RUNOFF AND INLET SIZING

STRUCTURE NUMBER	LOCATION	A	C	CA OR ΣCA	T_C	I_{10}	I_{50}	I_{100}	Q_{10}	Q_{50}	Q_{100}	CARRY OVER Q	TOTAL Q	INLET EFFICIENCY	Q_{IN}	ΣA	INLET TYPE	NO. GRATES	NO. OPNG'S	Q BY-PASSED
		ACRES			MIN.	INCHES PER HOUR			CUBIC FEET PER SECOND					PERCENT	C.F.S.	ACRES		EACH	EACH	C.F.S.
F12	229+75, 13' LT ℄ RT FRONTAGE RD	0.18	0.85	0.15	5.0		9.5			1.42		0.64	2.06	46%	0.95		CI-2			1.11
F13	229+75, 6' LT ℄ RT FRONTAGE RD	.	.	.		–		–	–	–	–	–	–	–	–		JCT BOX	–	–	–
F14	3228+00, MAINLINE, 86' RT	.	.	.		–		–	–	–	–	–	–	–	–		SMD-2B/JCT BOX	–	–	–
F15	226+20, 13' LT ℄ RT FRONTAGE RD	0.11	0.95	0.10	5.0		9.5			0.95		1.11	2.06	84%	1.73		CI-2(D)	2	6	0.33
F16	3228+00, MAINLINE, 86' RT	0.20	0.80	0.16	5.0	–	9.5	–	–	1.52	–	–	1.52	100%	1.52		SMD-2B/JCT BOX	–	–	–
F17	226+03, 13' RT ℄ RT FRONTAGE RD	0.18	0.82	0.15	5.0		9.5			1.42		0.38	1.80	88%	1.58		CI-2(D)	2	6	0.22
G1	238+65, 13' LT ℄ LT FRONTAGE RD	0.15	0.85	0.13	5.0	.	9.5	.	.	1.24	.	.	1.24	78%	0.97		CI-2(B)	2	4	0.27
G2	238+65, 13' RT ℄ LT FRONTAGE RD	0.07	0.95	0.07	5.0	.	9.5	.	.	0.66	.	.	0.66	80%	0.60		CI-2(B)	2	4	0.06
G3	238+65, 26.5' RT ℄ LT FRONTAGE RD	0.17	0.65	0.11	5.0	.	9.5	.	.	1.04	.	.	1.04	100%	1.04		SMD-TYPE 2	–	–	–
G4	241+70, 13' LT ℄ LT FRONTAGE RD	2.92	0.66	1.93	12.6	.	7.4	.	.	14.26	.	0.27	14.53	74%	10.75		CI-3(D)	4	6	3.78
G5	241+70, 23.5' RT ℄ LT FRONTAGE RD	0.19	0.65	0.12	5.0	.	9.5	.	.	1.18	.	.	1.18	100%	1.18		SMD-TYPE 2A	–	–	–
G6	243+25, 34' LT ℄ LT FRONTAGE RD	4.04	0.58	2.34	16.4	–	6.7	–	–	15.70	–	.	15.70	100%	15.70		SMD-TYPE 2	–	–	–
G7	243+25, 13' RT ℄ LT FRONTAGE RD	0.17	0.95	0.16	5.0	–	9.5	–	–	1.53	–	0.06	1.59	89%	1.42		CI-2(D)	2	6	0.17
G8	243+25, 23' RT ℄ LT FRONTAGE RD	0.19	0.65	0.12	5.0	–	9.5	–	–	1.17	–	.	1.17	100%	1.17		SMD-TYPE 2A	–	–	–
G9	245+00, 23' LT ℄ LT FRONTAGE RD	2.44	0.58	1.42	12.4	–	7.5	–	–	10.61	–	.	10.61	100%	10.61		SMD-TYPE 2	–	–	–
G10	245+72, 23' LT ℄ LT FRONTAGE RD	1.41	0.65	0.92	12.0	–	7.5	–	–	6.87	–	.	6.87	100%	6.87		SMD-TYPE 2	–	–	–
G11	245+72, 13' LT ℄ LT FRONTAGE RD	0.17	0.85	0.14	5.0	–	9.5	–	–	1.37	–	3.78	5.15	69%	3.54		CI-2(B)	2	4	1.61
G12	245+72, 23' RT ℄ LT FRONTAGE RD	0.15	0.65	0.10	5.0	–	9.5	–	–	0.93	–	.	0.93	100%	0.93		SMD-TYPE 2B	–	–	–
G13	246+24, 13' RT ℄ LT FRONTAGE RD	0.11	0.95	0.10	5.0	–	9.5	–	–	0.99	–	0.17	1.16	78%	0.77		CI-2(B)	2	4	0.22
G14	246+24, 23' RT ℄ LT FRONTAGE RD	0.03	0.65	0.02	5.0	–	9.5	–	–	0.18	–	–	0.18	100%	0.18		SMD-TYPE 2B			
G15	248+00, 23' RT ℄ LT FRONTAGE RD	0.06	0.65	0.04	5.0	–	9.5	–	–	0.37	–	–	0.37	100%	0.37		SMD-TYPE 2			
G16	247+15.5, 23' RT ℄ LT FRONTAGE RD	0.05	0.65	0.03	5.0	–	9.5	–	–	0.31	–	–	0.31	100%	0.31		SMD-TYPE 2B			
H1	247+15 LT FRONTAGE RD, 6' RT.	5.03	0.58	2.92	12.8	–	7.4	–	–	23.21	–	–	23.21	–	23.21		JCT. BOX	–	–	–
H2	3251+23, MAINLINE, 79' LT	.	.	.	.	–	.	–	–	.	–	–	.	–	.		JCT. BOX	–	–	–
H3	3251+23, MAINLINE, 57' RT	0.19	0.95	0.18	5.0	–	9.5	–	–	1.71	–	–	1.71	100%	1.71		ILB-1-2	2	2	.
H4	3251+24, MAINLINE, 85.86' RT	.	.	.	.	–	.	–	–	.	–	–	.	–	.		JCT. BOX	–	–	–
J1A	249+65, LT FRONTAGE RD, 23' LT.	3.77	0.70	2.64	15.0	–	7.0	–	–	18.48	–	–	18.48	100%	18.48		SMD-TYPE 2	–	–	–
J1	249+65, LT FRONTAGE RD, 13' LT.	0.27	0.85	0.23	5.0	–	9.5	–	–	2.18	–	1.61	3.79	72%	2.74		CI-2(D)	2	4	1.05
J2	251+36, LT FRONTAGE RD, 25' RT.	0.31	0.85	0.26	5.0	–	9.5	–	–	2.50	–	0.22	2.72	77%	2.10		CI-2(D)	2	4	0.62
J3	251+36, LT FRONTAGE RD, 13' LT.	3.63	0.65	2.36	14.8	–	7.0	–	–	16.52	–	1.05	17.57	78%	13.62		CI-3(D)	4	8	3.95
J4	251+36, LT FRONTAGE RD, 6' LT.	–	–	–	–	–	–	–	–	–	–	–	–	–	–		JCT. BOX	–	–	–
J5	252+00, LT FRONTAGE RD, 6' LT.	–	–	–	–	–	–	–	–	–	–	–	–	–	–		JCT. BOX	–	–	–
J6	253+00, LT FRONTAGE RD, 6' LT.	0.86	0.80	0.69	6.4	–	9.0	–	–	6.19	–	3.95	10.14	76%	7.70		CI-3(D)	4	6	2.44
J7	55+00, RAMP A, 4.05' RT.	0.33	0.85	0.28	5.0	–	9.5	–	–	2.66	–	0.62	3.28	77%	2.51		CI-2(D)	2	4	0.76
J8	254+70, LT FRONTAGE RD, 13' LT.	0.07	0.85	0.06	5.0	–	9.5	–	–	0.56	–	2.44	3.00	77%	2.31		CI-2(D)	2	4	0.77
J9	254+70, LT FRONTAGE RD, 23' LT.	1.09	0.80	0.87	6.1	–	9.1	–	–	7.96	–	–	7.96	100%	7.96		SMD-TYPE 2A	–	–	–
J10	255+80, LT FRONTAGE RD, 13' RT.	0.05	0.85	0.04	5.0	–	9.5	–	–	0.40	–	–	0.40	100%	0.40		CI-2(B)	2	4	–
J11	255+80, LT FRONTAGE RD, 13' LT.	0.05	0.85	0.04	5.0	–	9.5	–	–	0.40	–	0.77	1.17	100%	1.17		CI-2(B)	2	4	–
J12	255+80, LT FRONTAGE RD, 23' LT.	0.40	0.80	0.32	5.2	–	9.4	–	–	3.02	–	–	3.02	100%	3.02		SMD-TYPE 2A	–	–	–
J13	257+30, LT FRONTAGE RD, 23' LT.	–	–	–	–	–	–	–	–	–	–	–	–	–	–		JCT. BOX	–	–	–
J14	3255+00, MAINLINE, 65' LT.	0.02	0.95	0.02	5.0		9.5			0.18			0.18	100%	0.18		ILB-1-2	2	2	
K1	3255+18, MAINLINE, 57 RT.	0.34	0.85	0.29	5.0	.	9.5	.	.	2.76	.	.	2.76	100%	2.76		CI-3(D)	4	8	.
K2	54+80, RAMP B, 19' RT.	0.22	0.85	0.18	5.0	.	9.5	.	.	1.71	.	.	1.71	75%	1.33		CI-2(D)	2	6	0.38
K3	3255+18, MAINLINE, 98' RT.	–	–	–	–	–	–	–	–	–	–	–	–	–	–		JCT. BOX			
K4	3256+00, MAINLINE, CRL	1.54	0.75	1.16	5.0	–	9.5	–	–	10.97	–	–	10.97	100%	10.97		GPI-TYPE 2	–	–	–
K5	3256+00, MAINLINE, 98' RT.	–	–	–	–	–	–	–	–	–	–	–	–	–	–		JCT. BOX	–	–	–
K6	3258+22, MAINLINE, 139' RT.	0.56	0.76	0.43	5.0	–	9.5	–	–	4.04	–	–	4.04	100%	4.04		SMD-TYPE 2B	–	–	–
L1	258+20, LT FRONTAGE RD, 13' LT.	0.39	0.80	0.31	5.0	–	9.5	–	–	2.97	–	1.17	4.14	78%	3.22		CI-2(B)	2	2	0.92
L2	258+20, LT FRONTAGE RD, 13' RT.	0.10	0.85	0.09	5.0	–	9.5	–	–	0.82	–	–	0.82	78%	0.64		CI-2	2	–	0.18
M1	251+30, RT FRONTAGE RD, 25' LT.	0.39	0.85	0.33	5.0	–	9.5	–	–	3.15	–	–	3.15	46%	1.45		CI-2	2	–	1.70
M2	251+30, RT FRONTAGE RD, 13' RT.	0.17	0.85	0.14	5.0	–	9.5	–	–	1.37	–	–	1.37	58%	0.80		CI-2	2	–	0.57
M3	54+43, RAMP B CRL	0.39	0.80	0.31	5.0	–	9.5	–	–	2.96	–	1.70	4.66	68%	3.17		CI-2(D)	2	4	1.49
M4	254+60, RT FRONTAGE RD, 20' RT.	–	–	–	–	–	–	–	–	–	–	–	–	–	–		JCT. BOX	–	–	–
M5	256+60, RT FRONTAGE RD, 13' LT.	0.18	0.82	0.15	5.0	–	9.5	–	–	1.40	–	1.49	2.89	69%	2.00		CI-2(D)	2	4	0.89
M6	256+60, RT FRONTAGE RD, 13' RT.	0.19	0.85	0.16	5.0	–	9.5	–	–	1.53	–	0.57	2.10	70%	1.47		CI-2(B)	2	2	0.63
M7	258+80, RT FRONTAGE RD, 13' LT.	0.06	0.90	0.05	5.0	–	9.5	–	–	0.51	–	0.89	1.40	SUMP	1.40		CI-2	2	–	–
M8	258+50, RT FRONTAGE RD, 13' RT.	0.10	0.85	0.09	5.0	–	9.5	–	–	0.82	–	0.63	1.45	SUMP	1.45		CI-2	2	–	–
N1	258+03.60, LT FRONTAGE RD, 25' RT.	33.86	0.60	20.39	21.0	–	6.1	–	–	133.20	–	–	133.20	–	–		EXIST. 8x3 RCB	–	–	–
N2	3258+34.36, MAINLINE, 135' LT.	14.0	0.60	28.35	21.0	–	6.1	–	–	172.90	–	–	172.90	–	195.00		EXIST. 8x3 RCB	–	–	–
N3	3260+34.37, MAINLINE, 209.5' RT.	–	–	–	–	–	–	–	–	–	–	–	–	–	195.00		EXIST. 8x3 RCB HDWL	–	–	–
O1	200+00, WADE WATTS AVENUE, 20' RT.	0.60	0.80	0.48	5.0	–	9.5	–	–	4.56	–	–	4.56	SUMP	4.56		CICI-2(2B)	2	4	–
O2	200+00, WADE WATTS AVENUE, 20' LT.	0.65	0.80	0.52	5.0	–	9.5	–	–	4.95	–	–	4.95	SUMP	4.95		CICI-2(D)	2	4	–
P1	3264+94.09, MAINLINE, 157.50' RT.		ASSUME FLOWING FULL					–	–	8.55	–	–	8.55	–	8.55		SPL INLET	–	–	–
P2	3260+50.00, MAINLINE, 157.50' RT.	1.74	.60	1.04	5.0	–	9.5	–	–	9.92	–	–	9.92	–	9.92		GPI – TYPE 2	–	–	–

STORM SEWER ANALYSIS

ADJ. CA	ADD'L CA	FROM STR. NO.	ΣCA	T_C	I	Q	PIPE DIA. AND TYPE	PIPE SLOPE	PIPE VELOCITY	PIPE LENGTH	TIME IN PIPE	TOTAL T_C	TO STR. NO.	STRUCTURE NUMBER
				MIN.	INCH/HR	C.F.S.	ULTIMATE	PERCENT	F.P.S.	L.F.	MIN.	MIN.		
0.10	–	–	0.10	5.0	9.5	0.95	18"RCP	1.50	7.0	4	–	5.0	F13	F12
–	7.81	F9,F11,F12	7.81	9.4	8.0	62.5	36"RCP	1.08	9.5	115	0.20	9.6	F14	F13
–	8.04	A2,F13	8.04	9.6	8.0	64.3	36"RCP	1.09	10.0	235	0.40	10.0	F16	F14
0.16	–	–	0.16	5.0	9.5	1.52	18"RCP	3.25	9.0	4	–	5.0	F16	F15
0.16	8.54	A5,F14,F15,F17	8.70	10.0	7.9	68.7	36"RCP	1.23	10.1	22	.	10.0	exCD	F16
0.17	–		0.17	5.0	9.5	1.58	18"RCP	3.25	9.0	4	.	5.0	F16	F17
0.10	–	.	0.10	5.0	9.5	0.97	18"RCP	2.00	8.0	24	.	5.0	G2	G1
0.07	0.10	G1	0.17	5.0	9.5	1.62	18"RCP	2.00	8.0	12	.	5.0	G3	G2
0.11	0.17	G2	0.28	5.0	9.5	2.67	24"RCP	0.55	5.0	302	1.0	6.0	G5	G3
1.45		.	1.45	12.6	7.4	10.75	18"RCP	2.00	8.0	34	0.1	12.7	G5	G4
0.12	1.45	G3,G4	1.57	12.7	7.4	11.62	24"RCP	0.55	5.5	151	0.4	13.1	G8	G5
2.34		–	2.34	16.4	6.7	15.70	18"RCP	2.51	9.5	45	0.1	16.5	G7	G6
0.15	2.34	G6	2.49	5.0	9.5	23.7	18"RCP	2.38	9.0	8	–	5.0	G8	G7
0.12	4.06	G5,G7	4.18	16.5	7.4	30.0	24"RCP	0.73	7.0	242	0.6	17.1	G12	G8
1.42		–	1.42	12.4	7.5	10.61	18"RCP	1.28	6.5	70	0.2	12.6	G10	G9
0.92	1.42	G9	2.34	12.6	7.5	17.56	24"RCP	2.25	10.5	8	–	12.6	G11	G10
0.37	2.34	G10	2.71	12.6	7.5	20.3	24"RCP	3.52	12.0	33	–	12.6	G12	G11
0.10	6.89	G8,G11	6.99	17.1	6.6	45.5	36"RCP	2.50	13.5	48	0.1	17.2	G14	G12
0.08		–	0.08	5.0	9.5	0.77	18"RCP	1.25	6.5	18		5.0	G14	G13
0.02	6.99	G12,G13	7.01	17.2	6.6	46.3	36"RCP	2.50	13.5	88	0.1	17.3	G16	G14
0.04		–	0.04	5.0	9.5	0.37	18"RCP	0.50	4.0	82	0.3	5.3	G16	G15
0.03	7.05	G14,G15	7.08	17.3	6.6	46.7	4'x3'RCB	2.36	14.5	6		17.3	exCD	G16
2.92		exCD	2.92	12.8	7.4	23.21	24"RCP	0.77	6.5	363	0.93	13.7	H2	H1
2.92		H1	2.92	13.7	7.4	23.21	24"RCP	5.50	14.0	132	0.16	13.9	H3	H2
0.18	3.46	D15,H2	3.64	13.9	7.0	25.48	30"RCP	1.93	12.0	27	0.04	13.9	H4	H3
	3.64	H3	3.64	13.9	7.0	25.48	EXIST 36"RCP	–	–	.	.		EXIST 36"RCP	H4
2.64	–	–	2.64	15.0	7.0	18.48	18"RCP	2.0	8.5	4	–	15.0	J1	J1A
0.29	2.64	J1A	2.93	15	7.0	20.5	24"RCP	1.72	9.5	167	0.29	15.3	J4	J1
0.22	–	–	0.22	5.0	9.5	2.10	18"RCP	.40	4.0	4	–	5.0	J4	J2
1.95	–	–	1.95	14.8	7.0	13.62	18"RCP	2.75	9.5	27	–	5.0	J4	J3
–	4.81	J1,J2,J3	4.81	15.3	6.9	33.19	30"RCP	1.02	8.5	61	0.11	15.4	J5	J4
–	4.81	J4	4.81	15.4	6.9	33.19	30"RCP	1.0	8.5	98	0.19	15.6	J6	J5
0.86	4.81	J5	5.67	15.6	6.9	33.09	30"RCP	2.11	12.0	164	0.21	15.8	J9	J6
0.26	0.02	J14	0.28	5.0	9.5	2.66	18"RCP	0.40	4.0	50	0.21	5.2	J8	J7
0.24	0.28	J7	0.52	5.0	9.5	4.94	18"RCP	0.50	3.5	7	–	5.0	J9	J8
0.87	5.33	J6,J8	6.20	15.8	6.8	42.16	18"RCP	3.50	16.1	108	0.11	15.9	J12	J9
0.04	–	–	0.04	5.0	9.5	0.40	18"RCP	0.50	3.5	23	0.11	5.1	J11	J10
0.12	0.04	J10	0.16	5.0	9.5	1.52	18"RCP	0.50	3.5	8	–	5.1	J12	J11
0.32	5.49	J9,J11	5.81	15.9	6.8	39.51	30"RCP	3.50	13.8	144	0.17	16.1	J13	J12
–	5.81	J12	5.81	16.1	6.8	39.51	30"RCP	3.50	13.8	73	0.09	16.2	open ditch	J13
0.02			0.02	5.0	9.5	0.18	18" RCP	5.00	3.0	5	–	–	J7	J14
0.29	.	–	0.29	5.0	9.5	2.76	18"RCP	3.00	10.0	40	.	5.0	K3	K1
0.14	.	–	0.14	5.0	9.5	1.33	18"RCP	2.50	9.5	32	.	5.0	K3	K2
–	0.43	K1,K2	0.43	5.0	9.5	4.09	18"RCP	3.50	11.0	78	0.12	5.1	K5	K3
1.15	.	–	1.15	5.0	9.5	10.97	18"RCP	4.00	12.0	94	0.13	5.1	K5	K4
–	1.58	K3,K4	1.58	5.1	9.5	15.01	24"RCP	3.16	12.2	222	0.30	5.4	K6	K5
0.43	1.58	K5	2.01	5.1	9.5	19.1	30"RCP	0.68	7.0	219	0.52	5.9	N3	K6
0.34	–	–	0.34	5.0	9.5	3.22	18"RCP	0.96	5.15	24	–	5.0	L2	L1
0.07	0.34	L1	0.41	5.0	9.5	3.90	18"RCP	3.25	8.43	20	–	–	open ditch	L2
0.15	–	–	0.15	5.0	9.5	1.45	18"RCP	0.78	6.0	36	0.10	5.10	M2	M1
0.08	0.12	M1	0.23	5.1	9.5	1.90	18"RCP	2.60	9.0	271	0.50	5.60	M3	M2
0.33	–	–	0.33	5.0	9.5	3.17	18"RCP	0.91	5.5	54	–	5.0	M4	M3
–	–	M2,M3	0.66	5.6	9.2	6.07	18"RCP	3.81	10.2	193	0.32	5.9	M6	M4
0.15	–	–	0.15	5.0	9.5	1.47	18"RCP	0.96	5.5	22	–	5.0	M6	M5
0.15	0.81	M4,M5	0.96	5.9	9.1	8.74	18"RCP	3.14	10.2	207	0.34	6.2	M8	M6
0.15	–	–	0.15	5.0	9.5	1.40	18"RCP	0.96	6.0	22	–	5.0	M8	M7
0.15	1.11	M6,M7	1.26	6.2	9.0	11.34	18"RCP	1.30	6.4	181	0.47	6.7	N3	M8
–	–	–	–	–	–	–	–	–	–	–	–	EXISTING	8'x3' RCB	N1
–	–	–	–	–	–	–	–	–	–	–	–	EXISTING	8'x3' RCB	N2
												EXISTING	8'x3' RCB	N3
0.48	–	–	0.48	5.0	9.5	4.56	18"RCP	0.96	5.65	49	0.14	5.00	O2	O1
0.52	0.48	O1	1.00	5.0	9.5	9.51	18"RCP	1.15	7.15	60	–	EXISTING	8'x5' RCB	O2
–	–	–	0.65	–	–	8.55	18"RCP	0.67	6.06	438	–	–	–	O1
1.04	.090	P1	1.94	5.0	9.5	18.47	24"RCP	0.70	6.86	–	–	–	–	N3

REGISTERED PROFESSIONAL ENGINEER
ROBIN D. SEWELL
16173
OKLAHOMA

7/8/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

STORM SEWER DESIGN DATA

JOB PIECE NO. 14999(04) SHEET NO. 29