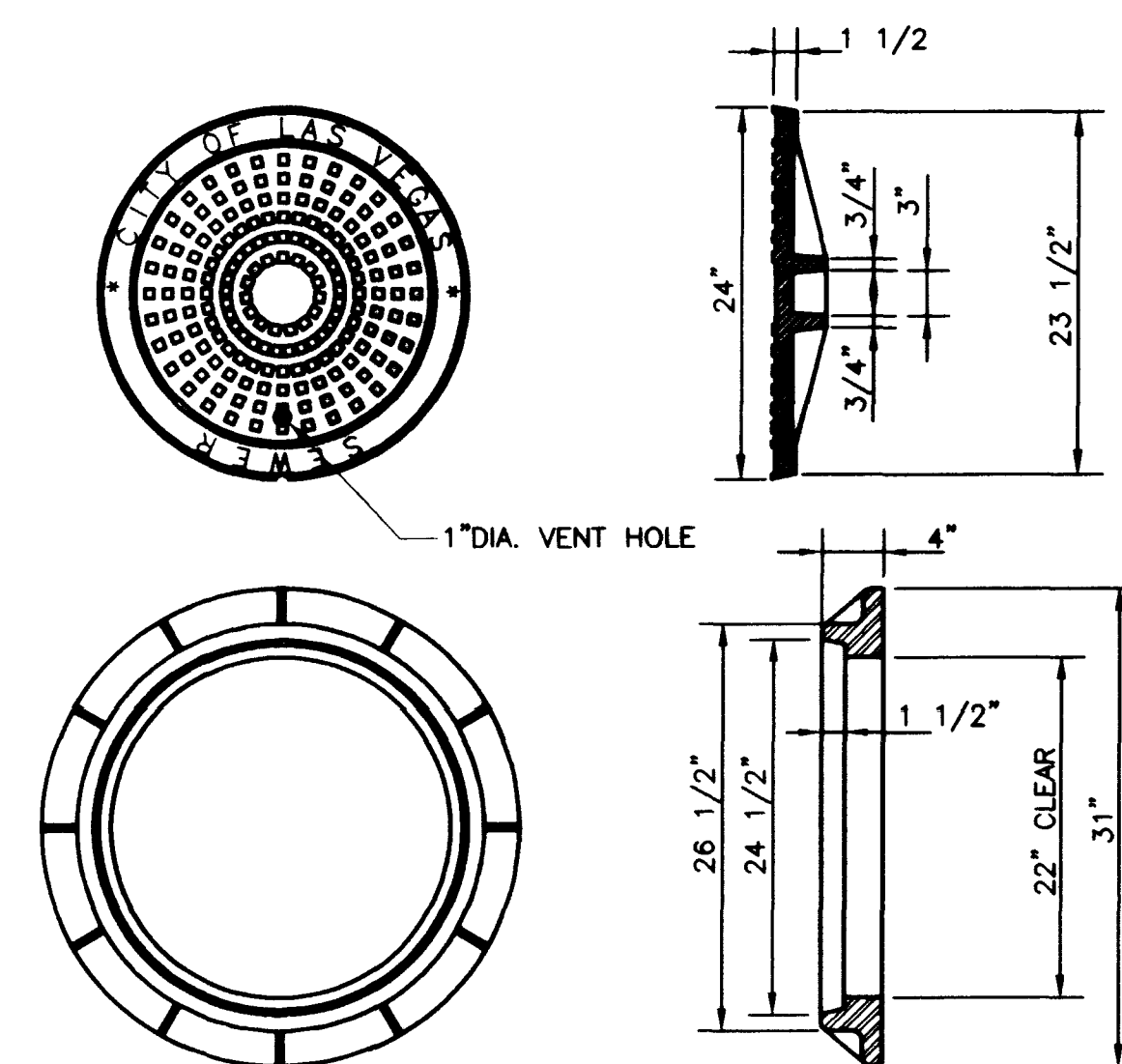
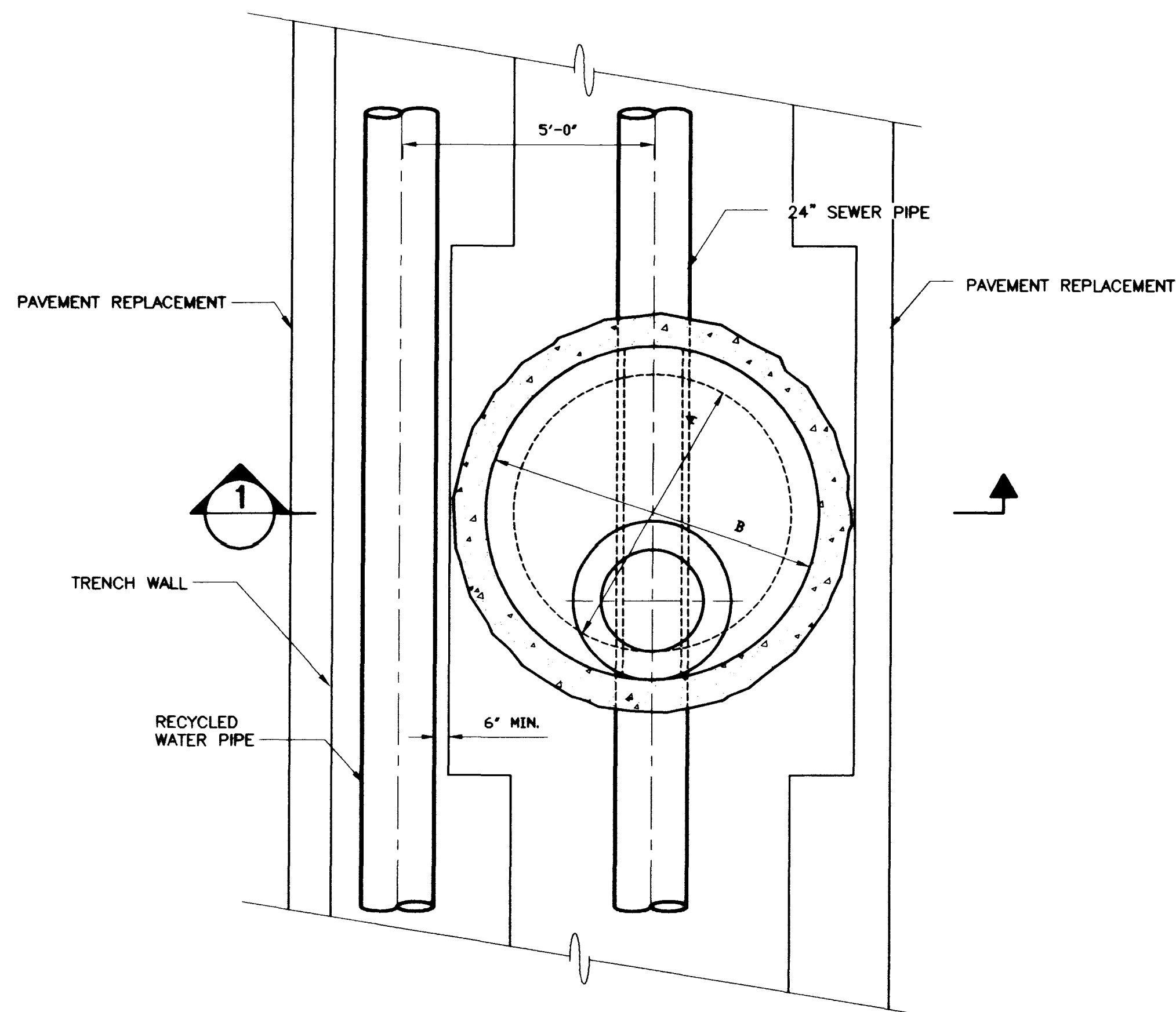




STANDARD SEWER MANHOLE COVER AND RING 2
NOT TO SCALE

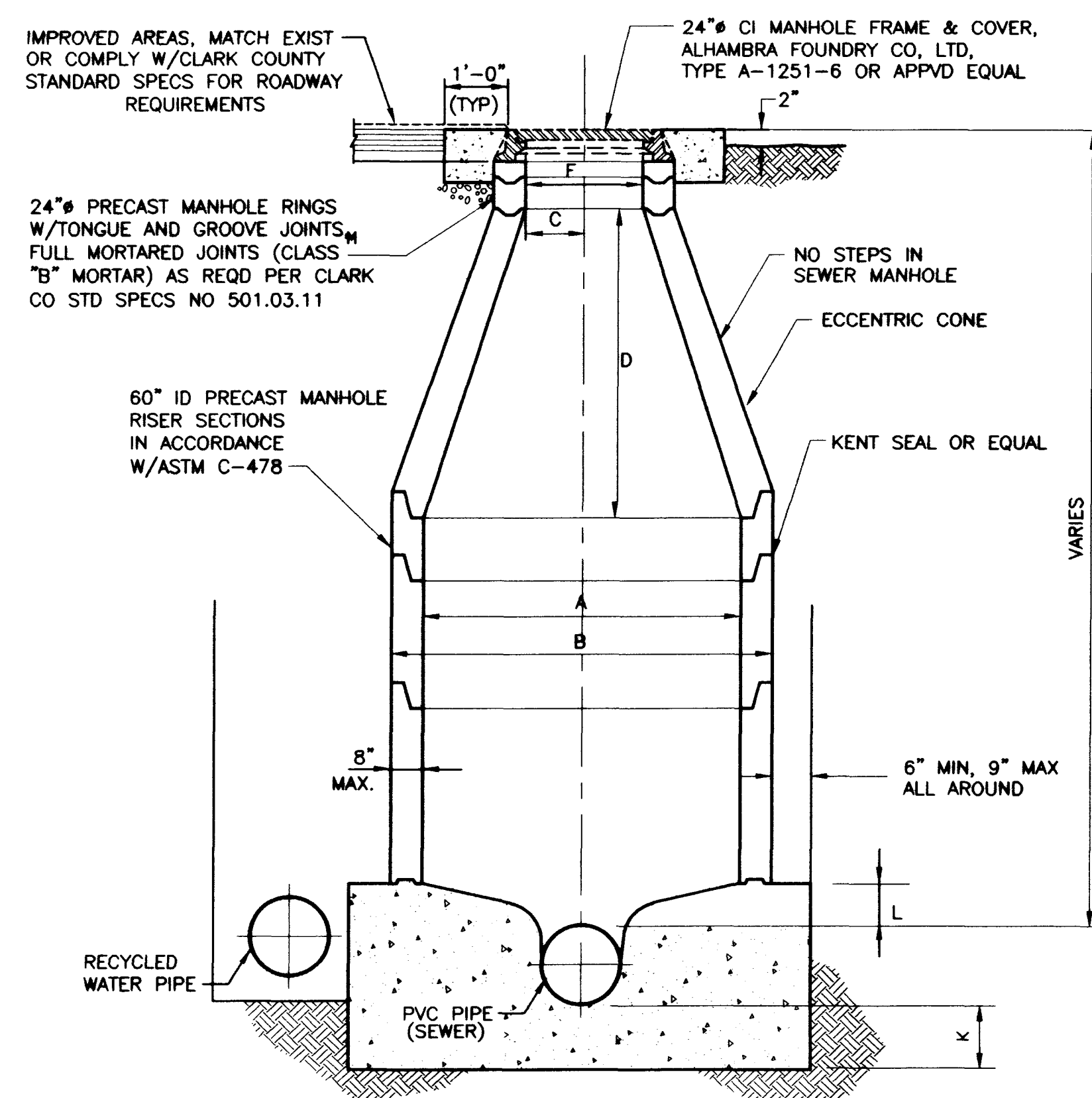
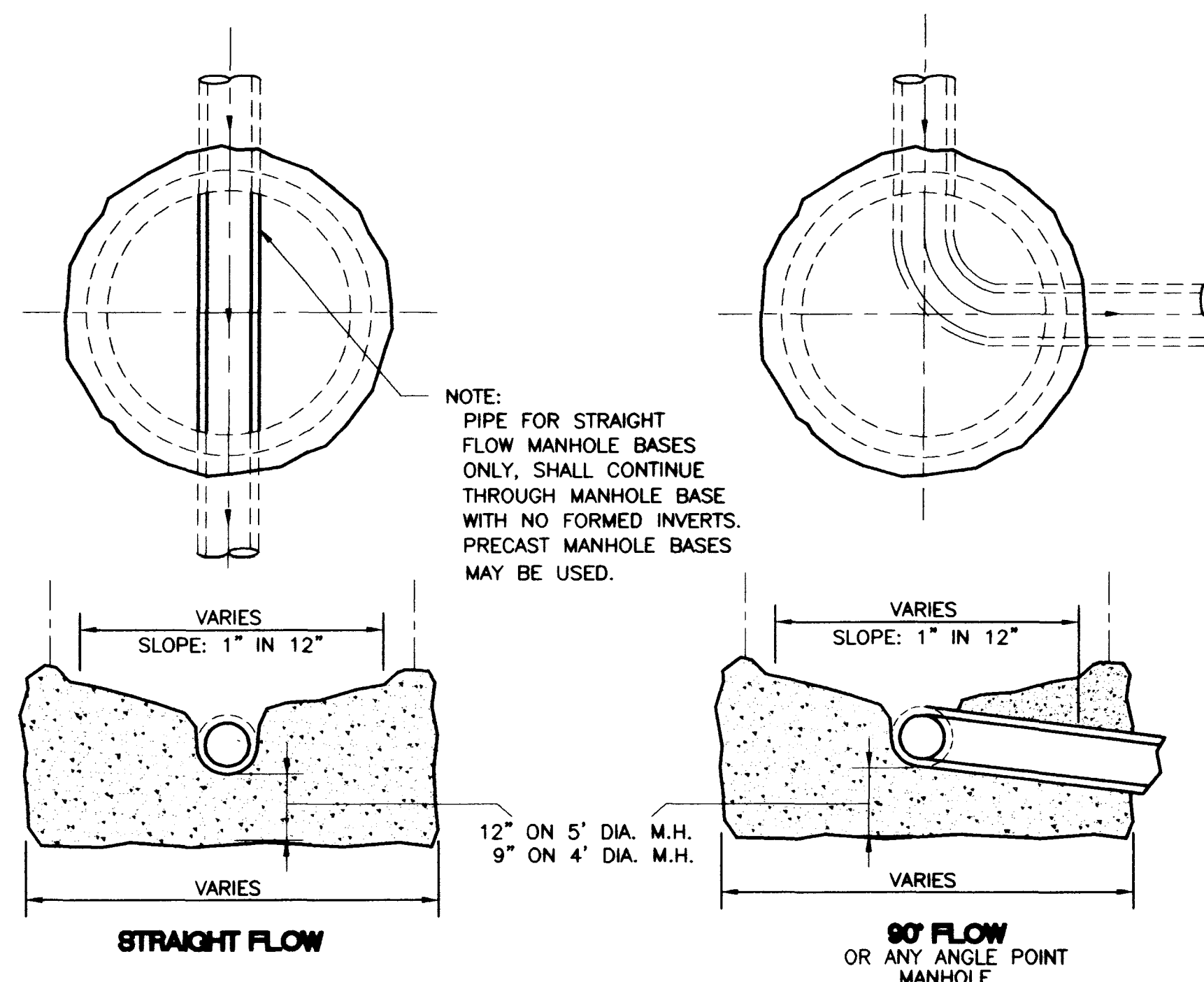
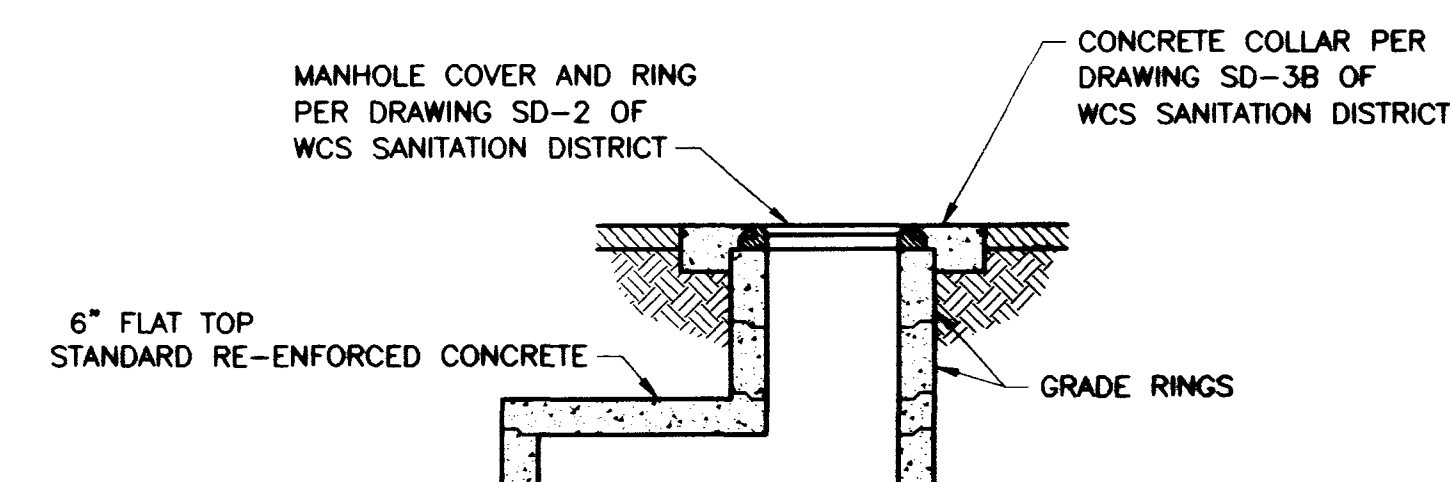


TABLE OF DIMENSIONS										
SIZE	A	B	C	D	E	F	H	J	K	L
48"	48"	60"	12"	36"	-	22"	-	-	9"	4"
60"	60"	72"	12"	60"	-	24"	-	-	12"	6"
72"	72"	84"	12"	72"	-	24"	-	-	12"	12"

STANDARD SEWER ECCENTRIC MANHOLE 1
NOT TO SCALE



STANDARD MANHOLE BASES 3
NOT TO SCALE



STANDARD FLAT TOP 5
NOT TO SCALE

LAS VEGAS VALLEY WATER DISTRICT
GREELEY AND HANSEN ENGINEERS
4625 SOUTH POLARIS AVENUE, SUITE 210
LAS VEGAS, NEVADA 89103

VERIFY SCALE
1/2" = 1'
BAR REPRESENTS ONE AND ONE-HALF INCHES ON ORIGINAL

RECYCLED WATER DISTRIBUTION SYSTEM - RAMPART BLVD PIPELINE
SEWER MANHOLE AND TRENCH DETAILS

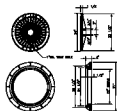
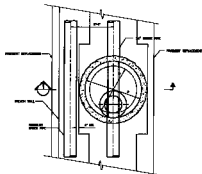
SCALE AS SHOWN
894D04.DWG
Plot 08/12/98
16:06

DRAWN BY: R. ALLEE
CHECKED BY: M. PETERSON
RECOMMENDED BY: J. J. JENSEN
ACCEPTED BY: ANDREW W. RICHARDSON
1/19/98
6/10/98
8/24/98
R.P.E. NO. DATE
8573
9/22/98
R.P.E. NO. DATE

PROFESSIONAL ENGINEER
ANDREW W. RICHARDSON
No. 08573
9/22/98

CONTRACT NUMBER
894
DRAWING NUMBER D4
SHEET 45 OF 51

REVISIONS:



STANDARD SEWER MANHOLE COVER AND RING
12\"/>

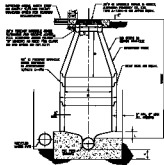
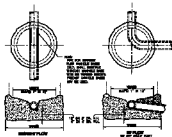


TABLE OF DIMENSIONS

MANHOLE SIZE	COVER SIZE	COVER THICKNESS	COVER WEIGHT	COVER AREA	COVER PERIMETER	COVER VOLUME	COVER SURFACE AREA	COVER SURFACE PERIMETER	COVER SURFACE VOLUME	COVER SURFACE WEIGHT	COVER SURFACE AREA	COVER SURFACE PERIMETER	COVER SURFACE VOLUME	COVER SURFACE WEIGHT
12"	12"	1"	150	1.1	4.7	0.01	1.1	4.7	0.01	1.1	4.7	4.7	0.01	1.1
18"	18"	1"	250	2.5	10.0	0.02	2.5	10.0	0.02	2.5	10.0	10.0	0.02	2.5
24"	24"	1"	400	4.7	17.7	0.04	4.7	17.7	0.04	4.7	17.7	17.7	0.04	4.7
30"	30"	1"	600	7.1	28.3	0.06	7.1	28.3	0.06	7.1	28.3	28.3	0.06	7.1
36"	36"	1"	850	10.0	39.3	0.08	10.0	39.3	0.08	10.0	39.3	39.3	0.08	10.0
42"	42"	1"	1100	12.6	50.7	0.10	12.6	50.7	0.10	12.6	50.7	50.7	0.10	12.6
48"	48"	1"	1400	15.7	62.8	0.12	15.7	62.8	0.12	15.7	62.8	62.8	0.12	15.7
54"	54"	1"	1700	18.3	74.0	0.14	18.3	74.0	0.14	18.3	74.0	74.0	0.14	18.3
60"	60"	1"	2000	21.2	85.4	0.16	21.2	85.4	0.16	21.2	85.4	85.4	0.16	21.2
66"	66"	1"	2300	23.9	96.9	0.18	23.9	96.9	0.18	23.9	96.9	96.9	0.18	23.9
72"	72"	1"	2600	26.7	108.4	0.20	26.7	108.4	0.20	26.7	108.4	108.4	0.20	26.7
78"	78"	1"	2900	29.4	119.9	0.22	29.4	119.9	0.22	29.4	119.9	119.9	0.22	29.4
84"	84"	1"	3200	32.1	131.4	0.24	32.1	131.4	0.24	32.1	131.4	131.4	0.24	32.1
90"	90"	1"	3500	34.9	142.9	0.26	34.9	142.9	0.26	34.9	142.9	142.9	0.26	34.9
96"	96"	1"	3800	37.7	154.4	0.28	37.7	154.4	0.28	37.7	154.4	154.4	0.28	37.7
102"	102"	1"	4100	40.4	165.9	0.30	40.4	165.9	0.30	40.4	165.9	165.9	0.30	40.4
108"	108"	1"	4400	43.2	177.4	0.32	43.2	177.4	0.32	43.2	177.4	177.4	0.32	43.2
114"	114"	1"	4700	45.9	188.9	0.34	45.9	188.9	0.34	45.9	188.9	188.9	0.34	45.9
120"	120"	1"	5000	48.7	200.4	0.36	48.7	200.4	0.36	48.7	200.4	200.4	0.36	48.7

STANDARD SEWER SIPHONING MANHOLE
12\"/>



STANDARD MANHOLE SHAFT
12\"/>



STANDARD FLAT TOP
12\"/>

LARSEN VALLEY ROAD BRIDGE
CRESLEY AND HANSEN
VALLEY
400 SOUTH POLARIS AVENUE, SUITE 300
LAS VEGAS, NEVADA 89102

VERIFY SCALE
1/4\"/>

DETAILS FROM INTERNATIONAL BRIDGE - BRIDGE 810 PIPER
SEWER MANHOLE AND TRENCH
DETAILS
SCALE: 1/4\"/>

1/4\"/>

894