



Chapter 6

D.C. Calculation



6. D.C. Calculation

The calculation of the maximum D.C.s that could be imposed by Council have been undertaken using a cash-flow approach for the growth-related capital costs identified in Chapter 5. Table 6-1 presents the County-wide D.C. calculation for Administration, Land Ambulance, Roads and Related, and Waste Diversion Services over the 10-year period (i.e. 2019-2028). Table 6-2 presents the D.C. calculation for Library services, which are provided by the County in all areas except the City of Woodstock over the 10-year period (i.e. 2019-2028). Finally, Tables 6-3 to 6-11 present the calculations for Water and Wastewater services in the County's various systems over the 10-year planning horizon (i.e. 2019-2028).

The calculation for residential development is generated on a per capita basis and is based upon four forms of housing types (single and semi-detached, apartments 2+ bedrooms, apartment's bachelor and 1 bedroom, and all other multiples). Special care/special needs facilities would be considered residential dwelling units and charged the small apartment D.C. The non-residential D.C. has been calculated uniformly on a per sq.m. of G.F.A. basis.

Wind Turbine developments would be defined as industrial development within the growth forecast. As these developments do not produce G.F.A. similar to other industrial developments, a charging mechanism is deemed. For each Wind Turbine, a charge is deemed equivalent to a residential single detached unit, as it relates to Roads and Related, Land Ambulance, and Administration Studies Services only.

The cash-flow calculations of the maximum D.C.s that could be imposed by Council have been undertaken to account for the timing of revenues and expenditures and the resultant financing needs. The cash-flow calculations have been undertaken by service for each forecast development type, i.e. residential, and non-residential. D.C. cash flow calculation tables are provided in Appendix C and have been undertaken to account for 1% earnings on D.C. reserve fund balances and 3% interest charged for reserve fund borrowing.

Table 6-12 summarizes the recommended schedule of charges, reflecting the maximum D.C.s by residential dwelling type, per sq.m. of G.F.A. for non-residential development, and per wind turbine.



Tables 6-13 and 6-14 compares the County's existing charges to the charges proposed herein (Table 6-12), for a single detached residential dwelling unit (S.D.U.) and per sq.m. of G.F.A. for non-residential development.

The calculated charges for County-wide services are \$3,069 in Woodstock and \$3,479 in the other areas of the County for a single detached residential dwelling unit. The calculated charges are approximately 15% higher than the County's current D.C.s. outside of the City of Woodstock, and 19% higher within the City of Woodstock. The calculated rates for urban services are lower than the current rates for all systems, except for Plattsville and Thamesford systems, which increase by 2% and 67% respectively. The reduction in charges ranges from 6% to 56% across the various service areas. At present, there are no D.C.s imposed for urban services in Mount Elgin, as a result no comparison has been provided.

The calculated non-residential D.C.s for County-wide services are \$11.88 per sq.m. in Woodstock and \$12.25 per sq.m. in other areas of the County. These calculated charges are approximately 1% higher than the current D.C.s. outside of the City of Woodstock and 2% lower than the current rates for the City of Woodstock. The calculated rates for urban services are lower than the current rates for all systems except the City of Woodstock, which increases by approximately 10%. The reduced charges range from 37% to 68% across the various service areas. As noted above, D.C.s are not imposed for urban services in Mount Elgin, as such no comparison has been provided.



Table 6-1
County-Wide Services
2019-2028

SERVICE	2019\$ D.C.-Eligible Cost		2019\$ D.C.-Eligible Cost	
	Residential	Non-Residential	SDU	per m ²
Administration	\$ 524,355	\$ 165,586	\$ 93	\$ 0.36
Waste Diversion	159,872	68,517	28	0.15
Land Ambulance	1,370,459	432,777	298	1.15
Roads and Related	14,955,067	4,722,653	2,651	10.22
TOTAL	17,009,754	\$5,389,532	3,069	11.88
Financing Costs	\$340,143	\$107,414		
D.C.-Eligible Capital Cost	17,349,898	\$5,496,946		
10-Year Gross Population/GFA Growth (sq.m.)	17,304	462,800		
Cost Per Capita/Non-Residential GFA (sq.m.)	\$1,002.65	\$11.88		
By Residential Unit Type	P.P.U.			
Single and Semi-Detached Dwelling	3.061	\$3,069		
Apartments - 2 Bedrooms +	1.632	\$1,636		
Apartments - Bachelor and 1 Bedroom	1.104	\$1,107		
Other Multiples	1.923	\$1,928		

Table 6-2
Area-Specific Services (excluding Woodstock)
2019-2028

SERVICE	2019\$ D.C.-Eligible Cost		2019\$ D.C.-Eligible Cost	
	Residential	Non-Residential	SDU	per m ²
Library Services	\$ 1,155,878	\$ 60,836	\$ 410	\$ 0.38
TOTAL	1,155,878	60,836	410	0.38
Financing Costs	(\$1,191)	(\$63)		
D.C.-Eligible Capital Cost	1,154,686	60,773		
10-Year Gross Population/GFA Growth (sq.m.)	8,628	161,400		
Cost Per Capita/Non-Residential GFA (sq.m.)	\$133.83	\$0.38		
By Residential Unit Type	P.P.U.			
Single and Semi-Detached Dwelling	3.061	\$410		
Apartments - 2 Bedrooms +	1.632	\$218		
Apartments - Bachelor and 1 Bedroom	1.104	\$148		
Other Multiples	1.923	\$257		



Table 6-3
Area-Specific Services – Woodstock
2019-2028

SERVICE	2019\$ D.C.-Eligible Cost		2019\$ D.C.-Eligible Cost	
	Residential	Non-Residential	SDU	per m ²
	\$	\$	\$	\$
<u>Woodstock</u>				
Water	4,805,706	1,962,894	1,695	6.70
Wastewater	8,660,300	3,537,306	3,054	11.73
TOTAL	13,466,007	5,500,200	4,749	18.43
Financing Costs	(5,594)	55,918		
D.C.-Eligible Capital Cost	13,460,413	5,556,118		
Buildout Gross Population/GFA Growth (sq.m.)	8,676	301,400		
Cost Per Capita/Non-Residential GFA (sq.m.)	\$1,551.45	\$18.43		
<u>By Residential Unit Type</u>	<u>P.P.U.</u>			
Single and Semi-Detached Dwelling	3.061	\$4,749		
Apartments - 2 Bedrooms +	1.632	\$2,532		
Apartments - Bachelor and 1 Bedroom	1.104	\$1,713		
Other Multiples	1.923	\$2,983		

Table 6-4
Area-Specific Services – Tillsonburg
2019-2028

SERVICE	2019\$ D.C.-Eligible Cost		2019\$ D.C.-Eligible Cost	
	Residential	Non-Residential	SDU	per m ²
	\$	\$	\$	\$
<u>Tillsonburg</u>				
Water	1,155,814	325,999	1,554	7.25
Wastewater	3,251,833	917,184	4,682	21.85
TOTAL	4,407,648	1,243,183	6,236	29.10
Financing Costs	265,787	75,082		
D.C.-Eligible Capital Cost	4,673,435	1,318,265		
Buildout Gross Population/GFA Growth (sq.m.)	2,294	45,300		
Cost Per Capita/Non-Residential GFA (sq.m.)	\$2,037.24	\$29.10		
<u>By Residential Unit Type</u>	<u>P.P.U.</u>			
Single and Semi-Detached Dwelling	3.061	\$6,236		
Apartments - 2 Bedrooms +	1.632	\$3,325		
Apartments - Bachelor and 1 Bedroom	1.104	\$2,249		
Other Multiples	1.923	\$3,918		



Table 6-5
Area-Specific Services – Ingersoll
2019-2028

SERVICE	2019\$ D.C.-Eligible Cost		2019\$ D.C.-Eligible Cost	
	Residential	Non-Residential	SDU	per m ²
	\$	\$	\$	\$
<u>Ingersoll</u>				
Water	914,384	355,594	1,360	4.52
Wastewater	3,665,531	1,425,484	5,409	17.99
TOTAL	4,579,915	1,781,078	6,769	22.51
Financing Costs	33,001	12,896		
D.C.-Eligible Capital Cost	4,612,915	1,793,974		
Buildout Gross Population/GFA Growth (sq.m.)	2,086	79,700		
Cost Per Capita/Non-Residential GFA (sq.m.)	\$2,211.37	\$22.51		
<u>By Residential Unit Type</u>	<u>P.P.U.</u>			
Single and Semi-Detached Dwelling	3.061	\$6,769		
Apartments - 2 Bedrooms +	1.632	\$3,609		
Apartments - Bachelor and 1 Bedroom	1.104	\$2,441		
Other Multiples	1.923	\$4,252		

Table 6-6
Area-Specific Services – Plattsville
2019-2028

SERVICE	2019\$ D.C.-Eligible Cost		2019\$ D.C.-Eligible Cost	
	Residential	Non-Residential	SDU	per m ²
	\$	\$	\$	\$
<u>Plattsville</u>				
Water	600,139	52,186	5,399	25.20
Wastewater	1,562,958	135,909	14,034	65.50
TOTAL	2,163,097	188,095	19,433	90.70
Financing Costs	27,163	2,365		
D.C.-Eligible Capital Cost	2,190,260	190,461		
Buildout Gross Population/GFA Growth (sq.m.)	345	2,100		
Cost Per Capita/Non-Residential GFA (sq.m.)	\$6,348.58	\$90.70		
<u>By Residential Unit Type</u>	<u>P.P.U.</u>			
Single and Semi-Detached Dwelling	3.061	\$19,433		
Apartments - 2 Bedrooms +	1.632	\$10,361		
Apartments - Bachelor and 1 Bedroom	1.104	\$7,009		
Other Multiples	1.923	\$12,208		



Table 6-7
Area-Specific Services – Drumbo
2019-2028

SERVICE	2019\$ D.C.-Eligible Cost		2019\$ D.C.-Eligible Cost	
	Residential	Non-Residential	SDU	per m ²
	\$	\$	\$	\$
<u>Drumbo</u>				
Wastewater	251,714	13,248	4,005	10.22
TOTAL	251,714	13,248	4,005	10.22
Financing Costs	789	42		
D.C.-Eligible Capital Cost	\$252,503	\$13,290		
Buildout Gross Population/GFA Growth (sq.m.)	193	1,300		
Cost Per Capita/Non-Residential GFA (sq.m.)	\$1,308.31	\$10.22		
By Residential Unit Type	P.P.U.			
Single and Semi-Detached Dwelling	3.061	\$4,005		
Apartments - 2 Bedrooms +	1.632	\$2,135		
Apartments - Bachelor and 1 Bedroom	1.104	\$1,444		
Other Multiples	1.923	\$2,516		

Table 6-8
Area-Specific Services – Tavistock
2019-2028

SERVICE	2019\$ D.C.-Eligible Cost		2019\$ D.C.-Eligible Cost	
	Residential	Non-Residential	SDU	per m ²
	\$	\$	\$	\$
<u>Tavistock</u>				
Water	278,883	38,029	1,181	4.15
Wastewater	2,519,943	343,629	10,590	37.19
TOTAL	2,798,825	381,658	11,771	41.33
Financing Costs	19,908	2,732		
D.C.-Eligible Capital Cost	2,818,733	384,390		
Buildout Gross Population/GFA Growth (sq.m.)	733	9,300		
Cost Per Capita/Non-Residential GFA (sq.m.)	\$3,845.48	\$41.33		
By Residential Unit Type	P.P.U.			
Single and Semi-Detached Dwelling	3.061	\$11,771		
Apartments - 2 Bedrooms +	1.632	\$6,276		
Apartments - Bachelor and 1 Bedroom	1.104	\$4,245		
Other Multiples	1.923	\$7,395		



Table 6-9
Area-Specific Services – Norwich
2019-2028

SERVICE	2019\$ D.C.-Eligible Cost		2019\$ D.C.-Eligible Cost	
	Residential	Non-Residential	SDU	per m ²
	\$	\$	\$	\$
<u>Norwich</u>				
Water	312,685	50,902	1,635	5.79
Wastewater	1,437,463	234,006	7,718	27.35
TOTAL	1,750,148	284,908	9,353	33.14
Financing Costs	61,755	10,050		
D.C.-Eligible Capital Cost	1,811,903	294,958		
Buildout Gross Population/GFA Growth (sq.m.)	593	8,900		
Cost Per Capita/Non-Residential GFA (sq.m.)	\$3,055.49	\$33.14		
<u>By Residential Unit Type</u>	<u>P.P.U.</u>			
Single and Semi-Detached Dwelling	3.061	\$9,353		
Apartments - 2 Bedrooms +	1.632	\$4,987		
Apartments - Bachelor and 1 Bedroom	1.104	\$3,373		
Other Multiples	1.923	\$5,876		

Table 6-10
Area-Specific Services – Thamesford
2019-2028

SERVICE	2019\$ D.C.-Eligible Cost		2019\$ D.C.-Eligible Cost	
	Residential	Non-Residential	SDU	per m ²
	\$	\$	\$	\$
<u>Thamesford</u>				
Water	731,861	72,382	6,124	20.34
TOTAL	731,861	72,382	6,124	20.34
Financing Costs	8,407	831		
D.C.-Eligible Capital Cost	740,269	73,213		
Buildout Gross Population/GFA Growth (sq.m.)	370	3,600		
Cost Per Capita/Non-Residential GFA (sq.m.)	\$2,000.73	\$20.34		
<u>By Residential Unit Type</u>	<u>P.P.U.</u>			
Single and Semi-Detached Dwelling	3.061	\$6,124		
Apartments - 2 Bedrooms +	1.632	\$3,265		
Apartments - Bachelor and 1 Bedroom	1.104	\$2,209		
Other Multiples	1.923	\$3,847		



Table 6-11
Area-Specific Services – Mount Elgin
2019-2028

SERVICE	2019\$ D.C.-Eligible Cost		2019\$ D.C.-Eligible Cost	
	Residential	Non-Residential	SDU	per m ²
	\$	\$	\$	\$
<u>Mount Elgin</u>				
Water	647,120	88,244	5,758	16.65
Wastewater	6,508	887	59	0.17
TOTAL	653,628	89,131	5,817	16.82
Financing Costs	86	12		
D.C.-Eligible Capital Cost	653,714	89,143		
Buildout Gross Population/GFA Growth (sq.m.)	344	5,300		
Cost Per Capita/Non-Residential GFA (sq.m.)	\$1,900.33	\$16.82		
<u>By Residential Unit Type</u>	<u>P.P.U.</u>			
Single and Semi-Detached Dwelling	3.061	\$5,817		
Apartments - 2 Bedrooms +	1.632	\$3,101		
Apartments - Bachelor and 1 Bedroom	1.104	\$2,098		
Other Multiples	1.923	\$3,654		



Table 6-12
Schedule of Calculated D.C.s

Service	RESIDENTIAL				NON-RESIDENTIAL	
	Single and Semi-Detached Dwelling	Apartments - 2 Bedrooms +	Apartments - Bachelor and 1 Bedroom	Other Multiples	(per sq.m. of Gross Floor Area)	(per Wind Turbine)
County Wide Services:						
Administration	93	49	33	58	0.36	93
Land Ambulance	298	159	107	187	1.15	298
Roads and Related	2,651	1,413	956	1,665	10.22	2,651
Library Services ¹	410	218	148	257	0.38	-
Waste Diversion	28	15	10	18	0.15	-
Total County Wide Services	3,479	1,854	1,254	2,185	12.25	3,041
Urban Services						
Woodstock						
Water	1,695	904	611	1,065	6.70	-
Wastewater	3,054	1,628	1,101	1,919	11.73	-
Tillsonburg						
Water	1,554	829	560	976	7.25	-
Wastewater	4,682	2,496	1,689	2,941	21.85	-
Ingersoll						
Water	1,360	725	491	854	4.52	-
Wastewater	5,409	2,884	1,951	3,398	17.99	-
Plattsville						
Water	5,399	2,879	1,947	3,392	25.20	-
Wastewater	14,034	7,482	5,062	8,817	65.50	-
Drumbo						
Water	-	-	-	-	0.00	-
Wastewater	4,005	2,135	1,444	2,516	10.22	-
Tavistock						
Water	1,181	630	426	742	4.15	-
Wastewater	10,590	5,646	3,819	6,653	37.19	-
Norwich						
Water	1,635	872	590	1,027	5.79	-
Wastewater	7,718	4,115	2,784	4,849	27.35	-
Thamesford						
Water	6,124	3,265	2,209	3,847	20.34	-
Wastewater	-	-	-	-	0.00	-
Mount Elgin						
Water	5,758	3,070	2,077	3,617	16.65	-
Wastewater	59	31	21	37	0.17	-

¹ The charge for Library services does not apply in Woodstock.



Table 6-13
Comparison of Current and Calculated Residential D.C.s (per S.D.U.)

Current Charges

Municipality	County-Wide Services					Urban Area-Specific Services				Grand Total
	Administration	Land Ambulance	Roads and Related	Library	Waste Diversion	Total County-Wide Services	Water	Wastewater	Sub-total - Urban Services	
Woodstock	78	149	2,353	-	-	2,580	3,099	3,358	6,457	9,037
Tillsonburg	78	149	2,353	457	-	3,037	1,489	10,157	11,646	14,683
Ingersoll	78	149	2,353	457	-	3,037	1,960	11,586	13,546	16,583
Plattsville	78	149	2,353	457	-	3,037	4,842	13,752	18,594	21,631
Drumbo	78	149	2,353	457	-	3,037	-	9,070	9,070	12,107
Tavistock	78	149	2,353	457	-	3,037	1,134	11,343	12,477	15,514
Norwich	78	149	2,353	457	-	3,037	2,600	9,524	12,124	15,161
Thamesford	78	149	2,353	457	-	3,037	2,453	1,216	3,669	6,706
Mount Elgin	78	149	2,353	457	-	3,037	-	-	-	3,037

Calculated

Municipality	County-Wide Services					Urban Area-Specific Services				Grand Total
	Administration	Land Ambulance	Roads and Related	Library	Waste Diversion	Total County-Wide Services	Water	Wastewater	Sub-total - Urban Services	
Woodstock	93	298	2,651	-	-	3,041	1,695	3,054	4,749	7,790
Tillsonburg	93	298	2,651	410	28	3,479	1,554	4,682	6,236	9,715
Ingersoll	93	298	2,651	410	28	3,479	1,360	5,409	6,769	10,248
Plattsville	93	298	2,651	410	28	3,479	5,399	14,034	19,433	22,912
Drumbo	93	298	2,651	410	28	3,479	-	4,005	4,005	7,483
Tavistock	93	298	2,651	410	28	3,479	1,181	10,590	11,771	15,250
Norwich	93	298	2,651	410	28	3,479	1,635	7,718	9,353	12,832
Thamesford	93	298	2,651	410	28	3,479	6,124	-	6,124	9,603
Mount Elgin	93	298	2,651	410	28	3,479	5,758	59	5,817	9,296

Table 6-14
Comparison of Current and Calculated Non-Residential D.C.s (per sq.m. of G.F.A.)

Current Charges

Municipality	County-Wide Services					Urban Area-Specific Services				Grand Total
	Administration	Land Ambulance	Roads and Related	Library	Waste Diversion	Total County-Wide Services	Water	Wastewater	Sub-total - Urban Services	
Woodstock	0.40	0.72	11.05	-	-	12.17	8.03	8.72	16.75	28.92
Tillsonburg	0.40	0.72	11.05	-	-	12.17	7.72	53.10	60.82	72.99
Ingersoll	0.40	0.72	11.05	-	-	12.17	9.50	56.17	65.67	77.84
Plattsville	0.40	0.72	11.05	-	-	12.17	38.53	109.28	147.81	159.98
Drumbo	0.40	0.72	11.05	-	-	12.17	-	32.30	32.30	44.47
Tavistock	0.40	0.72	11.05	-	-	12.17	5.95	59.31	65.26	77.43
Norwich	0.40	0.72	11.05	-	-	12.17	11.23	41.12	52.35	64.52
Thamesford	0.40	0.72	11.05	-	-	12.17	10.15	28.89	39.04	51.21
Mount Elgin	0.40	0.72	11.05	-	-	12.17	-	-	-	12.17

Calculated

Municipality	County-Wide Services					Urban Area-Specific Services				Grand Total
	Administration	Land Ambulance	Roads and Related	Library	Waste Diversion	Total County-Wide Services	Water	Wastewater	Sub-total - Urban Services	
Woodstock	0.36	1.15	10.22	-	-	11.73	6.70	11.73	18.43	30.16
Tillsonburg	0.36	1.15	10.22	0.38	0.15	12.25	7.25	21.85	29.10	41.35
Ingersoll	0.36	1.15	10.22	0.38	0.15	12.25	4.52	17.99	22.51	34.76
Plattsville	0.36	1.15	10.22	0.38	0.15	12.25	25.20	65.50	90.70	102.95
Drumbo	0.36	1.15	10.22	0.38	0.15	12.25	-	10.22	10.22	22.48
Tavistock	0.36	1.15	10.22	0.38	0.15	12.25	4.15	37.19	41.33	53.59
Norwich	0.36	1.15	10.22	0.38	0.15	12.25	5.79	27.35	33.14	45.40
Thamesford	0.36	1.15	10.22	0.38	0.15	12.25	20.34	-	20.34	32.59
Mount Elgin	0.36	1.15	10.22	0.38	0.15	12.25	16.65	0.17	16.82	29.07