



SANITARY SEWER DESIGN SHEET

UPPER WEST SIDE DRAFT PLAN OF INDUSTRIAL SUBDIVISION

City of Hamilton

PROJECT DETAILS

Project No:
17-556

Date: 12-Jun-20

Designed by: OS

Checked by: OS

DESIGN CRITERIA

Min Diameter = 250 mm Avg. Domestic Flow = 360.0 l/c/d

Mannings 'n' = 0.015 Infiltration = 0.400 l/s/ha

Min. Velocity = 0.75 m/s Max. Peaking Factor = 5.00

Max. Velocity = 2.75 m/s Min. Peaking Factor = 2.00

Factor of Safety = 25 %

NOMINAL PIPE SIZE USED

AREA ID	FROM MH	TO MH	RESIDENTIAL						COMMERCIAL/INDUSTRIAL/INSTITUTIONAL						FLOW CALCULATIONS						PIPE DATA										
			AREA (ha)	ACC. AREA (ha)	UNITS (#)	DENSITY (P/ha)	DENSITY (P/unit)	POP	ACCUM. RES. POP.	AREA (ha)	ACC. AREA (ha)	EQUIV. POP. (p/ha)	FLOW RATE (l/s/ha)	EQUIV. POP.	ACCUM. EQUIV. POP.	INFILTRATION (l/s)	TOTAL ACCUM. POP.	PEAKING FACTOR	RES. FLOW (l/s)	MIN. RES. FLOW (l/s)	COMM. FLOW (l/s)	ACCUM. COMM. FLOW (l/s)	TOTAL FLOW (l/s)	SLOPE (%)	PIPE DIAMETER (mm)	PIPE LENGTH (m)	FULL FLOW CAPACITY (l/s)	FULL FLOW VELOCITY (m/s)	ACTUAL VELOCITY (m/s)	PERCENT FULL (%)	
AREAS TRIBUTARY TO SPS HC018 AS SET OUT IN AEGD WATER & WASTEWATER SERVICING MASTER PLAN:																															
UPPER JAMES STREET	WWMP-EX. MH 2	WWMP-HC018	200.00	200.00		38		7500	7500								80.0	7500	3.34	104.4	104.4			184.4	0.30	1050	80.0	1296.3	1.50	1.05	14%
PROPOSED AREAS TRIBUTARY TO SPS HC018:																															
7 - RESIDENTIAL		4A	24.15	24.15		175		4227	4227								9.7	4227	3.75	66.0	66.0			75.7							
7 - AIRPORT LIGHT IND.		4A								7.50	7.50	125		938	938		3.0	938	5.00	19.5	19.5			22.5							
7 - AIRPORT PRESTIGE BUS.		4A								0.23	0.23	125		29	29		0.1	29	5.00	0.6	0.6			0.7							
7 - ROADS & PARKS		4A								13.61	13.61						5.4							5.4							
3 - RESIDENTIAL		4A	45.08	45.08		175		7889	7889								18.0	7889	3.31	108.7	108.7			126.8							
3 - MIXED USE		4A								6.00	6.00	125		750	750		2.4	750	5.00	15.6	15.6			18.0							
3 - AIRPORT LIGHT IND.		4A								11.10	11.10	125		1388	1388		4.4	1388	4.68	27.1	27.1			31.5							
3 - AIRPORT PRESTIGE BUS.		4A								1.05	1.05	125		132	132		0.4	132	5.00	2.8	2.8			3.2							
3 - ROADS & PARKS		4A								26.92	26.92						10.8							10.8							
7 + 3	4A	26A		69.23					12116		66.41				3237		54.3	15353	2.90	185.2	185.2			239.5	0.50	600	800.0	376.3	1.33	1.37	64%
2 - AIRPORT PRESTIGE BUS.		4A								3.00	3.00	125		375	375		1.2	375	5.00	7.8	7.8			9.0							
2 - ROADS & PARKS		4A								1.00	1.00						0.4							0.4							
TWENTY ROAD WEST	4A	EX. MH 2		69.23					12116		70.41				3612		55.9	15728	2.88	188.8	188.8			244.7	0.30	675	715.0	399.0	1.12	1.15	61%
1 - AIRPORT PRESTIGE BUS.		15A								24.60	24.60	125		3075	3075		9.8	3075	3.99	51.2	51.2			61.0							
1 - ROADS & PARKS	15A	EX. MH 3								8.20	32.80			3075	3075		13.1	3075	3.99	51.2	51.2			64.3	1.15	300	525.0	89.9	1.27	1.36	72%
UPPER JAMES STREET	EX. MH 3	EX. MH 2									32.80			3075	3075		13.1	3075	3.99	51.2	51.2			64.3	0.30	750	1090.0	528.5	1.20	0.80	12%
UPPER JAMES STREET	EX. MH 2	HC018		69.23					12116		103.21			6687	6687		69.0	18803	2.78	217.8	217.8			286.8	0.30	1050	80.0	1296.3	1.50	1.18	22%

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AREAS TRIBUTARY TO FUTURE DICKENSON ROAD TRUNK SEWER AS SET OUT IN AEGD WATER & WASTEWATER SERVICING MASTER PLAN:																															
DICKENSON ROAD WEST	WWMP-14A	WWMP-1A	190.00	190.00		38		7125	7125								76.0	7125	3.38	100.2	100.2			176.2	0.30	1200	560.0	1850.7	1.64	1.05	10%
PROPOSED AREAS TRIBUTARY TO FUTURE DICKENSON ROAD TRUNK SEWER:																															
8 - AIRPORT PRESTIGE BUS.		25A								4.58	4.58	125		572	572		1.8	572	5.00	11.9	11.9			13.7	0.50						
8 - ROADS & PARKS		25A								1.53	1.53						0.6							0.6	0.50						
6 - AIRPORT LIGHT IND.		24A								2.18	2.18	125		272	272		0.9	272	5.00	5.7	5.7			6.5							
6 - AIRPORT PRESTIGE BUS.		24A								3.68	3.68	125		460	460		1.5	460	5.00	9.6	9.6			11.1							
6 - ROADS & PARKS		24A								3.15	3.15						1.3							1.3							
6	24A	25A								9.00				732	732		3.6	732	5.00	15.3	15.3			18.9	0.85	250	400.0	47.5	0.97	0.90	40%
DICKENSON ROAD WEST	25A	11A								15.10				1304	1304		6.0	1304	4.74	25.8	25.8			31.8	0.30	750	965.0	528.5	1.20	0.65	6%
4 - MIXED USE		9A								2.78	2.78	125		347	347		1.1	347	5.00	7.2	7.2			8.3							
4 - AIRPORT LIGHT IND.		9A								4.65	4.65	125		582	582		1.9	582	5.00	12.1	12.1			14.0							
4 - AIRPORT PRESTIGE BUS.		9A								14.33	14.33	125		1791	1791		5.7	1791	4.45	33.2	33.2			38.9							
4 - ROADS & PARKS		9A								12.55	12.55						5.0							5.0							
4	9A	11A								34.30				2720	2720		13.7	2720	4.09	46.4	46.4			60.1	0.50	375	225.0	107.4	0.97	0.98	56%
DICKENSON ROAD WEST	11A	14A								49.40				4024	4024		19.8	4024	3.78	63.5	63.5			83.2	0.30	1200	730.0	1850.7	1.64	0.80	4%
5 - AIRPORT LIGHT IND.		13A								11.53	11.53	125		1442	1442		4.6	1442	4.65	27.9	27.9			32.5							
5 - AIRPORT PRESTIGE BUS.		13A								15.60	15.60	125		1950	1950		6.2	1950	4.37	35.5	35.5			41.8							
5 - ROADS & PARKS		13A								10.85	10.85						4.3							4.3							
5	13A	14A								37.98				3392	3392		15.2	3392	3.92	55.4	55.4			70.5	0.50	375	300.0	107.4	0.97	1.02	66%
DICKENSON ROAD WEST	14A	1A								87.38				7416	7416		35.0	7416	3.35	103.5	103.5			138.4	0.30	1200	560.0	1850.7	1.64	0.93	7%

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