	Ea	1
15" FES	Ea	1
12" FES	Ea	1
12"x45° Bend	Ea	1
12"x22.5° Bend	Ea	2
8"x45° Bend	Ea	2
8"x22.5° Bend	Ea	3
Tap Existing Curb Inlet	Ea	1

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No.	Revisions	Rev. Date

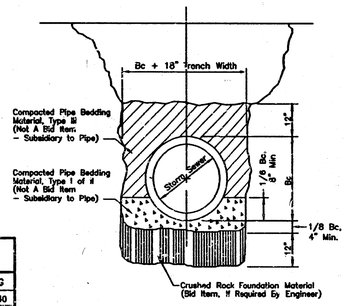
Scale 1"=40'
Drawn TLH
Checked KAS
Approved KAS

Job 388-10
File 388015S
Date 12/02/97
Plate 3/24/98

CROWN CHASE
RIDGE ROAD & SILVER SPRING BOULEVARD
WICHITA KANSAS

STORM SEWER PLAN

Sheet No. 4 OF 9



TYPICAL RCP AND PVC STORM SEWER BEDDING

NO SCALE

BENCHMARK

Brass Cap in Northeast corner of Concrete Headwall Approximately 675' North of Intersection of Silver Spring Blvd. and Ridge Road.

Elevation: 1317.54 (U.S.G.S. Datum)
130.14 (City of Wichita Datum)

T TAP EXISTING STRUCTURE

NO.	DESCRIPTION	SIZE	FL*
T1	0+00.00 Run 'K'	8"	1311.62±; 124.22± (Contractor to Verify)

⚠ BUILD STORM SEWER FITTING

NO.	STATION/OFFSET	DESCRIPTION	DEFLECTION	FL*	NORTHING	EASTING
1	1+18.16 Run 'D'	12"x45° Bend	48°30'2:" LL	FL(12"):1311.97; 124.57	3300.6882	1603.7983
2	0+89.29 Run 'I'	8"x22.5° Bend	22°25'19" Rt.	FL(8"):1313.44; 128.04	3189.0159	1244.0311
3	0+30.50 Run 'I'	8"x45° Bend	46°19" Rt.	FL(8"):1312.85; 125.45	3131.9876	1258.2311
4	0+28.34 Run 'J'	8"x22.5° Bend	21°56'39" LL	FL(8"):1312.04; 124.84	3027.5373	1059.6208
5	0+82.07 Run 'H'	8"x45° Bend	45°25'29" Rt.	FL(8"):1313.36; 125.98	3110.5224	1204.2501
6	0+46.04 Run 'H'	8x22.5° Bend	20°55'50" Rt.	FL(8"):1313.01; 125.61	3105.9711	1239.9882
7	0+79.48 Run 'B'	12"x22.5° Bend	29°0'0" LL	FL(12"):1310.69; 123.29	3194.2079	1730.9291
8	1+49.28 Run 'B'	12"x22.5° Bend	29°0'0" LL	FL(12"):1311.40; 124.00	3253.7188	1767.4566

* Column Format as follows:
FL(diameter in inches): USGS Datum; City of Wichita Datum

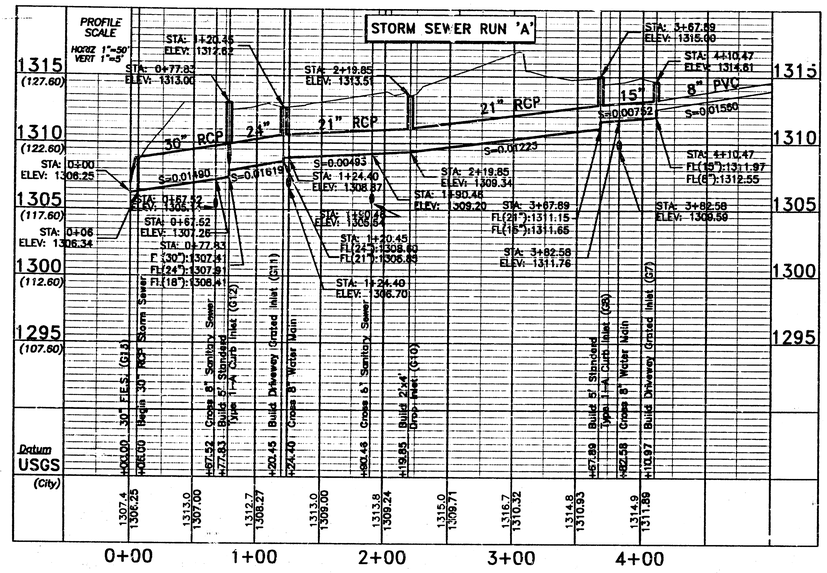
G BUILD STORM SEWER STRUCTURE

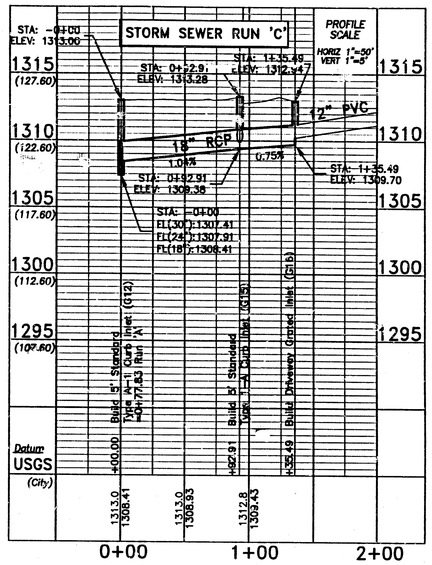
NO.	STATION/OFFSET	DESCRIPTION	TC/RIM **	FL *	NORTHING	EASTING
G1	0+00.00 Run E	12" FES	NA	(12"): 1311.50; 124.10	3617.0229	1123.9840
G2	0+23.65 Run E	Type 1-A 5' Curb Inlet	1317.18; 129.76	(12"): 1313.15; 125.75	3595.0630	1115.1958
G3	0+00.00 Run F	15" F.E.S.	NA	(15"): 1311.00; 123.60	3613.2628	1427.4423
G4	0+28.50 Run F	Type 1-A 5' Curb Inlet	1315.95; 128.55	(15"): 1312.00; 124.60 (12"): 1312.58; 125.18	3587.3574	1415.5621
G5	0+00.00 Run G	18" F.E.S.	NA	(18"): 1308.75; 121.35	3599.1365	2087.1371
G6	0+62.80 Run G	Type 1-A 5' Curb Inlet	1312.61; 125.41	(18"): 1309.31; 121.91	3540.4475	2064.7916
G7	4+10.47 Run A	2' X4' Driveway Grated Inlet	1314.61; 127.21	(15"): 1311.97; 124.57 (8"): 1312.55; 125.15	3116.8550	1284.7271
G8	3+67.89 Run A	Type 1-A 5' Curb Inlet	1315.00; 127.60	(21"): 1311.15; 123.75 (15"): 1311.65; 124.25	3126.9810	1326.0858
G9	2+15.39 Run F	18" Area Drain	1316.32; 123.92	(8"): 1314.07; 126.67	3516.1520	1242.7633
G10	2+19.85 Run A	2' x4' Drop Inlet	1313.50; 126.10	(21"): 1309.34; 121.94	3118.5957	1473.8819
G11	1+20.45 Run A	2' X4' Driveway Grated Inlet	1312.82; 125.22	(24"): 1308.60; 121.20 (21"): 1308.85; 121.45	3092.8445	1569.8423
G12	0+77.83 Run A	Type 1-A 5' Curb Inlet	1313.00; 125.60	(30"): 1307.41; 120.01 (24"): 1307.91; 120.51 (18"): 1308.41; 121.01	3078.0523	1609.8782
G13	0+00.00 Run A	30" F.E.S.	NA	(30"): 1306.25; 118.85	3015.4086	1656.0731
G14	1+91.00 Run D	18" Area Drain	1315.80; 128.40	(12"): 1313.07; 125.67	3315.9886	1532.5863
G15	0+92.91 Run C	Type 1-A 5' Curb Inlet	1313.28; 125.88	(18"): 1309.38; 121.98 (12"): 1309.88; 122.48	3155.1317	1661.7456
G16	1+35.49 Run C	2' X4' Driveway Grated Inlet	1312.94; 125.54	(18"): 1309.70; 122.30 (12"): 1310.20; 122.80	3197.7117	1661.7456
G17	1+00.84 Run J	18" Area Drain	1314.56; 127.16	(8"): 1312.62; 125.22	3054.2870	1087.9788
G18	1+84.20 Run B	18" Area Drain	1313.57; 126.17	(12"): 1311.75; 124.35	3288.8022	1769.0[illegible]
G19	1+19.94 Run J	18" Area Drain	1315.50; 128.10	(12"): 1312.00; 124.80	3301.0619	1[illegible].0568
G20	2+33.80 Run H	18" Area Drain	1316.25; 128.85	(8"): 1314.58; 127.18	3209.8525	[illegible]33.7981
G21	1+57.16 Run H	18" Area Drain	1315.58; 128.28	(8"): 1314.11; 126.71	3170.2387	1158.7246
G22	0+49.58 Run K	18" Area Drain	1314.40; 127.00	(8"): 1312.43; 125.03	3007.4429	1077.7215
G23	1+57.50 Run I	18" Area Drain	1314.56; 127.16	(8"): 1314.12; 126.72	3243.9161	1203.5559

Column Format as follows:
* FL(diameter in inches): USGS Datum; City of Wichita Datum
** USGS Datum; City of Wichita Datum

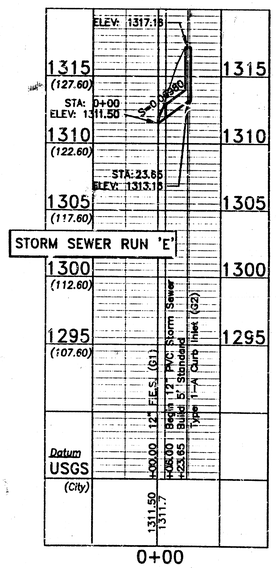
P BUILD STORM SEWER PIPE

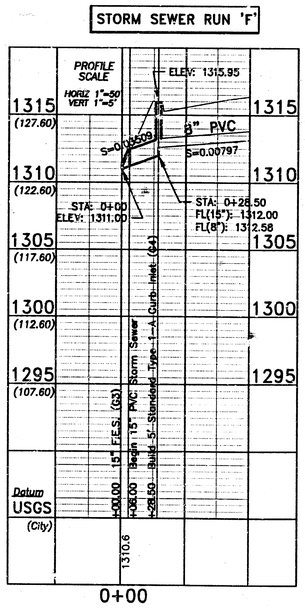
NO.	DESCRIPTION	SIZE	MATERIAL	SLOPE	LENGTH
P1	FES G1 to Inlet G2	12"	PVC	0.06977	16.15 LF
P2	FES G3 to Inlet G4	15"	RCP	0.03509	21.00 LF
P3	FES G5 to Inlet G6	18"	RCP	0.00892	55.30 LF
P4	Inlet G7 to Inlet G8	15"	RCP	0.00752	40.08 LF
P5	Inlet G8 to Inlet G10	21"	RCP	0.01223	144.84 LF
P6	Inlet G14 to Inlet G19	12"	PVC	0.01506	70.06 LF
P7	Inlet G10 to Inlet G11	21"	RCP	0.00493	98.40 LF
P8	Inlet G11 to Inlet G12	24"	RCP	0.01819	40.12 LF
P9	Inlet G12 to Inlet G15	18"	RCP	0.01044	88.41 LF
P10	Inlet G12 to FES G13	30"	RCP	0.01490	[illegible] LF
P11	Inlet G15 to Inlet G16	18"	RCP	0.00752	[illegible] LF
P12	Inlet G18 to Inlet G19	12"	PVC	0.01501	118.94 LF
P13	Inlet G15 to Inlet G18	12"	PVC	0.01015	181.20 LF
P14	Inlet G17 to Inlet T1	8"	PVC	0.00803	100.84 LF
P15	Inlet G21 to Inlet G7	8"	PVC	0.00993	158.19 LF
P16	Inlet G20 to Inlet G21	8"	PVC	0.01008	48.84 LF
P17	Top Inlet T1 to Inlet G22	8"	PVC	0.01634	40.56 LF
P18	Inlet G4 to Inlet G9	8"	PVC	0.00797	[illegible].09 LF
P19	Inlet G23 to Inlet G7	8"	PVC	0.00897	156.50 LF

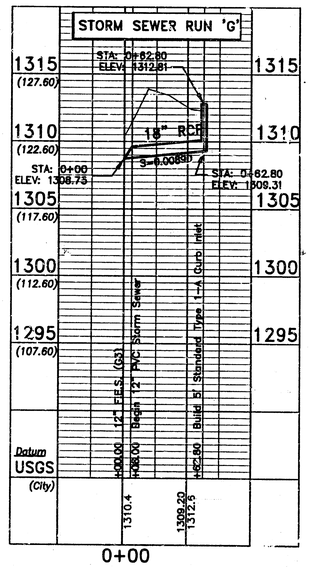




Elevations shown are in U.S.G.S. datum. Values in parentheses reference City of Wichita datum. City Datum = U.S.G.S. – 1187.40







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No.	Revisions	Rev. Date

Scale 1"=50'
Drawn LEF
Checked TLH
Approved THR

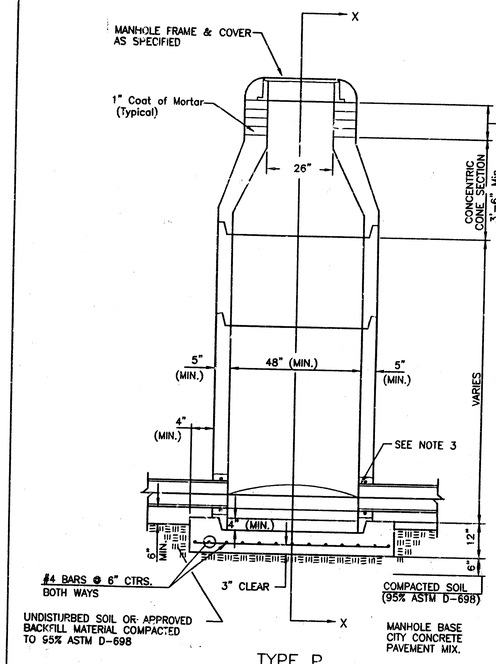
Job# 988-10
File 98801SS1
Date 12/11/97
Plot Date 3/24/98

CROWN CHASE
RIDGE ROAD & SILVER SPRING BOULEVARD
WICHITA KANSAS

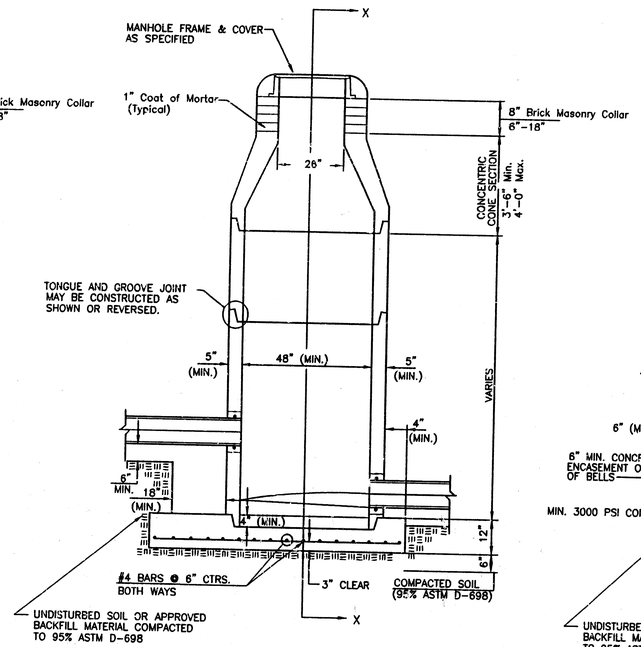
STORM SEWER PROFILES

Sheet No.
5
OF
9

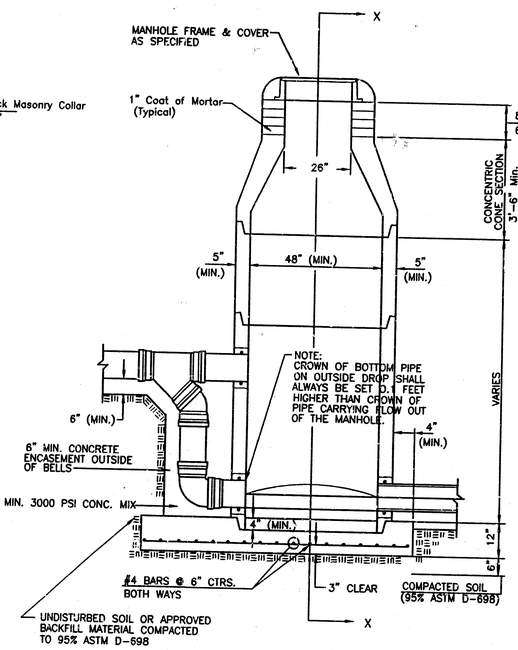
SEWER APPURTENANCES DETAILS



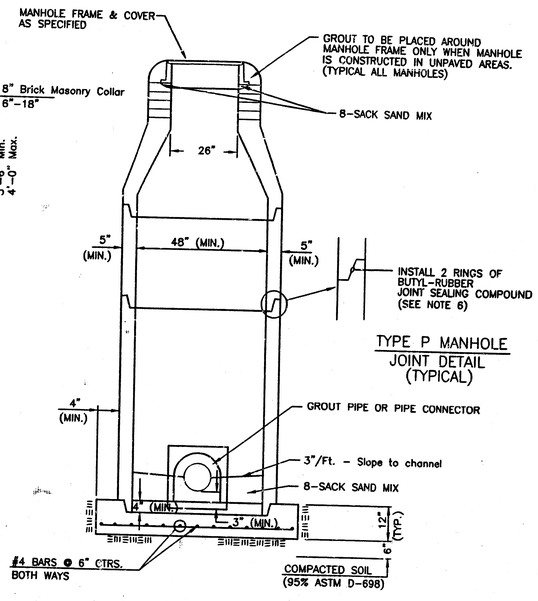
TYPE P
STANDARD MANHOLE



TYPE P
INSIDE DROP MANHOLE

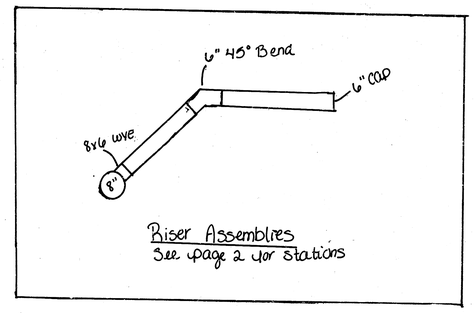


TYPE P
OUTSIDE DROP MANHOLE



TYPE P MANHOLE
JOINT DETAIL
(TYPICAL)

SECTION X
(TYPICAL)



Riser Assemblies
See page 2 for Stations

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 TNEMEC SERIES 66 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 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 MAHOLE. 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 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. THE USE OF PRE-CAST CONCRETE SPACERS FOR MANHOLE TOP ADJUSTMENT IS ALSO ALLOWED.

THE CITY OF WICHITA

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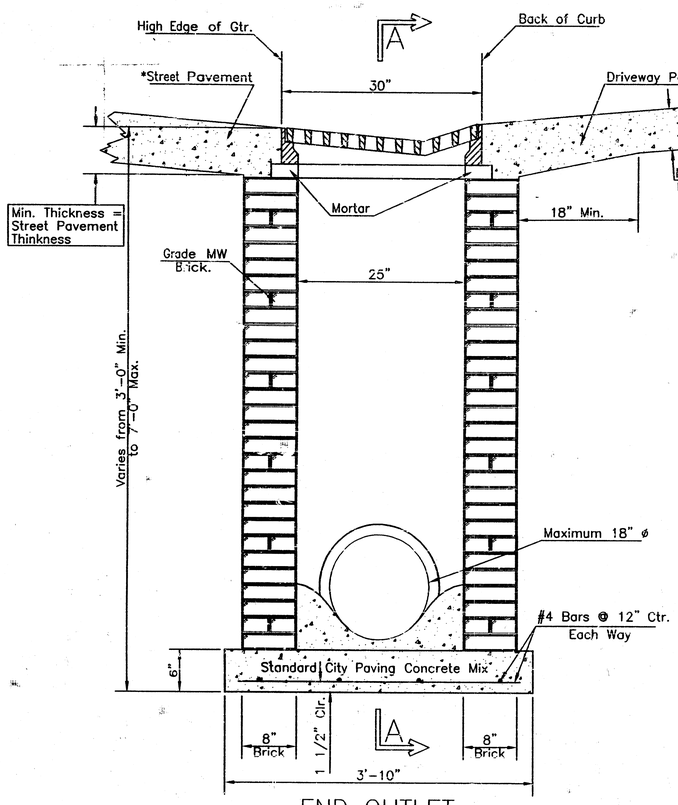
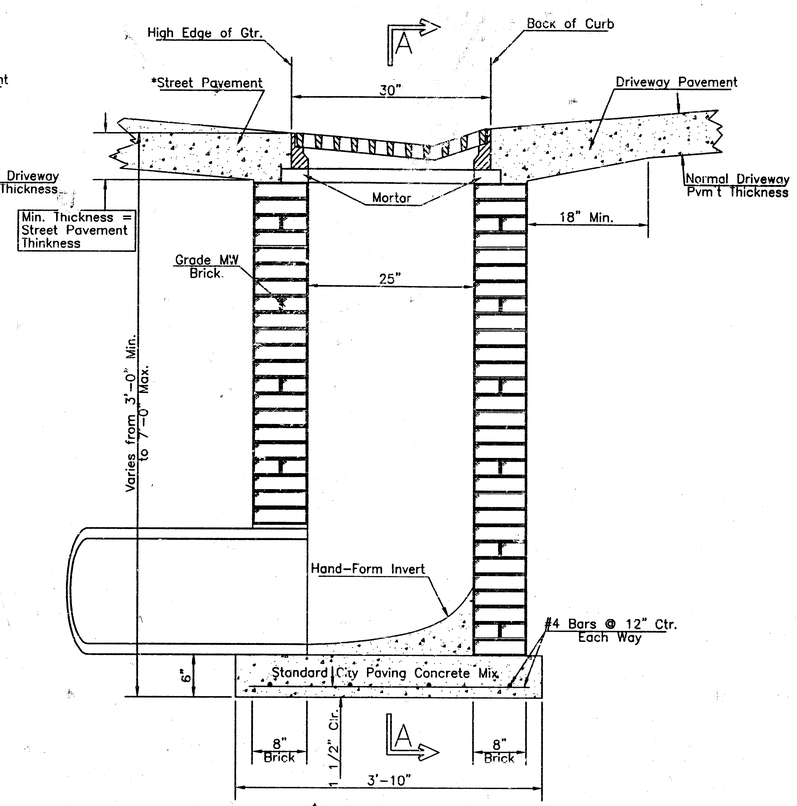
STANDARD
TYPE 'P'
MANHOLES

M. E. LINDEBAK P.E. - CITY ENGINEER

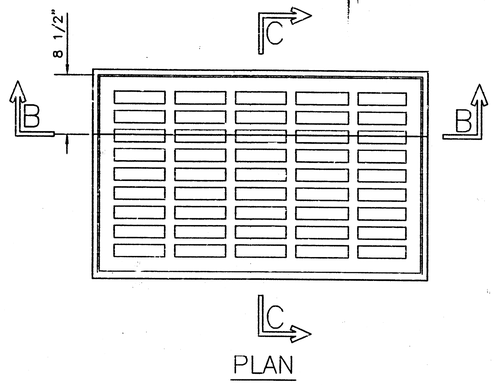
PROJECT NUMBER	INDEX CODE
784-PP5	607861
DATE	SHEET 6 OF 9
MAR 96	



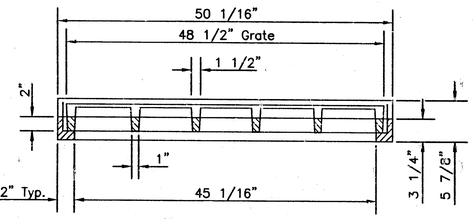
END OUTLET



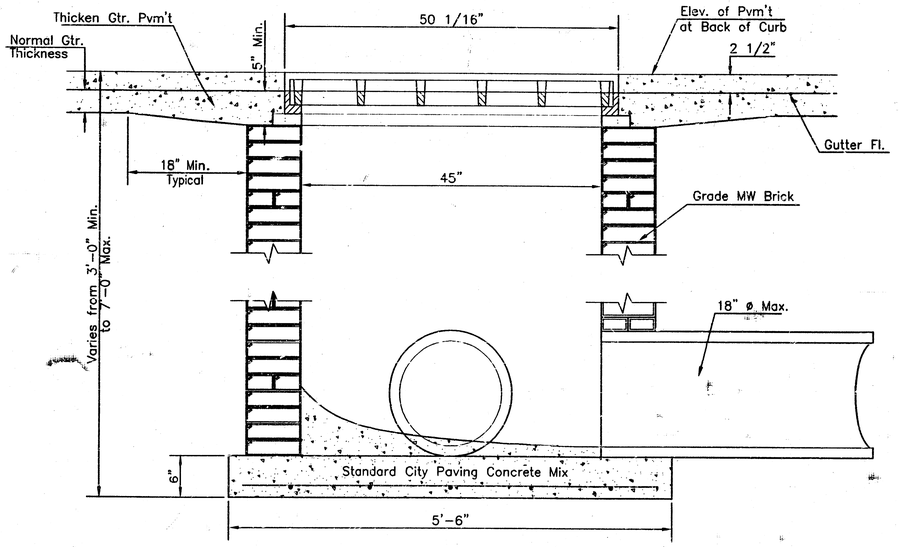
SIDE OUTLET



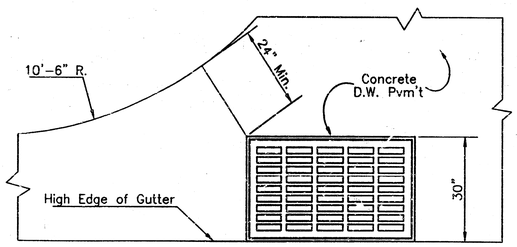
PLAN



SECTION B–B



SECTION A–A

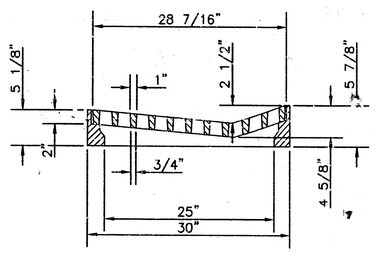


PLAN

Radius Ramp Drive to be Constructed
On Lot 3, Block 2 per City Standard

GENERAL NOTES

1. Grate frame to be installed on thin mortar cushion to insure full support along brick walls. Concrete used for inlet construction shall be concrete pavement mix.
2. Inlet invert shall be shaped with 8 sack sand mix concrete to create flow channels and to increase hydraulic efficiency such that the inlet will be self cleaning between all inlet and/or outlet pipes.
3. The ends of all pipes installed in inlets shall be cut off flush with the inside face of the inlet wall.
4. Inlet Frame and Grate to be Deeter #2095 of approved equal



SECTION C–C

DEETER #2095 FRAME & GRATE
TOTAL WEIGHT: 705 lbs.

THE CITY OF WICHITA

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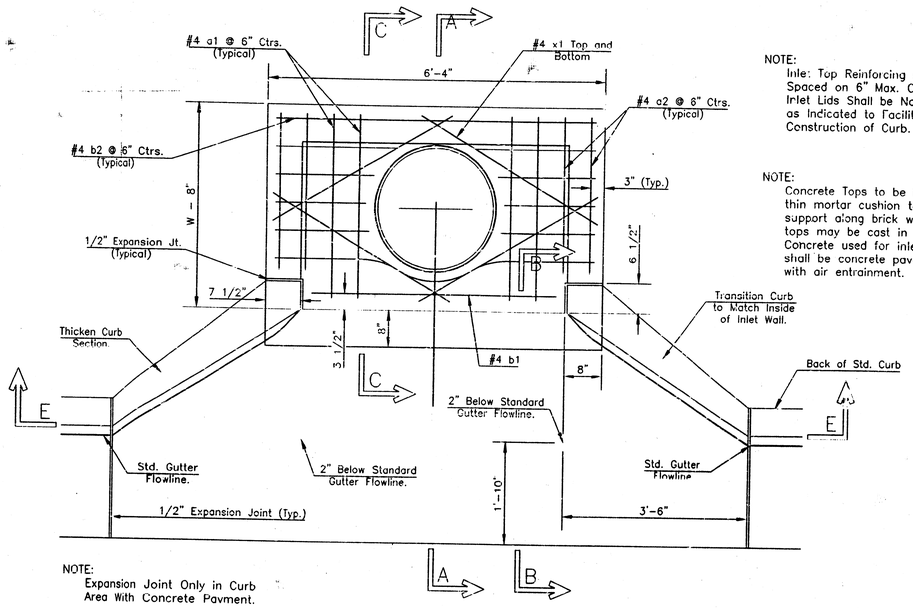
DRIVEWAY GRATED INLET SINGLE

M. E. LINDEBAK P.E. – CITY ENGINEER

PROJECT NUMBER	INDEX CODE
784PPS	607861
DATE: MAR 96	SHEET 7 OF 9

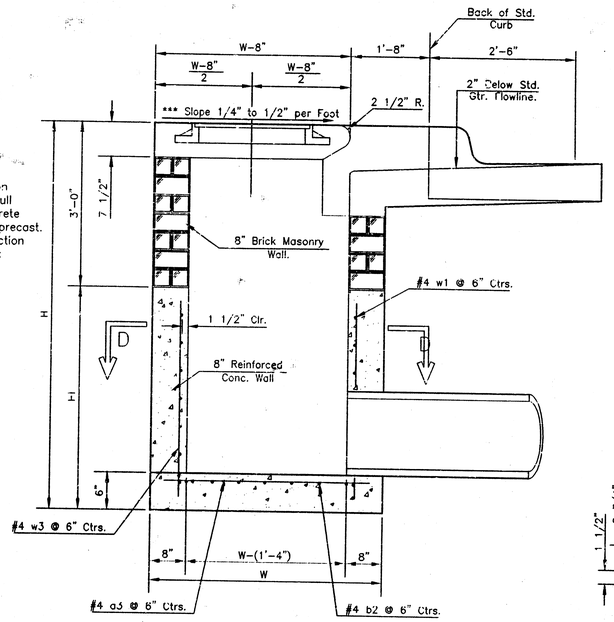


NOTE:
Expansion Joint Only in Curb Area With Concrete Pavment.

PLAN

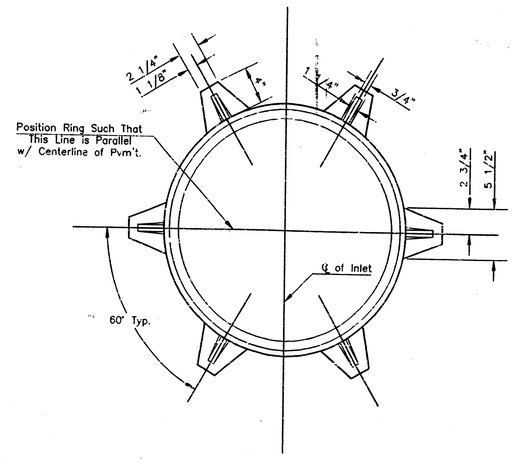
NOTE:
Inlet Top Reinforcing shall be Spaced on 6" Max. Centers. Inlet Lids Shall be Notched Out as Indicated to Facilitate Construction of Curb.

NOTE:
Concrete Tops to be installed on thin mortar cushion to insure full support along brick walls. Concrete tops may be cast in place or precast. Concrete used for inlet construction shall be concrete pavement mix with air entrainment.



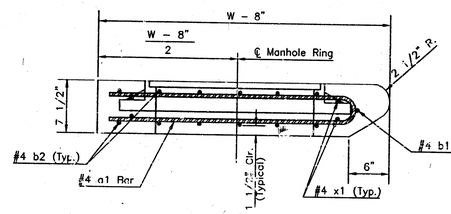
SECTION A-A

***NOTE: Slope of Inlet tops to Match Sidewalk or Parking Slopes within Limits Indicated.

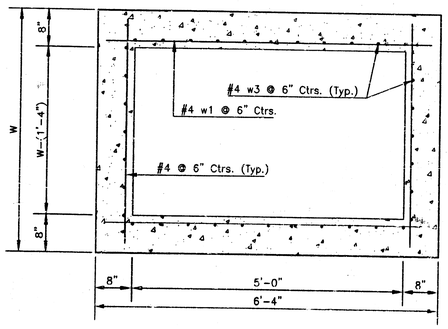


MANHOLE RING AND COVER
Weight = 180 Lbs.

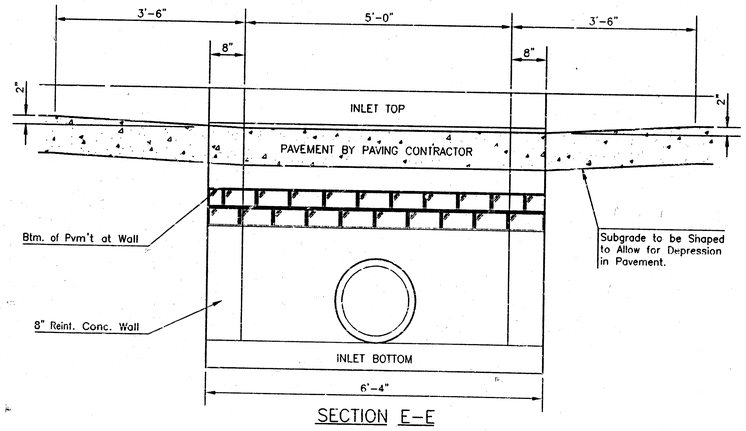
*See City of Wichita Standard Manhole Ring and Cover Detail Sheet for Cover Details to Be Used With Inlet Frame.



SECTION A-A



SECTION D-D



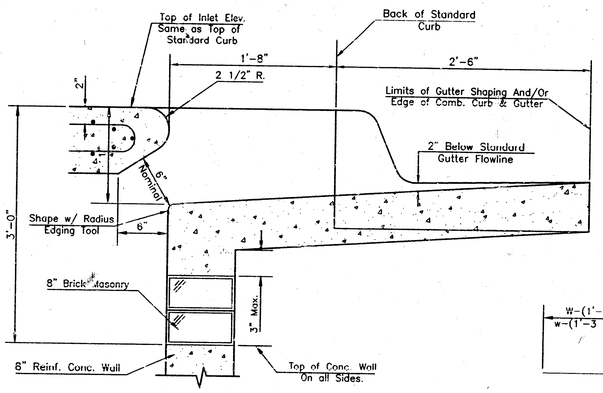
SECTION E-E

NOTE: Contractor shall have the option of constructing 8" brick masonry walls between the concrete inlet base and top on this inlet when W=6'-4" and H=7'-0" or less.

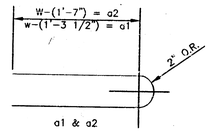
Additional curb and gutter construction necessary to connect set-back inlet to pavement will be paid for at the unit price bid for each inlet hookup.

Inlet invert shall be shaped with 8 sack sand mix concrete to create flow channels and to increase hydraulic efficiency such that the inlet will be self-cleaning between all inlet and/or outlet pipes.

The ends of all pipes installed in inlets shall be cut off flush with the inside face of the inlet wall



SECTION B-B



BENDING DIAGRAM

PRECAST SLAB AND FLOOR REINFORCING											
		W = 4'-4"		W = 5'-4"		W = 6'-4"		W = 7'-4"		W = 8'-4"	
MARK	SIZE	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
* a1	#4	6	5'-7"	6	8'-7"	6	10'-7"	6	12'-7"	6	14'-7"
a2	#4	4	6'-0"	4	8'-0"	4	10'-0"	4	12'-0"	4	14'-0"
a3	#4	13	4'-1"	13	5'-1"	13	6'-1"	13	7'-1	13	8'-1"
b1	#4	1	4'-9"	1	4'-9"	1	4'-9"	1	4'-9"	1	4'-9"
* b2	#4	23	6'-1"	29	6'-1"	35	6'-1"	41	6'-1"	47	6'-1"
x1	#4	8	3'-10"	8	4'-2"	8	4'-6"	8	4'-10"	8	5'-2"
WALL REINFORCING											
		W = 4'-4"		W = 5'-4"		W = 6'-4"		W = 7'-4"		W = 8'-4"	
MARK	SIZE	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
w1	#4	①	6'-1"	①	6'-1"	①	6'-1"	①	6'-1"	①	6'-1"
w2	#4	①	4'-1"	①	5'-1"	①	6'-1"	①	7'-1"	①	8'-1"
w3	#4	32	②	36	②	40	②	44	②	48	②

* Field Bend or Cut Reinforcing as Required for Clearance.

4 (① 12") (H1 21") Rounded down to nearest 0.5"

②H1 - 3"

STANDARD CURB INLET PRECAST TOPS			
W	PRE-CAST TOP SIZE	PIPE SIZE	CU. YD. CONC.
4'-4"3'-8"	x 6'-4" x 7 1/2"21" & SMALLER		0.38±
5'-4"4'-8"	x 6'-4" x 7 1/2"	24" & 30"	0.51±
6'-4"5'-8"	x 6'-4" x 7 1/2"	36" & 42"	0.64±
7'-4"6'-8"	x 6'-4" x 7 1/2"	48" & 54"	0.77±
8'-4"7'-8"	x 6'-4" x 7 1/2"	60" & 66"	0.90±

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STANDARD TYPE 1-A CURB INLET OPENING = 6" x 5'-0"

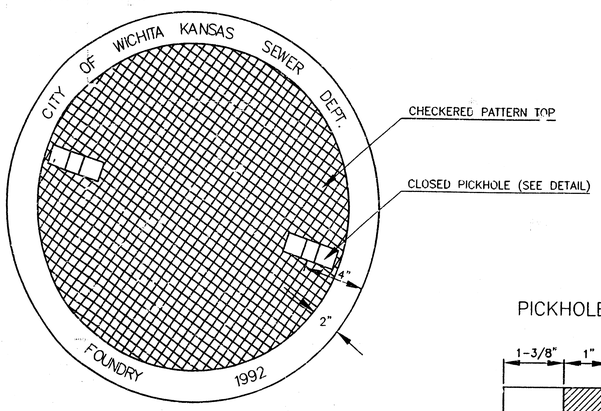
M. E. LINDEBAK P.E. - CITY ENGINEER

PROJECT NUMBER	INDEX CODE
784 PPS	607861
DATE: MAR 96	SHEET 8 OF 9

MANHOLE FRAME AND COVER DETAIL

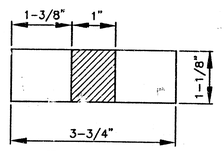
ADOPTED AS STANDARD DESIGN BY
CITY OF WICHITA, KANSAS

MANHOLE COVER
Weight = 180 Lbs.

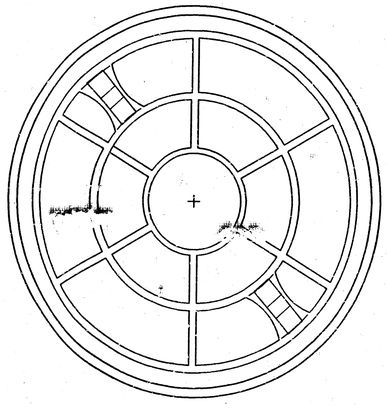


TOP VIEW

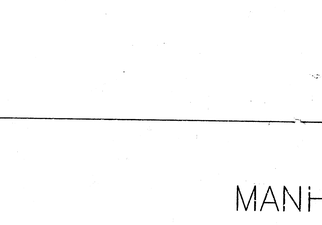
PICKHOLE DETAIL



TOP VIEW

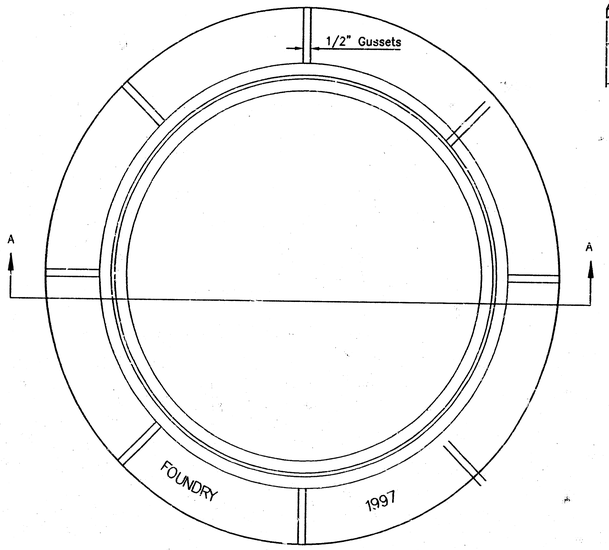


BOTTOM VIEW

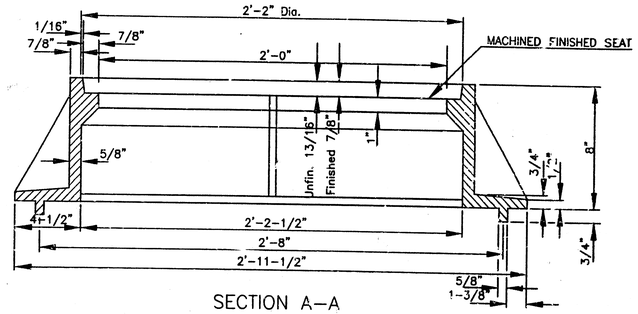


SECTION VIEW

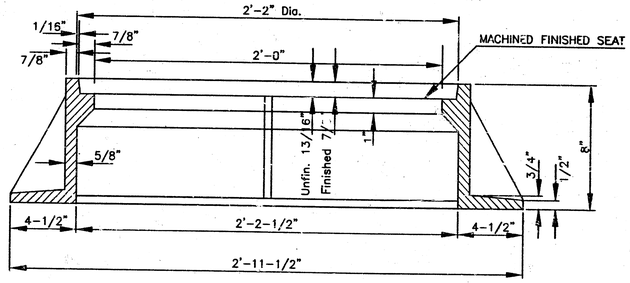
MANHOLE FRAME
Weight = 240 Lbs.



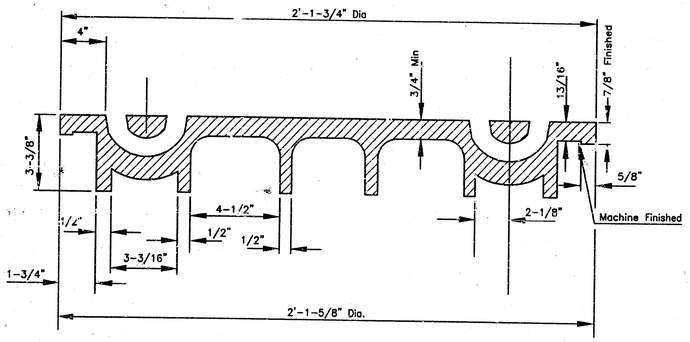
TOP VIEW



SECTION A–A
MUD RING



SECTION A–A



SECTION VIEW

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 WEIGH A MINIMUM OF 180 POUNDS ON THE SOLID COVER AND 240 POUNDS ON THE MANHOLE RING. THIS IS A TOTAL OF 420 POUNDS ON A RING AND COVER SET. CASTINGS WEIGHING LESS THAN THE MINIMUM SPECIFICATIONS WILL NOT BE ACCEPTED.
3. MANHOLE CASTINGS SHALL BE MANUFACTURED SUCH THAT A COVER MANUFACTURED BY ANY ONE FOUNDARY 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 SEATING 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 INCH 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.

THE CITY OF WICHITA

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MANHOLE FRAME AND COVER

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