SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION									COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	UNITS Singles	UNITS Townhouse	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	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. (FULL) (m/s)	VEL. (ACT.) (m/s)
SERVICING 2																													
	82A	83A	0.05	8		8	19	0.05	19	3.71	0.23		0.00		0.00		0.00	0.00	0.05	0.05	0.02	0.24	14.0	200	0.65	26.44	0.01	0.84	0.26
	83A	84A	0.04	6		6	14	0.09	33	3.68	0.39		0.00		0.00		0.00	0.00	0.04	0.09	0.03	0.42	14.0	200	0.35	19.40	0.02	0.62	0.25
To Private Street 1, Pipe 84A - 87A								0.09	33				0.00		0.00		0.00			0.09									
Private Street 3																													
	78A	79A	0.60	36		36	83	0.60	83	3.61	0.97		0.00		0.00		0.00	0.00	0.60	0.60	0.20	1.17	85.0	200	0.65	26.44	0.04	0.84	0.42
	79A	80A						0.60	83	3.61	0.97		0.00		0.00		0.00	0.00	0.00	0.60	0.20	1.17	8.5	200	0.35	19.40	0.06	0.62	0.34
To Private Street 1, Pipe 80A - 81A								0.60	83				0.00		0.00		0.00			0.60									
SERVICING 1																													
	72A	73A	0.07	12		12	28	0.07	28	3.69	0.33		0.00		0.00		0.00	0.00	0.07	0.07	0.02	0.36	23.0	200	0.65	26.44	0.01	0.84	0.29
	73A	74A	0.06	8		8	19	0.13	47	3.66	0.56		0.00		0.00		0.00	0.00	0.06	0.13	0.04	0.60	12.0	200	0.35	19.40	0.03	0.62	0.28
To Private Street 1, Pipe 74A - 75A								0.13	47				0.00		0.00		0.00			0.13									
Private Street 1																													
	70A	71A	0.12	16		16	37	0.12	37	3.67	0.44		0.00		0.00		0.00	0.00	0.12	0.12	0.04	0.48	30.0	200	1.30	37.40	0.01	1.19	0.40
	71A	74A	0.57	76		76	175	0.69	212	3.51	2.41		0.00		0.00		0.00	0.00	0.57	0.69	0.23	2.64	94.5	200	0.85	30.24	0.09	0.96	0.58
Contribution From SERVICING 1, Pipe 73A - 74A								0.13	47				0.00		0.00		0.00		0.13	0.82									
	74A	75A						0.82	259	3.48	2.92		0.00		0.00		0.00	0.00	0.00	0.82	0.27	3.19	6.0	200	0.35	19.40	0.16	0.62	0.45
	75A	80A	0.25	32		32	74	1.07	333	3.45	3.72		0.00		0.00		0.00	0.00	0.25	1.07	0.35	4.07	64.5	200	0.35	19.40	0.21	0.62	0.49
Contribution From Private Street 3, Pipe 79A - 80A								0.60	83				0.00		0.00		0.00		0.60	1.67									
	80A	81A	0.44	54		54	125	2.11	541	3.37	5.90		0.00		0.00		0.00	0.00	0.44	2.11	0.70	6.60	114.5	200	0.35	19.40	0.34	0.62	0.56
	81A	84A	0.24	28		28	65	2.35	606	3.34	6.57		0.00		0.00		0.00	0.00	0.24	2.35	0.78	7.34	61.0	250	0.30	32.57	0.23	0.66	0.53
Contribution From SERVICING 2, Pipe 83A - 84A								0.09	33				0.00		0.00		0.00		0.09	2.44									
	84A	87A	0.39	56		56	129	2.83	768	3.30	8.21		0.00		0.00		0.00	0.00	0.39	2.83	0.93	9.14	75.5	250	0.30	32.57	0.28	0.66	0.57
	87A	91A	0.23				0	3.06	768	3.30	8.21		0.00		0.00		0.00	0.00	0.23	3.06	1.01	9.22	63.0	250	0.30	32.57	0.28	0.66	0.57
To Private Street 5, Pipe 91A - 92A								3.06	768				0.00		0.00		0.00			3.06									
Private Street 4																													
	88A	89A	0.30	24		24	56	0.30	56	3.64	0.66		0.00		0.00		0.00	0.00	0.30	0.30	0.10	0.76	87.0	200	0.65	26.44	0.03	0.84	0.37
To Private Street 5, Pipe 89A - 90A								0.30	56				0.00		0.00		0.00			0.30									
Private Street 5																													
Contribution From Private Street 4, Pipe 88A - 89A								0.30	56				0.00		0.00		0.00		0.30	0.30									
	89A	90A	0.23	34		34	79	0.53	135	3.56	1.56		0.00		0.00		0.00	0.00	0.23	0.53	0.17	1.73	38.5	200	0.35	19.40	0.09	0.62	0.38
	90A	91A	0.10	10		10	23	0.63	158	3.55	1.82		0.00		0.00		0.00	0.00	0.10	0.63	0.21	2.02	27.0	200	0.35	19.40	0.10	0.62	0.40
Contribution From Private Street 1, Pipe 87A - 91A								3.06	768				0.00		0.00		0.00		3.06	3.69									
	91A	92A						3.69	926	3.26	9.77		0.00		0.00		0.00	0.00	0.00	3.69	1.22	10.99	30.5	250	0.30	32.57	0.34	0.66	0.60
	92A	EX 230						3.69	926	3.26	9.77		0.00		0.00	0.45	0.45	0.05	0.45	4.14	1.37	11.19	12.5	250	0.30	32.57	0.34	0.66	0.60
Avenue de Lamarche Avenue																													
	222A	EX 22A	0.18	40		40	92	0.18	92	3.60	1.07		0.00		0.00		0.00	0.00	0.18	0.18	0.06	1.13	81.0	200	1.50	40.17	0.03	1.28	0.56
Block 149								2.86	1376																				
	EX 22A	EX 230A	0.60					3.64	1468	3.15	14.98		0.00		0.00		0.00	0.00	0.60	0.60	0.20	15.18	76.5	250	1.20	65.14	0.23	1.33	1.08
Contribution From Private Street 5, Pipe 92A - 230A			0.15	36		36	83	3.84	1009				0.00		0.00		0.45		0.53	1.13									
	EX 230A	EX 23A	0.15					7.63	2477	3.01	22.00		0.00		0.00		0.45	0.05	0.15	0.15	0.05	24.26	63.5	250	0.85	54.83	0.44	1.12	1.08
Block 150								2.17	1044																				
	EX 23A	EX 24A	0.13					9.93	3521	2.91	33.16		0.00		0.00		0.45	0.05	0.13	0.13	0.04	33.25	59.5	375	0.29	94.42	0.35	0.85	0.78

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha			
Average Daily Flow =	280	l/p/day			Industrial Peak Factor = 2.0 per MOE Guidelines		
Comm/Inst Flow =	28000	L/ha/da	0.3241	l/s/Ha	Extraneous Flow =	0.330	L/s/ha
Industrial Flow =	35000	L/ha/da	0.40509	l/s/Ha	Minimum Velocity =	0.600	m/s
Max Res. Peak Factor =	4.00				Manning's n = (Conc)	0.013 (Plastic)	0.013
Commercial/Inst./Park Peak Factor =	1.00				Townhouse coeff=	2.0	
Institutional =	0.32	l/s/Ha			Single house coeff=	2.4	

Designed: CPB

Checked: SLM

Dwg. Reference: Sanitary Drainage Plan, Dwgs. No. 21

PROJECT: **Orleans Village Phase 4**

LOCATION: **City of Ottawa**

File Ref:

Date: **30 Aug 2024**

Sheet No. 1 of 1

LICENSED PROFESSIONAL ENGINEER S. L. MERRICK 100186523 2024-08-30 PROVINCE OF ONTARIO

JOB# 24-1403

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