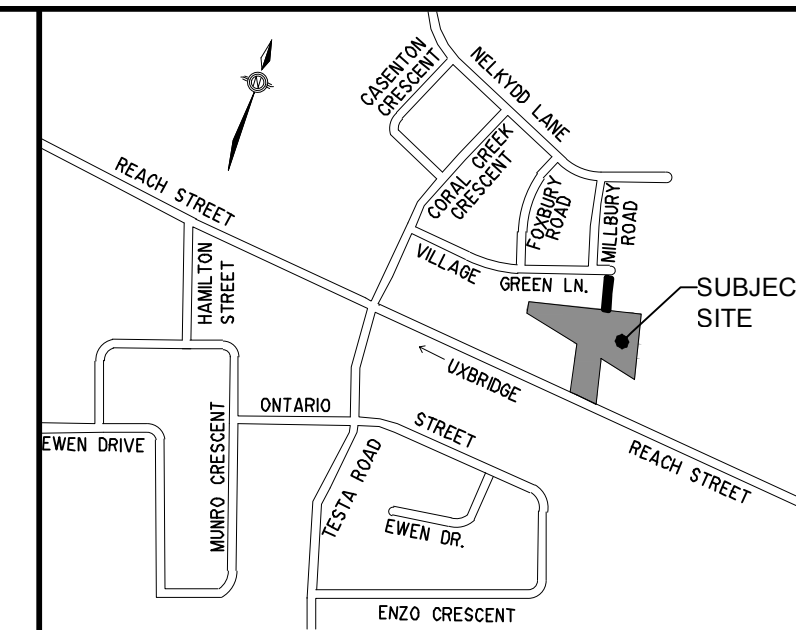


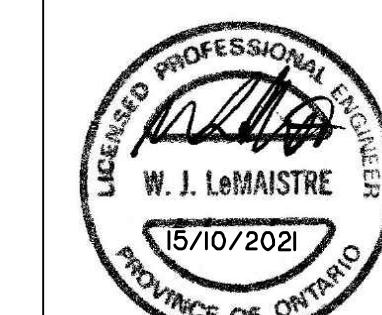
241 Reach St 17-386	Unit Type: S - Single Family Dwelling T - Townhouse Unit A - Apartment Unit	Persons per unit 3.50 3.00 NA	NOTES P.F. = 1 + 14 MAX 3.8 MIN 1.5 Q residential = 364 lpd (For local sewer sizing) Q residential = 364 lpd (For trunk sewer sizing) Q infiltration = 22,500 l/ha (0.26 l/s/ha) Q institution = 112,000 l/ha (1.3 l/s/ha) Q commercial = 180,000 l/ha (2.08 l/s/ha)	Designed By: KLD Checked By: AK	SKA SABOURIN KIMBLE & ASSOCIATES LTD. CONSULTING ENGINEERS
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SANITARY SEWER DESIGN																																		
Location	Upstream Manhole	Downstream Manhole	TOTAL DESIGN AREA		RESIDENTIAL										COMMERCIAL AND INSTITUTIONAL										TOTAL FLOWS		PIPE DESIGN							
			Section Area (ha)	Cumulative Area (ha)	Section Area (ha)	Cumulative Area (ha)	Unit Type (S, T or A)	Unit Count	Density Per Unit (Type A)	Section Population (P/1000)	Unit Type (S, T or A)	Unit Count	Density Per Unit (Type A)	Section Population (P/1000)	Cumulative Population (P/1000)	Peak Factor	Residential Flow (l/s)	Infiltration Flow (l/s)	Institutional Section Area (ha)	Cumulative Institutional Area (ha)	Cumulative Institutional Flow (l/s)	Commercial Section Area (ha)	Cumulative Commercial Area (ha)	Floor Space Index	Cumulative Floor Area (ha)	Cumulative Commercial Flow (l/s)	Cumulative Design Flow (l/s)	Metric or Imperial Pipe Size	Pipe Size (mm)	Grade (%)	Capacity (l/s)	Velocity (m/s)	Length (m)	% Capacity
NORTH OF COLIN SANITARY DRAINAGE																																		
Street A	1A	5A	0.88	0.88	0.88	0.88	T	11	3.0	0.033	S	12	3.5	0.042	0.075	3.800	1.20	0.23	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000	1.43	METRIC	200	2.50	51.88	1.85	122.7	2.8%
Street A	4A	5A	0.13	0.13	0.13	0.13	T	3	3.0	0.009	N/A	0	0.0	0.000	0.009	3.800	0.14	0.03	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000	0.18	METRIC	200	2.00	48.38	1.48	19.1	0.4%
Street C	5A	11A	0.39	1.40	0.39	1.40	T	4	3.0	0.012	S	5	3.5	0.018	0.114	3.800	1.83	0.36	0.000	0.000	0.000	0.000	1.000	0.000	0.000	2.19	METRIC	200	6.00	80.34	2.56	91.3	2.7%	
Street B	8A	11A	1.00	1.00	1	1.00	T	7	3.0	0.021	S	12	3.5	0.042	0.063	3.800	1.01	0.28	0.000	0.000	0.000	0.000	1.000	0.000	0.000	1.27	METRIC	200	0.50	23.19	0.74	159.8	5.5%	
Street C	11A	17-27	0.20	0.20	0.2	0.20	S	2	3.5	0.007	N/A	0	0.0	0.000	0.184	3.800	2.95	0.05	0.000	0.000	0.000	0.000	1.000	0.000	0.000	3.00	METRIC	200	0.50	23.19	0.74	110.2	12.9%	
Total population = 0.184 Governing Flow on Nelivdd Lane between MH 17-17 to MH 23-13 (As per Durham San Design Sheet Project # PR02-3656 Date: Jan 2009)																																		
Current Sanitary Design for Estates of Avonlea Governing Sections Cumulative Design Flow occurs between MH 17-17 to MH 23-13 = 21.84 L/s Capacity between MH 17-17 to MH 23-13 = 24.19 L/s Design Flow A allocated for Future Development on Nelivdd at MH 17-17 = 1.66 L/s Current available capacity at MH 17-17 = 4.00 L/s Proposed Sanitary Design for Estates of Avonlea Proposed Future Development Design Flow to Nelivdd = 3.00 L/s Proposed Development Design Flow at Governing MH 17-17 = 23.19 L/s Therefore, Proposed Design Flow is less than capacity.																																		

STORM SEWER DESIGN SHEET 5 YEAR, 25 YEAR, AND 100 YEAR STORMS TOWNSHIP OF UXBRIDGE																													
STREET	Upstream MH	Downstream MH	A at R=0.25 (ha) "Parks"	A at R=0.45 (ha) "Single-Fam"	A at R=0.75 (ha) "Townhouses"	A at R=0.85 (ha) "Paved Areas"	A x R this section (ha)	Acc. AR (ha)	t (min)	I (5yr) (mm/hr)	Q (5yr) (l/s)	I (25yr) (mm/hr)	Q (25yr) (l/s)	I (100yr) (mm/hr)	Q (100yr) (l/s)	Captured Overland Flow (l/s)	Acc. Captured Overland	Q (Design) (l/s)	Pipe	Pipe (mm)	Grade (%)	Capacity (l/s)	Velocity (m/s)	Length (m)	Time (min)	Total Time (min)	Downstream Invert	Upstream Invert	% Capacity
Street A	1	2				0.06	0.051	0.051	10.00	107.01	15.16	154.64	21.91	200.63	28.42	0.00	0.00	15.16	METRIC	300	2.00	136.76	1.93	33.2	0.29	10.29		0.66	11.1%
Street A	RYCB3	2	1	0.14			0.355	0.355	10.00	107.01	105.52	154.64	152.49	200.63	197.85	92.32	92.32	197.85	METRIC	300	3.60	183.48	2.60	31.0	0.20	10.20		1.12	57.5%
Street A	2	3					0.000	0.406	10.29	105.43	118.90	152.19	171.64	197.58	222.83	92.32	211.22	211.22	METRIC	375	3.00	303.68	2.75	6.5	0.04	10.33		0.20	39.2%
Street A	3	5				0.29	0.422	0.828	10.33	105.21	241.84	151.87	349.08	197.17	453.23	92.32	334.17	334.17	IMPERIAL	450	3.60	564.34	3.44	86.7	0.42	10.75		3.12	42.9%
Street A	RYCB13	CBMH4		0.29			0.218	0.218	10.00	107.01	64.65	154.64	93.43	200.63	121.22	56.57	56.57	121.22	METRIC	300	1.00	96.70	1.37	34.0	0.41	10.41		0.34	66.9%
Street A	CBMH4	5		0.10			0.075	0.293	10.00	107.01	86.94	154.64	125.64	200.63	163.01	56.57	143.51	143.51	METRIC	375	0.50	123.98	1.12	31.0	0.46	10.46		0.16	70.1%
Street A	5	6					0.000	1.120	10.00	107.01	332.91	154.64	481.10	200.63	624.19	148.89	481.80	481.80	IMPERIAL	600	1.00	640.56	2.19	25.5	0.19	10.19		0.26	52.0%
Street C	RLCB6	26	0.25		0.16		0.183	0.183	13.62	90.25	45.75	129.04	65.41	168.40	85.37	39.62	39.62	85.37	METRIC	375	3.30	318.50	2.88	33.0	0.19	13.81		1.09	14.4%
Street C	26	6					0.000	0.183	13.62	90.25	45.75	129.04	65.41	168.40	85.37	39.62	39.62	85.37	METRIC	375	3.30	318.50	2.88	7.5	0.04	13.66		0.25	14.4%
Street C	6	7				0.08	0.068	1.371	10.19	105.93	403.27	152.97	562.37	198.56	755.90	188.51	591.78	591.78	IMPERIAL	600	1.00	640.56	2.19	21.5	0.16	10.36		0.22	63.0%
Street C	RLBC7	7	1.02		0.14		0.360	0.360	13.68	90.02	128.69	128.69	167.96	167.97	77.95	77.95	167.97	167.97	METRIC	375	1.45	211.13	1.91	35.0	0.31	13.99		0.51	42.6%
Street C	7	131					0.000	1.731	10.36	105.04	504.93	151.60	728.75	196.85	946.23	266.46	771.39	771.39	IMPERIAL	600	4.50	1358.84	4.66	32.5	0.12	10.47		1.46	37.2%
Street B	CBMH11	12		0.08			0.060	0.060	10.00	107.01	17.83	154.64	25.77	200.63	33.44	0.00	0.00	17.83	METRIC	300	0.40	61.16	0.87	31.7	0.61	10.61		0.13	29.2%
Street B	12	13					0.000	0.060	10.61	103.69	17.28	149.53	24.92	194.25	32.38	0.00	0.00	17.28	METRIC	375	0.40	110.89	1.00	16.4	0.27	10.88		0.07	15.6%
Street B	13	15		0.11	0.12		0.185	0.245	10.88	102.29	69.47	147.37	100.09	191.55	130.09	60.62	60.62	130.09	IMPERIAL	450	0.30	162.91	0.99	39.7	0.67	11.55		0.12	42.6%
Street B	15	16					0.000	0.245	11.55	99.03	67.26	142.37	96.70	185.27	125.83	60.62	127.88	127.88	IMPERIAL	525	0.20	200.65	0.90	7.7	0.14	11.69		0.02	33.5%
Street C	RLCB11	16		0.06			0.045	0.045	10.00	107.01	13.38	154.64	19.33	200.63	25.08			13.38	METRIC	300	1.00	96.70	1.37	33.5	0.41	10.41		0.34	13.8%
Street C	16	17		0.27			0.203	0.492	11.69	98.36	134.43	141.35	193.18	183.99	251.45	305.88	366.50	500.93	IMPERIAL	600	0.20	286.47	0.98	11.1	0.19	11.88		0.02	46.9%
Street C	17	18				0.10	0.065	0.577	11.88	97.49	156.26	140.03	224.44	182.32	292.22	366.50	522.77	522.77	IMPERIAL	675	0.20	392.18	1.06	69.1	1.08	12.97		0.14	39.8%
Street C	27	18		0.26			0.195	0.195	10.00	107.01	57.96	154.64	83.76	200.63	108.68	0.00	0.00	57.96	METRIC	300	1.00	96.70	1.37	3.0	0.04	10.04		0.03	59.9%
Street C	18	19					0.000	2.503	10.47	104.42	725.86	150.64	1047.19	195.65	1360.02	632.96	1368.82	1368.82	IMPERIAL	675	1.50	1074.02	2.91	6.1	0.03	10.51		0.09	67.6%
Easment	19	24					0.000	2.503	10.51	104.23	724.57	150.36	1045.20	195.29	1357.53	632.96	1367.53	1367.53	IMPERIAL	525	0.30	241.74	1.10	38.3	0.58	11.09		0.11	294.9%
Underground storage facilities provide capacity control.																													
Easment	MH24	25					0.000	0.000	10.51	104.23	0.00	150.36	0.00	195.29	0.00	0.00	0.00	88.00	METRIC	375	1.00	175.33	1.59	38.3	0.40	10.91		0.38	50.2%
Easment	MH25	25					0.000	0.000	10.51	104.23	0.00	150.36	0.00	195.29	0.00	0.00	0.00	0.00	IMPERIAL	525	1.00	448.66	2.01	38.3	0.32	10.83		0.38	0.0%
Orifice controls govern release rate. See SWM Brief for further detail.																													
Easment	24	Ex MH26					0.000	2.503	11.09	101.26	703.89	145.79	1013.43	189.56	1317.72	632.96	88.00	88.00	IMPERIAL	525	0.30	241.74	1.10	16.6	0.25	11.34		0.05	35.8%
System outlet designed for 5yr release rate - see Stormwater Management Design Brief for further information.																													

PROJECT :	Reach Street	NOTES	Town IDF Curve: I _{5yr} = 904 (t + 5) ^{0.7880}	Regional IDF Curve: I _{10yr} = 3454 (t + 20)																														
PROJECT NUMBER :	17-386		I _{25yr} = 1234 (t + 4) ^{0.797}	I _{25yr} = 3454 (t + 20)	x 1.1																													
CLIENT :	Venetian Group		I _{100yr} = 1799 (t + 5) ^{0.810}	I _{100yr} = 3454 (t + 20)	x 1.25																													
DATE :	March 2021					Designed	KLD																											
						Checked	AK																											



DESIGNED	KLD	DRAWN	RAV
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