

SANITARY SEWER CALCULATION SHEET



Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION							COMM		INSTIT		PARK		C+I	INFILTRATION			TOTAL	PIPE		PIPE		PIPE																
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	POP.	CUMULATIVE		PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL (FULL) (m/s)	VEL (ACT.) (m/s)																
STREET 20																																									
	205A	204A	0.22	10	27	0.22	27	3.7	0.32		0.00		0.00	0.00	0.22	0.22	0.07	0.40	45.0	200	0.65	26.44	0.01	0.84	0.30																
	204A	203A	0.75	37	99	0.97	126	3.6	1.46		0.00		0.00	0.00	0.75	0.97	0.32	1.78	123.0	200	0.35	19.40	0.09	0.62	0.38																
	203A	234A	0.10	3	8	1.07	134	3.6	1.55		0.00		0.00	0.00	0.10	1.07	0.35	1.90	10.5	200	0.35	19.40	0.10	0.62	0.39																
	234A	235A	0.20	7	19	1.27	153	3.6	1.76		0.00		0.00	0.00	0.20	1.27	0.42	2.18	52.5	200	0.35	19.40	0.11	0.62	0.41																
To STREET 18, Pipe 235A - 236A						1.27	153				0.00		0.00			0.00	1.27																								
STREET 18																																									
Contribution From STREET 17, Pipe 205A - 208A						0.23	24				0.00		0.00		0.23	0.23																									
	208A	207A	0.23	10	27	0.46	51	3.7	0.60		0.00		0.00	0.00	0.23	0.46	0.15	0.76	45.5	200	0.35	19.40	0.04	0.62	0.29																
	207A	235A	0.77	38	103	1.23	154	3.5	1.77		0.00		0.00	0.00	0.77	1.23	0.41	2.18	130.5	200	0.35	19.40	0.11	0.62	0.41																
Contribution From STREET 20, Pipe 234A - 235A						1.27	153				0.00		0.00		1.27	2.50																									
	235A	236A	0.20	7	19	2.70	326	3.5	3.65		0.00		0.00	0.00	0.20	2.70	0.89	4.54	64.0	200	0.35	19.40	0.23	0.62	0.50																
To STREET 16, Pipe 236A - 238A						2.70	326				0.00		0.00			0.00	2.70																								
STREET 14																																									
	229A	230A	0.11	2	5	0.11	5	3.8	0.06		0.00		0.00	0.00	0.11	0.11	0.04	0.10	16.0	200	0.90	31.12	0.00	0.99	0.22																
	230A	231A	0.17	7	19	0.28	24	3.7	0.29		0.00		0.00	0.00	0.17	0.28	0.09	0.38	35.0	200	0.90	31.12	0.01	0.99	0.33																
	231A	232A	0.57	27	73	0.85	97	3.6	1.13		0.00		0.00	0.00	0.57	0.85	0.28	1.41	87.5	200	0.35	19.40	0.07	0.62	0.36																
	232A	233A	0.43	20	54	1.28	151	3.6	1.74		0.00		0.00	0.00	0.43	1.28	0.42	2.16	86.0	200	0.35	19.40	0.11	0.62	0.41																
To STREET 16, Pipe 233A - 236A						1.28	151				0.00		0.00			1.28																									
STREET 17																																									
	200A	213A	0.16	5	14	0.16	14	3.7	0.17		0.00		0.00	0.00	0.16	0.16	0.05	0.22	55.0	200	0.65	26.44	0.01	0.84	0.24																
To STREET 19, Pipe 213A - 214A						0.16	14				0.00		0.00			0.16																									
	205A	208A	0.23	9	24	0.23	24	3.7	0.29		0.00		0.00	0.00	0.23	0.23	0.08	0.36	59.0	200	0.65	26.44	0.01	0.84	0.29																
To STREET 18, Pipe 208A - 207A						0.23	24				0.00		0.00			0.23																									
	237A	202A	0.20	7	19	0.20	19	3.7	0.23		0.00		0.00	0.00	0.20	0.20	0.07	0.29	55.0	200	0.65	26.44	0.01	0.84	0.27																
To STREET 19, Pipe 202A - 290A						0.20	19				0.00		0.00			0.20																									
	215A	216A	0.37	6	20	0.37	20	3.7	0.24		0.00		0.00	0.41	0.41	0.04	0.78	0.78	0.26	0.54	70.0	200	0.65	26.44	0.02	0.84	0.33														
			0.49	12	41	0.86	61				0.00		0.00		0.41	0.49	1.27																								
	216A	217A	0.68		79	1.54	140	3.6	1.62		0.00		0.00	0.41	0.04	0.68	1.95	0.64	2.30	93.0	200	0.35	19.40	0.12	0.62	0.41															
	217A	218A	0.14	2	7	1.68	147	3.6	1.69		0.00		0.00	0.41	0.04	0.14	2.09	0.69	2.43	11.5	200	0.35	19.40	0.13	0.62	0.42															
	218A	219A	0.17	3	10	1.85	157	3.5	1.81		0.00		0.00	0.41	0.04	0.17	2.26	0.75	2.59	52.0	250	0.25	29.73	0.09	0.61	0.37															
To STREET 19, Pipe 219A - 233A						1.85	157				0.00		0.00			0.41	2.26																								
STREET 19																																									
	212A	213A	0.17	6	16	0.17	16	3.7	0.19		0.00		0.00	0.00	0.17	0.17	0.06	0.25	52.5	200	0.65	26.44	0.01	0.84	0.26																
Contribution From STREET 17, Pipe 200A - 213A						0.16	14				0.00		0.00		0.16	0.33																									
	213A	214A	0.50	24	65	0.83	95	3.6	1.11		0.00		0.00	0.00	0.50	0.83	0.27	1.38	93.5	200	0.35	19.40	0.07	0.62	0.36																
	214A	219A	0.50	25	68	1.33	163	3.5	1.87		0.00		0.00	0.00	0.50	1.33	0.44	2.31	83.5	200	0.35	19.40	0.12	0.62	0.41																
Contribution From STREET 17, Pipe 218A - 219A						1.85	157				0.00		0.00		2.26	3.59																									
	219A	233A	0.20	7	19	3.38	339	3.4	3.78		0.00		0.00	0.41	0.04	0.20	3.79	1.25	5.08	64.0	250	0.25	29.73	0.17	0.61	0.45															
To STREET 16, Pipe 233A - 236A						3.38	339				0.00		0.00			0.41	3.79																								
DESIGN PARAMETERS														Designed: M.S.				PROJECT: STITTSVILLE SOUTH URBAN EXPANSION AREA																							
Park Flow =			9300	L/ha/da	0.10764		I/s/ha	Industrial Peak Factor = as per MOE Graph						Checked: W.L.				LOCATION: City of Ottawa																							
Average Daily Flow =			280	I/p/day				Extraneous Flow =						Dwg. Reference: Sanitary Servicing Plan, Servicing Profiles				File Ref: 21-1247																							
Comm/Inst Flow =			28000	L/ha/da	0.3241		I/s/ha	Minimum Velocity =																																	
Industrial Flow =			35000	L/ha/da	0.40509		I/s/ha	Manning's n = (Conc)																																	
Max Res. Peak Factor =			4.00					Townhouse coeff=																																	
Commercial/Inst./Park Peak Factor =			1.00					Single house coeff=																																	
Institutional =			0.32	I/s/ha																																					
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Manning's $n=0.013$ 1247_san_designsheets.xlsx

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LOCATION			RESIDENTIAL AREA AND POPULATION								COMM		INSTIT		PARK		C+HI	INFILTRATION			TOTAL	PIPE									
STREET		FROM M.H.	TO M.H.	AREA	UNITS	POP.	CUMULATIVE		PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL				
				(ha)			AREA (ha)	POP.																				(m/s)	(ACT.) (m/s)		
		255A	256A	0.04	1	3	0.04	3	3.8	0.04		0.00		0.00		0.00	0.00	0.04	0.04	0.01	0.05	14.0	200	0.65	26.44	0.00	0.84	0.15			
		256A	257A				0.04	3	3.8	0.04		0.00		0.00		0.00	0.00	0.00	0.04	0.01	0.05	9.5	200	0.35	19.40	0.00	0.62	0.13			
		240A	241A	0.59	14	48	0.59	48	3.7	0.57		0.00		0.00		0.00	0.00	0.59	0.59	0.19	0.76	98.5	200	0.65	26.44	0.03	0.84	0.37			
		241A	242A	0.14	2	7	0.73	55	3.6	0.65		0.00		0.00		0.00	0.00	0.14	0.73	0.24	0.89	11.0	200	0.35	19.40	0.05	0.62	0.31			
		242A	247A	0.52	13	44	1.25	99	3.6	1.15		0.00		0.00		0.00	0.00	0.52	1.25	0.41	1.57	99.0	200	0.35	19.40	0.08	0.62	0.37			
To STREET 22, Pipe 247A - 249A							1.25	99				0.00		0.00		0.00			1.25												
		251A	243A	0.30	6	20	0.30	20	3.7	0.24		0.00		0.00		0.00	0.00	0.30	0.30	0.10	0.34	52.5	200	0.65	26.44	0.01	0.84	0.28			
		243A	252A	0.10	2	7	0.40	27	3.7	0.32		0.00		0.00		0.00	0.00	0.10	0.40	0.13	0.45	28.0	200	0.35	19.40	0.02	0.62	0.26			
		252A	253A	0.49	13	44	0.89	71	3.6	0.83		0.00		0.00		0.00	0.00	0.49	0.89	0.29	1.13	75.5	200	0.35	19.40	0.06	0.62	0.33			
		253A	257A	0.39	9	31	1.28	102	3.6	1.19		0.00		0.00		0.00	0.00	0.39	1.28	0.42	1.61	76.0	200	0.35	19.40	0.08	0.62	0.37			
		257A	258A	0.28	6	20	1.60	125	3.6	1.45		0.00		0.00		0.00	0.00	0.28	1.60	0.53	1.98	51.5	200	0.35	19.40	0.10	0.62	0.40			
		258A	259A	0.04		0	1.64	125	3.6	1.45		0.00		0.00		0.00	0.00	0.04	1.64	0.54	1.99	33.0	200	0.35	19.40	0.10	0.62	0.40			
To STREET 21, Pipe 259A - 260A							1.64	125				0.00		0.00		0.00			1.64												
STREET 26																															
		2430A	244A	0.27	6	20	0.27	20	3.7	0.24		0.00		0.00		0.00	0.00	0.27	0.27	0.09	0.33	53.0	200	0.65	26.44	0.01	0.84	0.28			
		244A	245A	0.37	7	24	0.64	44	3.7	0.52		0.00		0.00		0.00	0.00	0.37	0.64	0.21	0.73	69.5	200	0.35	19.40	0.04	0.62	0.29			
To STREET 22, Pipe 245A - 247A							0.64	44				0.00		0.00		0.00			0.64												
STREET 22																															
Contribution From STREET 26, Pipe 244A - 245A							0.64	44				0.00		0.00		0.00		0.64	0.64												
		245A	247A				0.64	44	3.7	0.52		0.00		0.00		0.00	0.00	0.00	0.64	0.21	0.73	7.0	200	0.35	19.40	0.04	0.62	0.29			
Contribution From STREET 23, Pipe 242A - 247A							1.25	99				0.00		0.00		0.00		1.25	1.89												
Contribution From STREET 23, Pipe 246A - 247A							0.22	14				0.00		0.00		0.00		0.22	2.11												
		247A	249A	0.09		0	2.20	157	3.5	1.81		0.00		0.00		0.00	0.00	0.09	2.20	0.73	2.53	64.0	200	0.90	31.12	0.08	0.99	0.59			
To STREET 21, Pipe 249A - 250A							2.20	157				0.00		0.00		0.00			2.20												
STREET 21																															
		248A	2480A	0.41	10	34	0.41	34	3.7	0.41		0.00		0.00		0.00	0.00	0.41	0.41	0.14	0.54	49.5	200	0.65	26.44	0.02	0.84	0.33			
		2480A	249A	0.49	11	37	0.90	71	3.6	0.83		0.00		0.00		0.00	0.00	0.49	0.90	0.30	1.13	75.5	200	0.35	19.40	0.06	0.62	0.33			
Contribution From STREET 22, Pipe 247A - 249A							2.20	157				0.00		0.00		0.00		2.20	3.10												
		249A	250A	0.56	12	41	3.66	269	3.5	3.03		0.00		0.00		0.00	0.00	0.56	3.66	1.21	4.24	84.5	200	0.35	19.40	0.22	0.62	0.49			
		250A	259A	0.19	4	14	3.85	283	3.5	3.18		0.00		0.00		0.00	0.00	0.19	3.85	1.27	4.45	34.0	200	0.35	19.40	0.23	0.62	0.50			
Contribution From STREET 23, Pipe 258A - 259A							1.64	125				0.00		0.00		0.00		1.64	5.49												
		259A	260A	0.22	4	14	5.71	422	3.4	4.66		0.00		0.00		0.00	0.00	0.22	5.71	1.88	6.55	41.5	200	0.35	19.40	0.34	0.62	0.56			
		260A	261A	0.12	3	10	5.83	432	3.4	4.77		0.00		0.00		0.00	0.00	0.12	5.83	1.92	6.69	17.5	200	0.35	19.40	0.34	0.62	0.56			
Contribution From STREET 16, Pipe 239A - 261A							17.10	1986				0.00		0.00		0.41		17.51	23.34												
		261A	262A	0.05		0	22.98	2418	3.0	23.64		0.00		0.00		0.41	0.04	0.05	23.39	7.72		31.40	29.0	300	0.20	43.25	0.73	0.61	0.67		
		262A	263A	0.16		0	23.14	2418	3.0	23.64		0.00		0.00		0.41	0.04	0.16	23.55	7.77		31.45	89.0	300	0.20	43.25	0.73	0.61	0.67		
		263A	264A	0.16	2	7	23.30	2425	3.0	23.70		0.00		0.00		0.41	0.04	0.16	23.71	7.82		31.57	20.0	300	0.20	43.25	0.73	0.61	0.67		
		264A	267A	0.32	5	17	23.62	2442	3.0	23.85		0.00		0.00		0.41	0.04	0.32	24.03	7.93		31.82	79.5	300	0.20	43.25	0.74	0.61	0.67		
To STREET 21, Pipe 267A - 268A							23.62	2442				0.00		0.00		0.41			24.03												
STREET 21																															
		269A	270A	0.19	4	14	0.19	14	3.7	0.17		0.00		0.00		0.00	0.00	0.19	0.19	0.06	0.23	38.5	200	0.65	26.44	0.01	0.84	0.26			
DESIGN PARAMETERS													Designed: M.S.					PROJECT: STITTSVILLE SOUTH URBAN EXPANSION AREA													
Park Flow =		9300	L/ha/da	0.10764	l/s/ha																										
Average Daily Flow =		280	l/p/day																												
Comm/Inst Flow =		28000	L/ha/da	0.3241	l/s/ha																										
Industrial Flow =		35000	L/ha/da	0.40509	l/s/ha																										
Max Res. Peak Factor =		4.00																													
Commercial/Inst./Park Peak Factor =		1.00																													
Institutional =		0.32	l/s/ha																												
																				</											

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Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION									COMM		INSTIT		PARK		C+H	INFILTRATION					PIPE					
STREET		FROM M.H.	TO M.H.	AREA	UNITS	POP.	CUMULATIVE		PEAK FACT.	PEAK FLOW (l/s)		AREA	ACCU. AREA	AREA	ACCU. AREA	AREA	ACCU. AREA	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL	
				(ha)			AREA (ha)	POP.				(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(l/s)	(ha)	(ha)	(l/s)	(l/s)				(l/s)		(FULL) (m/s)	(ACT.) (m/s)
		270A	271A	0.14	2	7	0.33	21	3.7	0.25		0.00		0.00		0.00	0.00	0.14	0.33	0.11	0.36	11.0	200	2.15	48.09	0.01	1.53	0.44	
		271A	272A	0.60	14	48	0.93	69	3.6	0.81		0.00		0.00		0.00	0.60	0.93	0.31	1.12	109.5	200	0.35	19.40	0.06	0.62	0.33		
		272A	273A	0.03		0	0.96	69	3.6	0.81		0.00		0.00		0.00	0.00	0.03	0.96	0.32	1.13	11.0	200	0.35	19.40	0.06	0.62	0.33	
		273A	274A	0.16	3	10	1.12	79	3.6	0.93		0.00		0.00		0.00	0.00	0.16	1.12	0.37	1.30	44.5	200	0.35	19.40	0.07	0.62	0.35	
		274A	275A	0.05	1	3	1.17	82	3.6	0.96		0.00		0.00		0.00	0.00	0.05	1.17	0.39	1.35	11.0	200	0.35	19.40	0.07	0.62	0.35	
		275A	276A	0.57	13	44	1.74	126	3.6	1.46		0.00		0.00		0.00	0.00	0.57	1.74	0.57	2.03	83.5	200	0.35	19.40	0.10	0.62	0.40	
		276A	277A	0.50	14	48	2.24	174	3.5	1.99		0.00		0.00		0.00	0.50	2.24	0.74	2.73	83.5	200	0.35	19.40	0.14	0.62	0.43		
To PUMP STATION INLET 2, Pipe 277A - 285A							2.24	174				0.00		0.00		0.00		2.24											
		265A	266A	0.54	7	24	0.54	24	3.7	0.29		0.00		0.00		0.00	0.54	0.54	0.18	0.47	31.5	200	0.65	26.44	0.02	0.84	0.32		
		266A	267A	0.05	1	3	0.59	27	3.7	0.32		0.00		0.00		0.00	0.05	0.59	0.19	0.52	19.5	200	4.50	69.58	0.01	2.21	0.64		
Contribution From STREET 21, Pipe 264A - 267A							23.62	2442				0.00		0.00		0.41	24.03	24.62											
				0.05		0	24.26	2469				0.00		0.00		0.41	0.05	24.67											
		267A	268A	0.59	14	48	24.85	2517	3.0	24.51		0.00		0.00		0.41	0.04	0.59	25.26	8.34	32.89	113.5	300	0.20	43.25	0.76	0.61	0.67	
		268A	277A	0.17	2	7	25.02	2524	3.0	24.57		0.00		0.00		0.41	0.04	0.17	25.43	8.39	33.01	13.0	300	0.20	43.25	0.76	0.61	0.67	
To PUMP STATION INLET 2, Pipe 277A - 285A							25.02	2524				0.00		0.00		0.41		25.43											
PUMP STATION INLET 2																													
Contribution From STREET 21, Pipe 268A - 277A							25.02	2524				0.00		0.00		0.41		25.43	25.43										
Contribution From STREET 21, Pipe 276A - 277A							2.24	174				0.00		0.00		0.00		2.24	27.67										
		277A	285A				27.26	2698	3.0	26.10		0.00		0.00		0.41	0.04	0.00	27.67	9.13	35.27	31.0	300	0.20	43.25	0.82	0.61	0.68	
		285A	286A				27.26	2698	3.0	26.10		0.00		0.00		0.41	0.04	0.00	27.67	9.13	35.27	22.5	300	0.20	43.25	0.82	0.61	0.68	
		286A	287A				27.26	2698	3.0	26.10		0.00		0.00		0.41	0.04	0.00	27.67	9.13	35.27	2.5	450	2.50	450.79	0.08	2.83	1.66	
To PUMP STATION INLET 1, Pipe 287A - 288A							27.26	2698				0.00		0.00		0.41		27.67											
STREET 2																													
		155A	156A	0.20	7	19	0.20	19	3.7	0.23		0.00		0.00		0.00	0.00	0.20	0.20	0.07	0.29	52.5	200	0.65	26.44	0.01	0.84	0.27	
To STREET 1, Pipe 156A - 157A							0.20	19				0.00		0.00		0.00		0.20											
		159A	160A	0.57	26	70	0.57	70	3.6	0.82		0.00		0.00		0.00	0.57	0.57	0.19	1.01	81.5	200	0.65	26.44	0.04	0.84	0.40		
		160A	161A	0.48	24	65	1.05	135	3.6	1.56		0.00		0.00		0.00	0.48	1.05	0.35	1.91	81.5	200	0.35	19.40	0.10	0.62	0.39		
To STREET 3, Pipe 161A - 164A							1.05	135				0.00		0.00		0.00		1.05											
STREET 1																													
				0.30	14	38	0.30	38				0.00		0.00		0.00		0.30	0.30										
		162A	163A	0.44	11	37	0.74	75	3.6	0.88		0.00		0.00		0.00	0.00	0.44	0.74	0.24	1.12	111.5	200	0.65	26.44	0.04	0.84	0.42	
				0.30	8	27	1.04	102				0.00		0.00		0.00		0.30	1.04										
		163A	164A	0.30	15	41	1.34	143	3.6	1.65		0.00		0.00		0.00	0.00	0.30	1.34	0.44	2.09	111.0	200	0.35	19.40	0.11	0.62	0.40	
To STREET 4, Pipe 164A - 165A							1.34	143				0.00		0.00		0.00		1.34											
		152A	153A	0.67	17	58	0.67	58	3.6	0.68		0.00		0.00		0.00	0.67	0.67	0.22	0.91	106.0	200	0.65	26.44	0.03	0.84	0.39		
		153A	154A	0.14	2	7	0.81	65	3.6	0.77		0.00		0.00		0.00	0.14	0.81	0.27	1.03	10.0	200	0.35	19.40	0.05	0.62	0.33		
		154A	156A	0.20	4	14	1.01	79	3.6	0.93		0.00		0.00		0.00	0.00	0.20	1.01	0.33	1.26	53.0	200	0.35	19.40	0.06	0.62	0.34	
Contribution From STREET 2, Pipe 155A - 156A							0.20	19				0.00		0.00		0.00		0.20	1.21										
				0.23	11	30	1.44	128				0.00		0.00		0.00		0.23	1.44										
		156A	157A	0.26	7	24	1.70	152	3.6	1.75		0.00		0.00		0.00	0.00	0.26	1.70	0.56	2.31	85.5	200	2.15	48.09	0.05	1.53	0.77	
DESIGN PARAMETERS														Designed: M.S.				PROJECT: STITTSVILLE SOUTH URBAN EXPANSION AREA											
Park Flow = 9300 L/ha/da 0.10764 l/s/ha Average Daily Flow = 280 l/p/day Comm/Inst Flow = 28000 L/ha/da 0.3241 l/s/ha Industrial Flow = 35000 L/ha/da 0.40509 l/s/ha Max Res. Peak Factor = 4.00 Commercial/Inst./Park Peak Factor = 1.00 Institutional = 0.32 l/s/ha														Checked: W.L.				LOCATION: City of Ottawa											
Industrial Peak Factor = as per MOE Graph Extraneous Flow = 0.330 l/s/ha Minimum Velocity = 0.600 m/s Manning's n = (Conc) 0.013 (Pvc) 0.013 Townhouse coeff= 2.7 Single house coeff= 3.4														Dwg. Reference: Sanitary Servicing Plan, Servicing Profiles				File Ref: 21-1247				Date: 25 Sep 2025				Sheet No. 4		of 8	

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION								COMM		INSTIT		PARK		C+H	INFILTRATION			TOTAL	PIPE							
STREET		FROM M.H.	TO M.H.	AREA	UNITS	POP.	CUMULATIVE		PEAK FACT.	PEAK FLOW (l/s)	AREA	ACCU. AREA	AREA	ACCU. AREA	AREA	ACCU. AREA	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL		
				(ha)			AREA (ha)	POP.			(ha)	(ha)	(ha)	(ha)	(ha)	(ha)		(ha)	(ha)	(l/s)	(l/s)						Q act/Q cap	(FULL) (m/s)	(ACT.) (m/s)
				0.24	12	32	1.94	184				0.00		0.00		0.00		0.24	1.94										
		157A	158A	0.25	7	24	2.19	208	3.5	2.37		0.00		0.00		0.00	0.00	0.25	2.19	0.72	3.09	85.5	200	0.35	19.40	0.16	0.62	0.45	
To STREET 3, Pipe 158A - 161A							2.19	208				0.00		0.00		0.00			2.19										
STREET 8																													
Contribution From STREET 5, Pipe 141A - 143A							0.27	17				0.00		0.00		0.00		0.27	0.27										
Contribution From STREET 5, Pipe 142A - 143A							0.26	20				0.00		0.00		0.00		0.26	0.53										
		143A	144A	0.58	28	76	1.11	113	3.6	1.31		0.00		0.00		0.00	0.00	0.58	1.11	0.37	1.68	103.0	200	0.35	19.40	0.09	0.62	0.37	
		144A	148A	0.57	28	76	1.68	189	3.5	2.16		0.00		0.00		0.00	0.00	0.57	1.68	0.55	2.71	103.0	200	0.35	19.40	0.14	0.62	0.43	
Contribution From STREET 4, Pipe 140A - 148A							3.15	286				0.00		0.00		0.00		3.15	4.83										
Contribution From STREET 9, Pipe 147A - 148A							2.18	236				0.00		0.00		0.00		2.18	7.01										
		148A	151A	0.09		0	7.10	711	3.3	7.63		0.00		0.00		0.00	0.00	0.09	7.10	2.34	9.98	60.0	200	0.35	19.40	0.51	0.62	0.62	
To STREET 3, Pipe 151A - 158A							7.10	711				0.00		0.00		0.00			7.10										
STREET 3																													
		127A	128A	0.25	5	17	0.25	17	3.7	0.20		0.00		0.00		0.00	0.00	0.25	0.25	0.08	0.29	52.0	200	0.65	26.44	0.01	0.84	0.27	
To STREET 6, Pipe 128A - 129A							0.25	17				0.00		0.00		0.00			0.25										
		131A	132A	0.57	13	44	0.57	44	3.7	0.52		0.00		0.00		0.00	0.00	0.57	0.57	0.19	0.71	81.5	200	0.65	26.44	0.03	0.84	0.36	
		132A	133A	0.43	12	41	1.00	85	3.6	0.99		0.00		0.00		0.00	0.00	0.43	1.00	0.33	1.32	81.0	200	0.35	19.40	0.07	0.62	0.35	
To STREET 3, Pipe 133A - 151A							1.00	85				0.00		0.00		0.00			1.00										
STREET 6																													
		149A	150A	0.70	17	58	0.70	58	3.6	0.68		0.00		0.00		0.00	0.00	0.70	0.70	0.23	0.92	111.5	200	0.65	26.44	0.03	0.84	0.39	
		150A	151A	0.64	17	58	1.34	116	3.6	1.35		0.00		0.00		0.00	0.00	0.64	1.34	0.44	1.79	111.5	200	0.35	19.40	0.09	0.62	0.39	
To STREET 3, Pipe 151A - 158A							1.34	116				0.00		0.00		0.00			1.34										
		124A	125A	0.67	15	51	0.67	51	3.7	0.60		0.00		0.00		0.00	0.00	0.67	0.67	0.22	0.82	104.5	200	0.75	28.40	0.03	0.90	0.40	
		125A	126A	0.14	2	7	0.81	58	3.6	0.68		0.00		0.00		0.00	0.00	0.14	0.81	0.27	0.95	11.0	200	1.05	33.61	0.03	1.07	0.47	
		126A	128A	0.20	4	14	1.01	72	3.6	0.85		0.00		0.00		0.00	0.00	0.20	1.01	0.33	1.18	52.5	200	2.60	52.89	0.02	1.68	0.68	
Contribution From STREET 3, Pipe 127A - 128A							0.25	17				0.00		0.00		0.00		0.25	1.26										
		128A	129A	0.51	13	44	1.77	133	3.6	1.54		0.00		0.00		0.00	0.00	0.51	1.77	0.58	2.12	85.0	200	0.35	19.40	0.11	0.62	0.40	
		129A	130A	0.45	12	41	2.22	174	3.5	1.99		0.00		0.00		0.00	0.00	0.45	2.22	0.73	2.73	85.0	200	0.35	19.40	0.14	0.62	0.43	
To STREET 3, Pipe 130A - 133A							2.22	174				0.00		0.00		0.00			2.22										
STREET 9																													
		112A	115A	0.22	10	27	0.22	27	3.7	0.32		0.00		0.00		0.00	0.00	0.22	0.22	0.07	0.40	49.5	200	0.65	26.44	0.01	0.84	0.30	
To STREET 10, Pipe 115A - 120A							0.22	27				0.00		0.00		0.00			0.22										
		112A	1470A	0.20	10	27	0.20	27	3.7	0.32		0.00		0.00		0.00	0.00	0.20	0.20	0.07	0.39	33.0	200	0.65	26.44	0.01	0.84	0.29	
		1470A	147A	0.60	30	81	0.80	108	3.6	1.26		0.00		0.00		0.00	0.00	0.60	0.80	0.26	1.52	101.5	200	0.35	19.40	0.08	0.62	0.36	
Contribution From STREET 5, Pipe 146A - 147A							1.18	109				0.00		0.00		0.00		1.18	1.98										
		147A	148A	0.20	7	19	2.18	236	3.5	2.67		0.00		0.00		0.00	0.00	0.20	2.18	0.72	3.39	60.0	200	0.35	19.40	0.17	0.62	0.46	
To STREET 8, Pipe 148A - 151A							2.18	236				0.00		0.00		0.00			2.18										
STREET 10																													
		102A	103A	0.26	6	20	0.26	20	3.7	0.24		0.00		0.00		0.00	0.00	0.26	0.26	0.09	0.33	52.0	200	0.65	26.44	0.01	0.84	0.28	
To STREET 10, Pipe 103A - 108A							0.26	20				0.00		0.00		0.00			0.26										
DESIGN PARAMETERS													Designed: M.S.					PROJECT: STITTSVILLE SOUTH URBAN EXPANSION AREA											
Park Flow =		9300	L/ha/da	0.10764	l/s/ha	Industrial Peak Factor = as per MOE Graph					Checked: W.L.					LOCATION: City of Ottawa													
Average Daily Flow =		280	l/p/day	Extraneous Flow =					0.330	L/s/ha																			
Comm/Inst Flow =		28000	L/ha/da	0.3241	l/s/ha	Minimum Velocity =					0.600	m/s																	
Industrial Flow =		35000	L/ha/da	0.40509	l/s/ha	Manning's n =					(Conc)	0.013	(Pvc)	0.013															
Max Res. Peak Factor =		4.00													Dwg. Reference: Sanitary Servicing Plan, Servicing Profiles					File Ref: 21-1247		Date: 25 Sep 2025		Sheet No. of		5 8			
Commercial/Inst./Park Peak Factor =		1.00																											
Institutional =		0.32	l/s/ha	Single house coeff=					3.4																				

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION								COMM		INSTIT		PARK		C+H	INFILTRATION			TOTAL	PIPE							
STREET		FROM M.H.	TO M.H.	AREA	UNITS	POP.	CUMULATIVE		PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL		
				(ha)			AREA (ha)	POP.																				(FULL) (m/s)	(ACT.) (m/s)
				0.20	3	10	0.20	10				0.00		0.00		0.00		0.20	0.20										
		121A	122A	0.56	28	76	0.76	86	3.6	1.01		0.00		0.00		0.00	0.00	0.56	0.76	0.25	1.26	111.0	200	0.65	26.44	0.05	0.84	0.43	
		122A	123A	0.62	31	84	1.38	170	3.5	1.95		0.00		0.00		0.00	0.00	0.62	1.38	0.46	2.40	111.0	200	0.35	19.40	0.12	0.62	0.42	
To STREET 3, Pipe 123A - 130A							1.38	170				0.00		0.00		0.00			1.38										
		100A	1010A	0.37	11	37	0.37	37	3.7	0.44		0.00		0.00		0.00	0.00	0.37	0.37	0.12	0.56	46.0	200	0.65	26.44	0.02	0.84	0.34	
		1010A	101A	0.29	8	27	0.66	64	3.6	0.75		0.00		0.00		0.00	0.00	0.29	0.66	0.22	0.97	44.5	200	0.35	19.40	0.05	0.62	0.32	
		101A	103A	0.51	14	48	1.17	112	3.6	1.30		0.00		0.00		0.00	0.00	0.51	1.17	0.39	1.69	90.5	200	0.35	19.40	0.09	0.62	0.37	
To STREET 10, Pipe 103A - 108A							1.17	112				0.00		0.00		0.00			1.17										
		104A	105A	0.27	9	24	0.27	24	3.7	0.29		0.00		0.00		0.00	0.00	0.27	0.27	0.09	0.38	44.5	200	0.65	26.44	0.01	0.84	0.29	
		105A	106A	0.09	3	8	0.36	32	3.7	0.38		0.00		0.00		0.00	0.00	0.09	0.36	0.12	0.50	11.0	200	0.35	19.40	0.03	0.62	0.26	
		106A	107A	0.56	28	76	0.92	108	3.6	1.26		0.00		0.00		0.00	0.00	0.56	0.92	0.30	1.56	90.5	200	0.35	19.40	0.08	0.62	0.37	
		107A	108A	0.45	21	57	1.37	165	3.5	1.89		0.00		0.00		0.00	0.00	0.45	1.37	0.45	2.35	90.0	200	0.35	19.40	0.12	0.62	0.41	
To STREET 10, Pipe 108A - 109A							1.37	165				0.00		0.00		0.00			1.37										
STREET 10																													
				0.11		0	0.11	0				0.00		0.00		0.00		0.11	0.11										
		113A	114A	0.22	3	10	0.33	10	3.7	0.12		0.00		0.00		0.00	0.00	0.22	0.33	0.11	0.23	36.5	200	0.65	26.44	0.01	0.84	0.26	
		114A	115A	0.66	13	44	0.99	54	3.6	0.64		0.00		0.00	3.00	3.00	0.32	3.66	3.99	1.32	2.28	141.5	200	0.35	19.40	0.12	0.62	0.41	
Contribution From STREET 9, Pipe 112A - 115A							0.22	27				0.00		0.00		0.00		0.22	4.21										
		115A	120A	0.23	4	14	1.44	95	3.6	1.11		0.00		0.00		3.00	0.32	0.23	4.44	1.47	2.90	59.0	200	0.35	19.40	0.15	0.62	0.44	
To STREET 3, Pipe 120A - 123A							1.44	95				0.00		0.00		3.00			4.44										
Contribution From STREET 10, Pipe 101A - 103A							1.17	112				0.00		0.00		0.00		1.17	1.17										
Contribution From STREET 10, Pipe 102A - 103A							0.26	20				0.00		0.00		0.00		0.26	1.43										
		103A	108A	0.20	7	19	1.63	151	3.6	1.74		0.00		0.00		0.00	0.00	0.20	1.63	0.54	2.28	60.0	200	0.35	19.40	0.12	0.62	0.41	
Contribution From STREET 10, Pipe 107A - 108A							1.37	165				0.00		0.00		0.00		1.37	3.00										
		108A	109A	0.47	23	62	3.47	378	3.4	4.20		0.00		0.00		0.00	0.00	0.47	3.47	1.15	5.34	79.5	200	0.35	19.40	0.28	0.62	0.52	
		109A	110A				3.47	378	3.4	4.20		0.00		0.00		0.00	0.00	0.00	3.47	1.15	5.34	79.5	200	0.35	19.40	0.28	0.62	0.52	
		110A	120A	0.48	23	62	3.95	440	3.4	4.85		0.00		0.00		0.00	0.00	0.48	3.95	1.30	6.15	12.0	200	0.35	19.40	0.32	0.62	0.55	
To STREET 3, Pipe 120A - 123A							3.95	440				0.00		0.00		0.00			3.95										
WEST POND INLET 2																													
				0.18		0	0.18	0				0.00		0.00		0.00		0.18	0.18										
		117A	118A	2.40	264	607	2.58	607	3.3	6.58		0.00		0.00		0.00	0.00	2.40	2.58	0.85	7.43	14.5	200	0.75	28.40	0.26	0.90	0.76	
To STREET 3, Pipe 118A - 119A							2.58	607				0.00		0.00		0.00			2.58										
STREET 3																													
Contribution From WEST POND INLET 2, Pipe 117A - 118A							2.58	607				0.00		0.00		0.00		2.58	2.58										
		118A	119A	0.36	5	17	2.94	624	3.3	6.75		0.00		0.00		0.00	0.00	0.36	2.94	0.97	7.72	77.5	200	0.35	19.40	0.40	0.62	0.58	
		119A	120A	0.28	3	10	3.22	634	3.3	6.85		0.00		0.00		0.00	0.00	0.28	3.22	1.06	7.92	74.5	300	0.20	43.25	0.18	0.61	0.46	
Contribution From STREET 10, Pipe 110A - 120A							3.95	440				0.00		0.00		0.00		3.95	7.17										
Contribution From STREET 10, Pipe 115A - 120A							1.44	95				0.00		0.00		3.00		4.44	11.61										
		120A	123A	0.21	8	22	8.82	1191	3.2	12.35		0.00		0.00		3.00	0.32	0.21	11.82	3.90	16.57	62.0	300	0.20	43.25	0.38	0.61	0.57	
Contribution From STREET 10, Pipe 122A - 123A							1.38	170				0.00		0.00		0.00		1.38	13.20										
		123A	130A	0.21	8	22	10.41	1383	3.2	14.18		0.00		0.00		3.00	0.32	0.21	13.41	4.43	18.93	60.0	300	0.20	43.25	0.44	0.61	0.59	
DESIGN PARAMETERS													Designed: M.S.					PROJECT: STITTSVILLE SOUTH URBAN EXPANSION AREA											
Park Flow =		9300	L/ha/da	0.10764	I/s/ha	Industrial Peak Factor = as per MOE Graph							Checked: W.L.					LOCATION: City of Ottawa											
Average Daily Flow =		280	I/p/day	Extraneous Flow = 0.330 L/s/ha																									
Comm/Inst Flow =		28000	L/ha/da	0.3241	I/s/ha	Minimum Velocity = 0.600 m/s																							
Industrial Flow =		35000	L/ha/da	0.40509	I/s/ha	Manning's n = (Conc) 0.013 (Pvc) 0.013																							
Max Res. Peak Factor =		4.00																											
Commercial/Inst./Park Peak Factor =		1.00								Townhouse coeff= 2.7																			
Institutional =		0.32	I/s/ha								Single house coeff= 3.4																		
													Dwg. Reference: Sanitary Servicing Plan, Servicing Profiles					File Ref: 21-1247				Date: 25 Sep 2025			Sheet No of		6 8		

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION								COMM		INSTIT		PARK		C+H	INFILTRATION			TOTAL	PIPE							
STREET		FROM M.H.	TO M.H.	AREA	UNITS	POP.	CUMULATIVE		PEAK FACT.	PEAK FLOW (l/s)	AREA	ACCU. AREA	AREA	ACCU. AREA	AREA	ACCU. AREA	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL		
				(ha)			AREA (ha)	POP.			(ha)	(ha)	(ha)	(ha)	(ha)	(ha)		(ha)	(ha)								(m/s)	(ACT.) (m/s)	
Contribution From STREET 6, Pipe 129A - 130A						2.22	174				0.00		0.00			0.00		2.22	15.63										
		130A	133A	0.24	10	27	12.87	1584	3.1	16.07		0.00		0.00	3.00	0.32	0.24	15.87	5.24	21.63	60.0	300	0.20	43.25	0.50	0.61	0.61		
Contribution From STREET 3, Pipe 132A - 133A						1.00	85				0.00		0.00			0.00		1.00	16.87										
		133A	151A	0.20	7	19	14.07	1688	3.1	17.03		0.00		0.00	3.00	0.32	0.20	17.07	5.63	22.99	60.0	300	0.20	43.25	0.53	0.61	0.62		
Contribution From STREET 8, Pipe 148A - 151A						7.10	711				0.00		0.00			0.00		7.10	24.17										
Contribution From STREET 6, Pipe 150A - 151A						1.34	116				0.00		0.00			0.00		1.34	25.51										
		151A	158A	0.21	8	22	22.72	2537	3.0	24.69		0.00		0.00	3.00	0.32	0.21	25.72	8.49	33.50	60.0	300	0.20	43.25	0.77	0.61	0.68		
Contribution From STREET 1, Pipe 157A - 158A						2.19	208				0.00		0.00			0.00		2.19	27.91										
		158A	161A	0.21	8	22	25.12	2767	3.0	26.70		0.00		0.00	3.00	0.32	0.21	28.12	9.28	36.30	60.0	375	0.20	78.41	0.46	0.71	0.69		
Contribution From STREET 2, Pipe 160A - 161A						1.05	135				0.00		0.00			0.00		1.05	29.17										
		161A	164A	0.21	8	22	26.38	2924	3.0	28.06		0.00		0.00	3.00	0.32	0.21	29.38	9.70	38.08	60.0	375	0.20	78.41	0.49	0.71	0.70		
To STREET 4, Pipe 164A - 165A						26.38	2924				0.00		0.00			3.00			29.38										
STREET 5																													
		141A	143A	0.27	5	17	0.27	17	3.7	0.20		0.00		0.00	0.00	0.00	0.27	0.27	0.09	0.29	52.5	200	0.65	26.44	0.01	0.84	0.27		
To STREET 8, Pipe 143A - 144A						0.27	17				0.00		0.00			0.00			0.27										
		142A	143A	0.26	6	20	0.26	20	3.7	0.24		0.00		0.00	0.00	0.00	0.26	0.26	0.09	0.33	52.0	200	0.65	26.44	0.01	0.84	0.28		
To STREET 8, Pipe 143A - 144A						0.26	20				0.00		0.00			0.00			0.26										
		138A	139A	0.66	18	61	0.66	61	3.6	0.72		0.00		0.00	0.00	0.00	0.66	0.66	0.22	0.94	99.5	200	0.65	26.44	0.04	0.84	0.39		
		139A	140A	0.55	16	54	1.21	115	3.6	1.33		0.00		0.00	0.00	0.00	0.55	1.21	0.40	1.73	99.0	200	0.35	19.40	0.09	0.62	0.38		
To STREET 4, Pipe 140A - 148A						1.21	115				0.00		0.00			0.00			1.21										
		145A	146A	0.67	18	61	0.67	61	3.6	0.72		0.00		0.00	0.00	0.00	0.67	0.67	0.22	0.94	99.5	200	0.65	26.44	0.04	0.84	0.39		
		146A	147A	0.51	14	48	1.18	109	3.6	1.27		0.00		0.00	0.00	0.00	0.51	1.18	0.39	1.66	99.0	200	0.35	19.40	0.09	0.62	0.37		
To STREET 9, Pipe 147A - 148A						1.18	109				0.00		0.00			0.00			1.18										
STREET 4																													
				0.06		0	0.06	0			0.00		0.00		0.00		0.06	0.06											
		134A	135A	0.68	20	68	0.74	68	3.6	0.80		0.00		0.00	0.00	0.00	0.68	0.74	0.24	1.04	106.5	200	0.65	26.44	0.04	0.84	0.41		
		135A	136A	0.66	20	68	1.40	136	3.6	1.57		0.00		0.00	0.00	0.00	0.66	1.40	0.46	2.03	106.5	200	0.35	19.40	0.10	0.62	0.40		
		136A	137A	0.14	2	7	1.54	143	3.6	1.65		0.00		0.00	0.00	0.00	0.14	1.54	0.51	2.16	11.5	200	0.35	19.40	0.11	0.62	0.41		
		137A	140A	0.20	4	14	1.74	157	3.5	1.81		0.00		0.00	0.00	0.00	0.20	1.74	0.57	2.38	51.5	200	0.35	19.40	0.12	0.62	0.42		
Contribution From STREET 5, Pipe 139A - 140A						1.21	115				0.00		0.00			0.00		1.21	2.95										
		140A	148A	0.20	4	14	3.15	286	3.5	3.22		0.00		0.00	0.00	0.00	0.20	3.15	1.04	4.26	60.0	200	0.35	19.40	0.22	0.62	0.49		
To STREET 8, Pipe 148A - 151A						3.15	286				0.00		0.00			0.00			3.15										
Contribution From STREET 3, Pipe 161A - 164A						26.38	2924				0.00		0.00			3.00		29.38	29.38										
Contribution From STREET 1, Pipe 163A - 164A						1.34	143				0.00		0.00			0.00		1.34	30.72										
				0.05		0	27.77	3067			0.00		0.00			3.00		0.05	30.77										
		164A	165A	0.77	22	75	28.54	3142	2.9	29.94		0.00		0.00	3.00	0.32	0.77	31.54	10.41	40.67	140.5	375	0.20	78.41	0.52	0.71	0.72		
		165A	166A	0.83	23	78	29.37	3220	2.9	30.61		0.00		0.00	3.00	0.32	0.83	32.37	10.68	41.61	141.0	375	0.20	78.41	0.53	0.71	0.72		
		166A	167A	0.04	1	3	29.41	3223	2.9	30.63		0.00		0.00	3.00	0.32	0.04	32.41	10.70	41.65	10.0	375	0.20	78.41	0.53	0.71	0.72		
		167A	169A	0.01		0	29.42	3223	2.9	30.63		0.00		0.00	3.00	0.32	0.01	32.42	10.70	41.65	8.0	375	0.20	78.41	0.53	0.71	0.72		
To PUMP STATION INLET 1, Pipe 169A - 175A						29.42	3223				0.00		0.00			3.00			32.42										
DESIGN PARAMETERS													Designed: M.S.					PROJECT: STITTSVILLE SOUTH URBAN EXPANSION AREA											
Park Flow =		9300	L/ha/da	0.10764	I/s/Ha	Industrial Peak Factor = as per MOE Graph					Checked: W.L.					LOCATION: City of Ottawa													
Average Daily Flow =		280	I/p/day			Extraneous Flow = 0.330 L/s/ha					Dwg. Reference: Sanitary Servicing Plan, Servicing Profiles					File Ref: 21-1247				Date: 25 Sep 2025				Sheet No. 7 of 8					
Comm/Inst Flow =		28000	L/ha/da	0.3241	I/s/Ha	Minimum Velocity = 0.600 m/s																							
Industrial Flow =		35000	L/ha/da	0.40509	I/s/Ha	Manning's n = (Conc) 0.013 (Pvc) 0.013																							
Max Res. Peak Factor =		4.00				Townhouse coeff= 2.7																							
Commercial/Inst./Park Peak Factor =		1.00				Single house coeff= 3.4																							
Institutional =		0.32	I/s/Ha																										

SANITARY SEWER CALCULATION SHEET

Manning's $n=0.013$ [illegible]