



Chapter 5

D.C.-Eligible Cost Analysis by Service



5. D.C.-Eligible Cost Analysis by Service

This chapter outlines the basis for calculating eligible costs for the D.C.s to be applied on a uniform basis. In each case, the required calculation process set out in s.5(1) paragraphs 2 to 8 in the D.C.A. and described in Chapter 4, was followed in determining D.C. eligible costs.

The nature of the capital projects and timing identified in the Chapter reflects Council's current intention. However, over time, municipal projects and Council priorities change and accordingly, Council's intentions may alter and different capital projects (and timing) may be required to meet the need for services required by new growth.

5.1 Service Levels and 10-Year Capital Costs for D.C. Calculation

This section evaluates the development-related capital requirements for all of the “softer” services over a 10-year planning period. Each service component is evaluated on two format sheets: the average historical 10-year level of service calculation (see Appendix B), which “caps” the D.C. amounts; and, the infrastructure cost calculation, which determines the potential D.C. recoverable cost.

5.1.1 Administration

The D.C.A. permits the inclusion of studies undertaken to facilitate the completion of the County's capital works program and to support the preparation of future D.C. background studies. The County has made provision for the inclusion of new studies undertaken to facilitate this D.C. process, as well as other studies which benefit growth (in whole or in part). The list of studies includes future D.C. background studies, as well as Secondary Planning and Servicing Studies, Comprehensive Reviews, Official Plan Review Studies, and an Affordable Housing Needs Study.

The cost of these studies totals \$1.6 million, of which \$565,000 is deducted as a benefit to existing development. A further \$105,000 has been deducted from the capital costs reflective of the mandatory 10% deduction for soft services. After deducting \$405,000 for existing reserve fund balances collected towards these needs, and adding \$150,000 for unfunded 2014 D.C.by-law projects, a net capital cost of \$690,000 has been included in the calculation of the D.C.



These costs have been allocated 76% residential and 24% non-residential based on the incremental growth in population to employment for the 10-year forecast period.

5.1.2 Land Ambulance

The County's Land Ambulance service currently occupies a total of 26,600 sq.ft. of facility space. In addition to facility space, the County also provides Land Ambulance Services through the operation of 18 fully equipped vehicles and personal equipment for 94 paramedics. In total, the per capita average level of service provided through these capital assets has been \$124. In aggregate, the maximum D.C. eligible amount that could be included in the calculation of the charge for Land Ambulance Services totals \$1.9 million.

The County anticipates the purchase of additional ambulances, equipment for additional paramedics, and the undertaking of a master plan update study over the 10-year forecast period, totalling \$1.6 million in gross capital costs. In addition, the capital costs include outstanding debt and interest payments for the unfunded committed capital costs of the Mill Street Emergency Medical Service (E.M.S.) Station to \$1.2 million. In total the gross capital costs of the D.C. program approximate \$2.8 million.

Deductions are provided for benefit to existing development of \$302,000, post-period benefit for anticipated development to occur beyond the 2028 forecast period of \$272,000, the 10% statutory deduction of \$134,000, and \$314,000 to reflect existing reserve fund balances collected towards these needs. In total, the net growth-related costs included in the calculation of the charge is \$1.8 million.

The net growth-related costs for Land Ambulance Services have been allocated between residential and non-residential development, 76% residential and 24% non-residential, based on forecast incremental population and employment growth over the forecast period.



Infrastructure Costs Covered in the D.C. Calculation – Administration

Prj.No	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
						Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 76%	Non-Residential Share 24%
	2019-2028											
1	Secondary Planning and Servicing Studies	2019	150,000	-	150,000	37,500		112,500	11,250	101,250	76,950	24,300
2	Comprehensive Review Phase 1	2019	60,000	-	60,000	15,000		45,000	4,500	40,500	30,780	9,720
3	OP Review Growth Related Studies	2019-2020	100,000		100,000	25,000		75,000	7,500	67,500	51,300	16,200
4	Secondary Planning Studies	2019-2020	350,000		350,000	87,500		262,500	26,250	236,250	179,550	56,700
5	Affordable Housing Needs Study	2020	75,000		75,000	18,750		56,250	5,625	50,625	38,475	12,150
6	New County OP and Related Studies	2022-2023	650,000	-	650,000	325,000		325,000	32,500	292,500	222,300	70,200
7	D.C. Background Study	2023	40,000	-	40,000	-		40,000	4,000	36,000	27,360	8,640
8	D.C. Background Study	2028	40,000	-	40,000	-		40,000	4,000	36,000	27,360	8,640
9	OP Review Growth Related Studies	2028	75,000		75,000	18,750		56,250	5,625	50,625	38,475	12,150
10	OP Review Studies	2028	75,000		75,000	37,500		37,500	3,750	33,750	25,650	8,100
	Reserve Fund Balance							(405,039)		(405,039)	(307,829)	(97,209)
	Unfunded Projects							149,980		149,980	113,985	35,995
	Total		1,615,000	-	1,615,000	565,000	-	794,941	105,000	689,941	524,355	165,586



Infrastructure Costs Covered in the D.C. Calculation – Land Ambulance Services

Prj.No	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
						Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share	Non-Residential Share
	2019-2028										76%	24%
1	NPV of Principal Payments - Mill Street EMS Station	2019-2023	853,733	-	853,733	256,120		597,613		597,613	454,186	143,427
2	NPV of Interest Payments - Mill Street EMS Station	2019-2023	77,144		77,144	23,143		54,001		54,001	41,041	12,960
3	Unfunded Post-Period Benefit - Mill St EMS Station (Growth Share)	2019	258,660		258,660	-		258,660		258,660	196,582	62,078
4	Ambulances (5)	2019-2028	1,508,580	265,258	1,243,322	-		1,243,322	124,332	1,118,990	850,432	268,558
5	Equipped Paramedics (13)	2019-2028	36,400	6,400	30,000	-		30,000	3,000	27,000	20,520	6,480
6	Master Plan Update	2027-2028	90,000	-	90,000	22,500		67,500	6,750	60,750	46,170	14,580
	Reserve Fund Balance							(291,094)		(291,094)	(221,232)	(69,863)
	Reserve Fund Adjustment							(22,684)		(22,684)	(17,240)	(5,444)
	Total		2,824,518	271,658	2,552,860	301,763	-	1,937,318	134,082	1,803,236	1,370,459	432,777



5.1.3 Roads and Related

The County has a current inventory of 643.8 km of roads, 19.7 km of guide rails, 158 bridges and culverts, and 37 traffic lights (intersections). Furthermore, the County operates 73,248 sq.ft. of public works facility space and 52 vehicle and equipment items in the provision of this service. The total historical level of infrastructure investment equates to a \$10,634 per capita level of service. When applied to the 10-year forecast population growth of 15,395 population, a maximum D.C. eligible cost of \$163.7 million could be expected to meet the future increase in needs for service.

Review of the County's 2014 D.C. Background Study, capital budget, and discussion with staff have identified future needs required to service new development in the County over the forecast period. These capital needs include road improvements such as widenings, urbanizations, reconstructions and signalization. Moreover, the program also includes additional public works facility space and various studies required to inform future infrastructure requirements.

In total, \$34.3 million in gross capital costs have been identified in the Roads and Related Services D.C. program. A total of \$14.7 million has been deducted from the growth-related capital needs recognizing the benefit to existing development and needs to maintain existing infrastructure over its lifecycle. A further \$1.5 million has been deducted recognizing the express oversizing in the County Rd. 4 project and the benefits accruing to growth beyond the forecast period. Approximately \$2.4 million in net unfunded D.C. eligible capital costs identified in the County's 2014 D.C. By-law have been included in the Roads and Related Services D.C. program for recovery from future development. In total, a net capital cost of \$19.7 million has been included in the calculation of the D.C.

Net growth-related capital costs for Roads and Related Services have been allocated between future residential and non-residential development based on the relationship of incremental population and employment growth over the 10-year forecast period (i.e. 76% residential and 24% non-residential).



Infrastructure Costs Covered in the D.C. Calculation – Roads and Related Services

Prj .No	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
						Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 76%	Non- Residential Share 24%
	2019-2028									
1	County Road 59 (Norwich Ave.)	2019-2020	851,700	-	851,700	-		851,700	647,292	204,408
2	County Road 4	2020	66,300	-	66,300	-		66,300	50,388	15,912
3	County Road 4	2024	408,000	-	408,000	-		408,000	310,080	97,920
4	County Road 4	2028	5,100,000	1,511,640	3,588,360	2,040,000		1,548,360	1,176,754	371,606
5	Harris Street, Ingersoll (CR119)	2019-2020	1,122,000	-	1,122,000	-		1,122,000	852,720	269,280
6	Urbanization(CR 22, CR 9, CR 59, CR 3)	2019-2028	10,155,000	-	10,155,000	5,077,500		5,077,500	3,858,900	1,218,600
7	County Road 35	2019-2025	2,280,000	-	2,280,000	1,140,000		1,140,000	866,400	273,600
8	County Road 36	2019	1,703,400	-	1,703,400	1,618,230		85,170	64,729	20,441
9	Bell St (CR 119)	2019	1,750,000	-	1,750,000	875,000		875,000	665,000	210,000
10	CR 16 Upgrades	2019	4,900,000	-	4,900,000	2,450,000		2,450,000	1,862,000	588,000
11	CR 36 & 8 Roundabout	2020	1,600,000	-	1,600,000	-	800,000	800,000	608,000	192,000
12	CR59 & Lakeview	2019	300,000	-	300,000	-		300,000	228,000	72,000
13	CR59 (btwn CR35 and CR17)	2019	850,000	-	850,000	-		850,000	646,000	204,000
	Signals			-		-				
14	Signals (7 Signals, \$300,000 each)	2019-2028	2,360,900	-	2,360,900	1,180,450		1,180,450	897,142	283,308
	Facilities			-		-				
15	Drumbo Equipment Storage Building	2019	175,000	-	175,000	140,000		35,000	26,600	8,400
	Studies/Master Plans			-		-				
16	Transportation Masterplan Updates (\$250,000 every 5 years)	2022-2027	500,000	-	500,000	125,000		375,000	285,000	90,000
17	Cycling Master Plan	2020	75,000	-	75,000	18,750	56,250	-	-	-
18	DC Technical Study	2023	75,000	-	75,000	-		75,000	57,000	18,000
19	DC Technical Study	2028	75,000	-	75,000	-		75,000	57,000	18,000
	Reserve Fund Balance							(898,948)	(683,200)	(215,747)
	Unfunded Projects							3,262,188	2,479,263	782,925
	Total		34,347,300	1,511,640	32,835,660	14,664,930	856,250	19,677,720	14,955,067	4,722,653



5.1.4 Library

The County's library level of service comprises, 48,585 sq.ft. of facility space and 246,115 collection items. The County's historic level of service over the prior 10-year period totals \$416 per capita. This historic average level of investment provides the County with approximately \$2.8 million in maximum D.C. eligible funding over the 10-year forecast period.

Additional collection materials will be required in the future to maintain historic average levels of service for new development. In addition, the Library Services D.C. capital program also includes principal and interest debt repayment costs for the Norwich and Tillsonburg Library Branches. After applying the 10% statutory deduction for soft services, and \$444,000 in reserve fund balances already collected for Library Services under the County's 2014 D.C. By-law, the net capital costs included in the D.C. calculations total \$1.2 million.

While library usage is predominately residential based, there is some use of the facilities by non-residential users. To acknowledge this use, the growth-related costs have been allocated 95% residential and 5% non-residential.



Infrastructure Costs Covered in the D.C. Calculation – Library Services

Prj.No	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
						Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share	Non-Residential Share
	2019-2028										95%	5%
1	NPV of Principal Payments - Norwich Library (Growth share)	2019-2022	164,689	-	164,689	-		164,689		164,689	156,455	8,234
2	NPV of Interest Payments - Norwich Library (Growth Share)	2019-2022	15,479	-	15,479	-		15,479		15,479	14,705	774
3	NPV of Principal Payments - Tillsonburg Branch (Growth Share)	2019-2023	734,970	-	734,970	-		734,970		734,970	698,222	36,749
4	NPV of Interest Payments - Tillsonburg Branch (Growth Share)	2019-2023	66,413	-	66,413	-		66,413		66,413	63,092	3,321
5	Unfunded Capital - Recovery of Tillsonburg Branch - Remaining Costs	2019-2028	34,471	-	34,471	-		34,471		34,471	32,747	1,724
6	Collection Material	2019-2028	716,489	-	716,489	-		716,489	71,649	644,840	612,598	32,242
	Reserve Fund Balance							(516,944)		(516,944)	(491,096)	(25,847)
	Unfunded Projects							72,795		72,795	69,155	3,640
	Total		1,732,511	-	1,732,511	-	-	1,288,362	71,649	1,216,714	1,155,878	60,836



5.1.5 Waste Diversion

With respect to Waste Diversion Services, the County provides a total of 123,005 sq.ft. of eligible facility space. The facility space landfill and incineration services have been excluded from the historic level of service calculations as these services are ineligible services under the D.C.A. Moreover, the County provides waste collection services, through a contract, to all area municipalities. Based on the capital requirements in the County's waste collection contract, the County has an eligible waste diversion inventory of 7 vehicles. The County also owns and operates 5 items of eligible waste diversion inventory of equipment, including trucks, loaders, trailers, and other various items. In total, this capital investment results in a 10-year historical average level of service of \$58 per capita. Applying this historic average level of service to the anticipated development over the 10-year forecast period, the County would be eligible to collect \$895,000 from D.C.s for Waste Diversion Services.

Based on the projected growth over the 10-year forecast period, the County has identified a provision for the capital-related contract costs with a gross cost, and future study, totalling \$1.2 million. Of this amount, a deduction of \$776,000 was made to recognize the benefit to existing development, and a further \$124,000 was deducted as post-period benefit for anticipated growth beyond the forecast period. After the mandatory 10% deduction applicable for soft services, the net growth-related capital cost included in the D.C. calculation total \$228,000

The D.C. eligible capital costs have been allocated 70% to residential development and 30% to non-residential development, based on the anticipated residential and non-residential properties for which waste diversion collections will be provided over the forecast period.



Infrastructure Costs Covered in the D.C. Calculation – Waste Diversion Services

Prj .No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Net Capital Cost	Less:		Subtotal	Less:	Potential D.C. Recoverable Cost		
						Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development		Other (e.g. 10% Statutory Deduction)	Total	Residential Share 70%	Non-Residential Share 30%
1	Waste Recovery and Reduction Technology Procurement Vendor Evaluation	2019	1,004,671	123,566	881,105	775,824		105,280	10,528	94,752	66,326	28,426
2	Provision for Waste Diversion Collection Contract	2019-2028	148,486	-	148,486	-		148,486	14,849	133,637	93,546	40,091
	Total		1,153,157	123,566	1,029,590	775,824	-	253,766	25,377	228,389	159,872	68,517



5.2 Service Levels and Urban 10-Year Capital Costs for The County's D.C. Calculation

The County provides water and wastewater services in the County through various water and wastewater systems. This section summarizes the development-related capital requirements for water and wastewater services in the respective systems. Consistent with the approach taken in the County's 2014 D.C. Background Study, the capital needs and resulting D.C.s have been evaluated on an area-specific basis. Various studies have also been included in the capital programs. While these studies will benefit all serviced areas of the County, the total costs for these studies have been allocated to the systems, based on anticipated growth within the respective service areas, and will be reflected in the capital program for each system.

5.2.1 Woodstock

5.2.1.1 Water

The capital needs required to service new development over the 10-year period were determined by reviewing the County's 2014 D.C. Background Study, capital budget, and through discussions with staff. These capital needs include additional water mains, water supply upgrades, land acquisition, and the system's share of master plan and other servicing studies. In total, \$9.3 million in gross capital costs have been identified in the capital program. A \$1.6 million deduction is provided recognizing the benefit to existing development. A further \$656,457 has been deducted for other contributions towards the growth-related costs to account for the share of studies set to benefit other water systems in the County. Existing uncommitted D.C. reserve funds of \$236,830 have been applied to the net capital costs. In total, \$6.8 million has been included in the D.C. calculation to be recovered for the anticipated development within the area over the 10-year forecast period.

These costs are shared between residential and non-residential based on the population to employment ratio over the forecast period, resulting in 71% being allocated to residential development and 29% being allocated to non-residential development.



5.2.1.2 Wastewater

Similarly, the capital needs required to service new development over the 10-year period were determined by reviewing the County's 2014 D.C. Background Study, capital budget, and through discussions with staff. In total, \$16.6 million in gross capital costs have been identified in the capital program. These costs include the costs for a trunk sewer, pump station, additional work on the wastewater treatment plant, and the system's share of master plan and other servicing studies. Deductions for other contributions towards the growth-related costs account for the share of studies set to benefit other wastewater systems in the County, totalling \$433,929. After deducting \$3.5 million for the benefit to existing development, the net growth-related costs including the reserve fund deficit total \$12.2 million.

These costs are shared between residential and non-residential based on the population to employment ratio over the forecast period, resulting in 71% being allocated to residential development and 29% being allocated to non-residential development.

5.2.2 Tillsonburg

5.2.2.1 Water

The capital needs required to service new development over the 10-year period were determined by reviewing the County's 2014 D.C. Background Study, capital budget, and through discussions with staff. These capital needs include additional watermains, storage, and the system's share of master plan and other servicing studies.

The gross capital costs for water services total approximately \$5.5 million over the 10-year forecast period. A post-period benefit deduction of \$2.7 million has been made for the attribution of costs applicable to growth beyond the forecast period. Further deductions totaling \$1.3 million were made to account for the share of studies set to benefit other water systems in the County. After deducting \$787,152 recognizing the benefit to existing development, the net growth-related costs, including the reserve fund deficit total \$1.5 million.

These costs are shared between residential and non-residential based on the population to employment ratio over the forecast period, resulting in 78% being



allocated to residential development and 22% being allocated to non-residential development.

5.2.2.2 Wastewater

The capital needs required to service new development over the 10-year period were determined by reviewing the County's 2014 D.C. Background Study, capital budget, and through discussions with staff. These capital needs include upgrades to the Wastewater Treatment Plant, North Street pumping station, and the system's share of master plan and other servicing studies. The gross capital costs of these projects total \$35.6 million. In recognition of the benefit to growth that will occur beyond the 10-year forecast period, \$15.5 million in project costs have been deducted from the gross capital costs of the Wastewater Treatment Plant. Also, \$831,937 was deducted from the gross costs to account for the share of studies set to benefit other wastewater systems in the County. A further \$10.3 million has been deducted for other contributions towards the growth-related costs and \$5.1 million has been deducted recognizing the uncommitted D.C. reserve fund balance bringing the total D.C. recoverable costs to \$4.2 million.

These costs are shared between residential and non-residential based on the population to employment ratio over the forecast period, resulting in 78% being allocated to residential development and 22% being allocated to non-residential development.

5.2.3 Ingersoll

5.2.3.1 Water

The capital needs required to accommodate growth were determined by reviewing the capital budget and through discussions with staff. These capital needs include various master planning and other technical studies. In total, \$1.5 million in gross capital costs have been identified in the capital program. Since these studies benefit all the County's water systems, \$1.3 million was deducted representing the benefit to the other systems. A further \$96,964 has been deducted in recognition of the benefit to existing development. After accounting for the reserve fund deficit, a total of \$1.3 million has been included in the D.C. calculation.

These costs are shared between residential and non-residential based on the population to employment ratio over the forecast period, resulting in 72% being



allocated to residential development and 28% being allocated to non-residential development.

5.2.3.2 Wastewater

The capital needs required to accommodate growth were determined by reviewing the capital budget and through discussions with staff. These capital needs include various master planning and other technical studies and the debt repayments for the Ingersoll Wastewater Treatment Plant. In total, \$7.9 million in gross capital costs have been identified in the capital program. As the studies benefit all the County's wastewater systems, \$844,909 was deducted representing the benefit to the other systems. A further \$3.9 million has been deducted in recognition of the benefit to existing development. After accounting for the reserve fund deficit, a total of \$5.1 million has been included in the D.C. calculation.

These costs are shared between residential and non-residential based on the population to employment ratio over the forecast period, resulting in 72% being allocated to residential development and 28% being allocated to non-residential development.

5.2.4 Plattsville

5.2.4.1 Water

The capital needs required to service new development in Plattsville over the 10-year period were determined by reviewing the County's capital budget, and through discussions with staff. These capital needs include various master planning and other technical studies. In total, \$1.5 million in gross capital costs have been identified for the studies. Since these studies benefit all the County's water systems, \$1.4 million was deducted representing the benefit to the other systems. \$1.4 million in costs for a New Asset Supply/Linear benefitting the Township's water systems was also included. This cost is reduced by \$1.2 million recognizing the proportionate benefit accruing to the other area specific systems. A further \$181,934 has been deducted from the growth-related capital needs recognizing the benefit to existing development. Including the reserve fund deficit, \$652,325 has been included in the D.C. calculation.

These costs are shared between residential and non-residential based on the population to employment ratio over the forecast period, resulting in 92% being



allocated to residential development and 8% being allocated to non-residential development.

5.2.4.2 Wastewater

The 10-year capital needs for wastewater services in Plattsville were determined by reviewing of the County's 2014 D.C. Background Study, capital budget, and through discussions with staff. These capital needs include the system's share of master plan and other servicing studies and debt repayment costs for the upgrades to the Plattsville Wastewater Treatment Plant. In total, \$2.6 million in gross capital costs have been identified in the capital program. Deductions of \$964,116 were made in recognition of the growth forecast to occur after 2028, \$331,502 recognizing the benefit to existing development, and \$953,484 of the studies costs. Including the reserve fund deficit, \$1.7 million has been included in the D.C. calculation.

These costs are shared between residential and non-residential based on the population to employment ratio over the forecast period, resulting in 92% being allocated to residential development and 8% being allocated to non-residential development.

5.2.5 Drumbo

5.2.5.1 Water

The capital needs required to service new development in Drumbo over the 10-year period were determined by reviewing the County's capital budget, and through discussions with staff. These capital needs include various master planning and other technical studies and a New Asset Supply/Linear. In total, \$2.9 million in gross capital costs have been identified for the studies. Since these studies benefit all the County's water systems, \$1.5 million was deducted representing the benefit to the other systems. Similarly, the costs of the New Asset Supply/Linear was reduced by \$1.3 million recognizing the proportionate benefit accruing to the other area specific systems. A further \$101,777 has been deducted from the growth-related capital needs recognizing the benefit to existing development. The uncommitted D.C. reserve fund balance was sufficient to cover the costs and as result, no D.C. was calculated for this service. The surplus funds were then transferred to the Drumbo Wastewater D.C. Reserve Fund.



5.2.5.2 Wastewater

The capital needs required to service new development over the 10-year period were determined by reviewing of the County's 2014 D.C. Background Study, capital budget, and through discussions with staff. The capital costs in the study include updated cost estimates for the Drumbo Wastewater Treatment Plant and various studies. In total, \$5.5 million in gross capital costs have been identified in the capital program. After applying deductions for post period benefit (\$2.3 million), the benefit to existing development (\$1.5 million), the share of costs for the studies for the other systems (\$962,964) , and the uncommitted D.C. reserve fund balance, including the transfer from the Drumbo Water Reserve Fund, the net D.C. recoverable costs included in the D.C. calculation total \$264,962.

These costs are shared between residential and non-residential based on the population to employment ratio over the forecast period, resulting in 95% being allocated to residential development and 5% being allocated to non-residential development.

5.2.6 Tavistock

5.2.6.1 Water

The capital needs required to service growth in Tavistock over the 10-year period were determined by reviewing the County's capital budget, and through discussions with staff. These capital needs include a new well, various master planning and other technical studies, as well as a New Asset Supply/Linear benefitting the Townships' water systems. In total \$4.0 million in gross capital costs have been identified for these capital needs. \$1.4 million was deducted representing the benefit of the studies to the other systems. These costs are reduced further by \$985,479 recognizing the proportionate benefit of the New Asset Supply/Linear accruing to the other area specific systems. \$663,646 has been deducted from the growth-related capital needs recognizing the benefit to existing development. After deducting \$580,118 recognizing the uncommitted D.C. reserve fund balance, the total D.C. recoverable costs of \$316,912 have been included in the D.C. calculation.

These costs are shared between residential and non-residential based on the population to employment ratio over the forecast period, resulting in 88% being



allocated to residential development and 12% being allocated to non-residential development.

5.2.6.2 Wastewater

Similar to the water service, the capital needs required to service growth in Tavistock over the 10-year period were determined by reviewing the County's capital budget, and through discussions with staff. These capital needs include debt repayments and various master planning and other technical studies. In total \$3.5 million in gross capital costs have been identified for these capital needs. \$929,287 was deducted representing the benefit of the studies to the other systems. The costs are reduced further by \$1.0 million recognizing the benefit to existing development. The total D.C. recoverable costs, including the reserve fund deficit, total \$2.9 million and have been included in the D.C. calculation.

These costs are shared between residential and non-residential based on the population to employment ratio over the forecast period, resulting in 88% being allocated to residential development and 12% being allocated to non-residential development.

5.2.7 Norwich

5.2.7.1 Water

The capital needs required to service new development in Norwich over the 10-year period were determined by reviewing the County's capital budget, and through discussions with staff. These capital needs include various master planning and other technical studies and a New Asset Supply/Linear. In total, \$2.9 million in gross capital costs have been identified for the studies. Since these studies benefit all the County's water systems, \$1.4 million was deducted representing the benefit to the other systems. Similarly, the costs of the New Asset Supply/Linear was reduced by \$1.1 million recognizing the proportionate benefit accruing to the other area specific systems. A further \$326,905 has been deducted from the growth-related capital needs recognizing the benefit to existing development. The total D.C. recoverable costs included in the D.C. calculation total \$363,588.

These costs are shared between residential and non-residential based on the population to employment ratio over the forecast period, resulting in 86% being



allocated to residential development and 14% being allocated to non-residential development.

5.2.7.2 Wastewater

Similar to the water service, the capital needs required to service growth in Norwich over the 10-year period were determined by reviewing the County's capital budget, and through discussions with staff. These capital needs include the expansion of the wastewater treatment plant and various master planning and other technical studies. In total \$5.9 million in gross capital costs have been identified for these capital needs. \$1.4 million was deducted representing the benefit to growth set to occur after 2028. Another \$938,018 was deducted representing the benefit of the studies to the other systems. The costs are reduced further by \$24,250 recognizing the benefit to existing development. The D.C. recoverable costs, after deducting the reserve fund balance, total \$1.7 million and have been included in the D.C. calculation.

These costs are shared between residential and non-residential based on the population to employment ratio over the forecast period, resulting in 86% being allocated to residential development and 14% being allocated to non-residential development.

5.2.8 Thamesford

5.2.8.1 Water

The capital needs required to service new development over the 10-year period were also determined by reviewing the County's 2014 D.C. Background Study, capital budget, and through discussions with staff. These capital needs include the Thames additional supply, various master planning and other technical studies, and a New Asset Supply/Linear. In total, \$3.1 million in gross capital costs have been identified for the studies. Since these studies benefit all the County's water systems, \$1.4 million was deducted representing the benefit to the other systems. Similarly, the costs of the New Asset Supply/Linear was reduced by \$1.2 million recognizing the proportionate benefit accruing to the other area specific systems. A further \$203,209 has been deducted from the growth-related capital needs recognizing the benefit to existing development. The total D.C. recoverable costs, including the cost of unfunded projects (reserve fund



deficit) and the transfer from the Thamesford Wastewater D.C. Reserve Fund, included in the D.C. calculation total \$804,243.

These costs are shared between residential and non-residential based on the population to employment ratio over the forecast period, resulting in 91% being allocated to residential development and 9% being allocated to non-residential development.

5.2.8.2 Wastewater

The capital needs required to service growth in Thamesford over the 10-year period were determined by reviewing the previous D.C. study, County's capital budget, and through discussions with staff. The capital needs include various master planning and other technical studies. In total, \$975,000 in gross capital costs have been identified for the studies. Since these studies benefit all the County's wastewater systems, \$951,525 was deducted representing the benefit to the other systems. A further \$15,080 has been deducted from the growth-related capital needs recognizing the benefit to existing development. The uncommitted D.C. reserve fund balance was sufficient to cover the costs and as result, no D.C. was calculated for this service. Surplus reserve fund balances were transferred to the Thamesford Water D.C. Reserve Fund.

5.2.9 Mount Elgin

5.2.9.1 Water

The County's 2014 D.C. Background Study did not include costs for the Mount Elgin water system, however capital needs for growth over the forecast period have been identified through reviewing the capital budget and discussions with staff. The capital needs include Mt. Elgin Graydon Well, various master planning and other technical studies, and a New Asset Supply/Linear. The gross capital costs total \$4.6 million. After deductions were made for post period benefit, proportionate share of costs to other water systems, and benefit to existing development, the net D.C. recoverable costs of \$735,363 have been included in the D.C. calculation.

These costs are shared between residential and non-residential based on the population to employment ratio over the forecast period, resulting in 88% being allocated to residential development and 12% being allocated to non-residential development.



5.2.9.2 Wastewater

The County's 2014 D.C. Background Study also did not include costs for the Mount Elgin wastewater system, however capital needs for growth over the forecast period have been identified through reviewing the capital budget and discussions with staff. The capital needs include additional servicing and various master planning and other technical studies. The gross capital costs total \$1.3 million. After deductions were made for the benefit to existing development and proportionate share of costs to other wastewater systems, the net D.C. recoverable costs of \$7,396 have been included in the D.C. calculation.

These costs are shared between residential and non-residential based on the population to employment ratio over the forecast period, resulting in 88% being allocated to residential development and 12% being allocated to non-residential development.



Infrastructure Costs Covered in the D.C. Calculation – Woodstock Water Services

Prj.No	Increased Service Needs Attributable to Anticipated Development	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share	Non-Residential Share
	2019-2028									71%	29%
1	City Project Oversizing	2020-2021	142,800	-		142,800	-		142,800	101,388	41,412
2	NW Development watermain (identified as Innerkip/ NP Servicing) and CR 17 BPS	2019-2020	4,435,000	-		4,435,000	-		4,435,000	3,148,850	1,286,150
3	CR4 & Landsdowne Watermain	2019-2021	1,500,000	-		1,500,000	168,000		1,332,000	945,720	386,280
4	Woodstock Water Supply Upgrades	2028	618,300	-		618,300	154,575		463,725	329,245	134,480
5	Land Acquisition	2020	1,122,000	-		1,122,000	920,040		201,960	143,392	58,568
6	SCADA Master Plan	2019-2023	600,000	-	267,033	332,967	277,608		55,358	39,304	16,054
7	W/WW Master Plan	2022-2023	200,000	-	89,011	110,989	27,747		83,242	59,102	24,140
8	W/WW Master Plan	2027	100,000	-	44,506	55,494	13,874		41,621	29,551	12,070
9	Water Model and Related Studies (\$50,000/yr)	2019-2028	500,000	-	222,528	277,472	69,368		208,104	147,754	60,350
10	D.C. Technical Study	2023	37,500	-	16,690	20,810	-		20,810	14,775	6,035
11	D.C. Technical Study	2028	37,500	-	16,690	20,810	-		20,810	14,775	6,035
	Reserve Fund Balance								(236,830)	(168,149)	(68,681)
	Total		9,293,100	-	656,457	8,636,643	1,631,212	-	6,768,601	4,805,706	1,962,894



Infrastructure Costs Covered in the D.C. Calculation – Woodstock Wastewater Services

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 71%	Non-Residential Share 29%
1	NE Trunk Sewer (Upstream)	2019-2020	3,300,000	-		3,300,000	660,000		2,640,000	1,874,400	765,600
2	Lansdowne Pump Station	2019-2020	1,550,000	-		1,550,000	-		1,550,000	1,100,500	449,500
3	Sanitary Oversizing	2020-2023	110,000	-		110,000	-		110,000	78,100	31,900
4	Twinning @ 59 and Fairway	2020	250,000	-		250,000	-		250,000	177,500	72,500
5	WWTP Stage 2	2020-2025	10,250,000	-		10,250,000	2,396,456		7,853,544	5,576,016	2,277,528
6	N. Trunk Sewer I&I Study and Works	2019-2020	175,000	-		175,000	145,905		29,095	20,658	8,438
7	SCADA Master Plan	2019-2023	600,000	-	267,033	332,967	277,608		55,358	39,304	16,054
8	W/WW Master Plan	2022-2023	200,000	-	89,011	110,989	27,747		83,242	59,102	24,140
9	W/WW Master Plan	2027	100,000	-	44,506	55,494	13,874		41,621	29,551	12,070
10	D.C. Technical Study	2023	37,500	-	16,690	20,810	-		20,810	14,775	6,035
11	D.C. Technical Study	2028	37,500	-	16,690	20,810	-		20,810	14,775	6,035
	Reserve Fund Balance								(242,600)	(172,246)	(70,354)
	Reserve Fund Adjustment								(214,275)	(152,135)	(62,140)
	Total		16,610,000	-	433,929	16,176,071	3,521,590	-	12,197,606	8,660,300	3,537,306



Infrastructure Costs Covered in the D.C. Calculation – Tillsonburg Water Services

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 78%	Non-Residential Share 22%
1	Concession Street to West Town Limits	2019	75,000	-		75,000	47,250		27,750	21,645	6,105
2	Phase 2 Transmission Main	2027-2028	2,248,500	1,958,033		290,467	290,467		-	-	-
3	Tillsonburg In-Distribution Storage	2019-2022	1,700,000	782,000		918,000	340,000		578,000	450,840	127,160
4	SCADA Master Plan	2019-2023	600,000	-	511,961	88,039	80,089		7,950	6,201	1,749
5	W/WW Master Plan	2022-2023	200,000	-	170,654	29,346	7,337		22,010	17,168	4,842
6	W/WW Master Plan	2027	100,000	-	85,327	14,673	3,668		11,005	8,584	2,421
7	Water Model and Related Studies (\$50,000/yr)	2019-2028	500,000	-	426,634	73,366	18,341		55,024	42,919	12,105
8	D.C. Technical Study	2023	37,500	-	31,998	5,502	-		5,502	4,292	1,211
9	D.C. Technical Study	2028	37,500	-	31,998	5,502	-		5,502	4,292	1,211
	Reserve Fund Balance								(65,111)	(50,787)	(14,324)
	Unfunded Projects								834,181	650,661	183,520
	Total		5,498,500	2,740,033	1,258,571	1,499,896	787,152	-	1,481,813	1,155,814	325,999



Infrastructure Costs Covered in the D.C. Calculation – Tillsonburg Wastewater Services

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 78%	Non-Residential Share 22%
1	North Street SPS	2019	1,644,000	-		1,644,000	246,600		1,397,400	1,089,972	307,428
2	WWTP Upgrade - Engineering and Construction Phase 1 (incl. engineering for Phase 2)	2019-2023	6,850,000	-		6,850,000	2,055,000		4,795,000	3,740,100	1,054,900
3	WWTP Upgrade - Construction Phase 2	2028	26,420,100	15,494,070		10,926,030	7,926,030		3,000,000	2,340,000	660,000
4	SCADA Master Plan	2019-2023	600,000	-	511,961	88,039	80,089		7,950	6,201	1,749
5	W/WW Master Plan	2022-2023	200,000	-	170,654	29,346	7,337		22,010	17,168	4,842
6	W/WW Master Plan	2027	100,000	-	85,327	14,673	3,668		11,005	8,584	2,421
7	D.C. Technical Study	2023	37,500	-	31,998	5,502	-		5,502	4,292	1,211
8	D.C. Technical Study	2028	37,500	-	31,998	5,502	-		5,502	4,292	1,211
	Reserve Fund Balance								(5,074,224)	(3,957,895)	(1,116,329)
	Reserve Fund Adjustment								(1,128)	(880)	(248)
	Total		35,889,100	15,494,070	831,937	19,563,093	10,318,724	-	4,169,017	3,251,833	917,184



Infrastructure Costs Covered in the D.C. Calculation – Ingersoll Water Services

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 72%	Non-Residential Share 28%
1	SCADA Master Plan	2019-2023	600,000	-	519,944	80,056	70,278	9,778	7,040	2,738	
2	W/WW Master Plan	2022-2023	200,000	-	173,315	26,685	6,671	20,014	14,410	5,604	
3	W/WW Master Plan	2027	100,000	-	86,657	13,343	3,336	10,007	7,205	2,802	
4	Water Model and Related Studies (\$50,000/yr)	2019-2028	500,000	-	433,286	66,714	16,678	50,035	36,025	14,010	
5	D.C. Technical Study	2023	37,500	-	32,496	5,004	-	5,004	3,603	1,401	
6	D.C. Technical Study	2028	37,500	-	32,496	5,004	-	5,004	3,603	1,401	
	Reserve Fund Balance							(95,363)	(68,662)	(26,702)	
	Unfunded Projects							1,265,499	911,159	354,340	
	Total		1,475,000	-	1,278,195	196,805	96,964	-	1,269,977	914,384	355,594



Infrastructure Costs Covered in the D.C. Calculation – Ingersoll Wastewater Services

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 72%	Non-Residential Share 28%
1	NPV Principal Payments- Ingersoll WWTP	2019-2028	5,662,896	-		5,662,896	3,114,593		2,548,303	1,834,778	713,525
2	NPV Interest Payments- Ingersoll WWTP	2019-2028	1,214,657	-		1,214,657	668,062		546,596	393,549	153,047
3	SCADA Master Plan	2019-2023	600,000	-	519,944	80,056	70,278		9,778	7,040	2,738
4	W/WW Master Plan	2022-2023	200,000	-	173,315	26,685	6,671		20,014	14,410	5,604
5	W/WW Master Plan	2027	100,000	-	86,657	13,343	3,336		10,007	7,205	2,802
6	D.C. Technical Study	2023	37,500	-	32,496	5,004	-		5,004	3,603	1,401
7	D.C. Technical Study	2028	37,500	-	32,496	5,004	-		5,004	3,603	1,401
	Reserve Fund Balance								(4,820)	(3,471)	(1,350)
	Unfunded Projects								1,951,130	1,404,814	546,316
	Total		7,852,553	-	844,909	7,007,645	3,862,940	-	5,091,015	3,665,531	1,425,484



Infrastructure Costs Covered in the D.C. Calculation – Plattsville Water Services

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 92%	Non-Residential Share 8%
1	SCADA Master Plan	2019-2023	600,000	-	586,760	13,240	11,900		1,340	1,233	107
2	W/WW Master Plan	2022-2023	200,000	-	195,587	4,413	1,103		3,310	3,045	265
3	W/WW Master Plan	2027	100,000	-	97,793	2,207	552		1,655	1,523	132
4	Water Model and Related Studies (\$50,000/yr)	2019-2028	500,000	-	488,966	11,034	2,758		8,275	7,613	662
5	D.C. Technical Study	2023	37,500	-	36,672	828	-		828	761	66
6	D.C. Technical Study	2028	37,500	-	36,672	828	-		828	761	66
7	New Asset Supply/Linear	2020-2028	1,377,000	-	1,192,723	184,277	165,620		18,656	17,164	1,492
	Reserve Fund Balance								(3,542)	(3,258)	(283)
	Unfunded Projects/Reserve Fund Adjustment								620,975	571,297	49,678
	Total		2,852,000	-	2,635,174	216,826	181,934	-	652,325	600,139	52,186



Infrastructure Costs Covered in the D.C. Calculation – Plattsville Wastewater Services

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 92%	Non-Residential Share 8%
1	NPV Principal Payments - Plattsville WWTP (Lagoon Upgrades (new cell & sand filter))	2019-2024	1,384,712	839,776		544,935	276,942		267,993	246,553	21,439
2	NPV Interest Payments - Plattsville WWTP (Lagoon Upgrades (new cell & sand filter))	2019-2024	205,025	124,340		80,685	41,005		39,680	36,505	3,174
3	SCADA Master Plan	2019-2023	600,000	-	586,760	13,240	11,900		1,340	1,233	107
4	W/WW Master Plan	2022-2023	200,000	-	195,587	4,413	1,103		3,310	3,045	265
5	W/WW Master Plan	2027	100,000	-	97,793	2,207	552		1,655	1,523	132
6	D.C. Technical Study	2023	37,500	-	36,672	828	-		828	761	66
7	D.C. Technical Study	2028	37,500	-	36,672	828	-		828	761	66
	Reserve Fund Balance								(4,629)	(4,259)	(370)
	Unfunded Projects								1,387,863	1,276,834	111,029
	Total		2,564,737	964,116	953,484	647,136	331,502	-	1,698,867	1,562,958	135,909



Infrastructure Costs Covered in the D.C. Calculation – Drumbo Water Services

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 95%	Non-Residential Share 5%
1	SCADA Master Plan	2019-2023	600,000	-	592,593	7,407	6,657		750	712	37
2	W/WW Master Plan	2022-2023	200,000	-	197,531	2,469	617		1,852	1,759	93
3	W/WW Master Plan	2027	100,000	-	98,766	1,234	309		926	880	46
4	Water Model and Related Studies (\$50,000/yr)	2019-2028	500,000	-	493,828	6,172	1,543		4,629	4,398	231
5	D.C. Technical Study	2023	37,500	-	37,037	463	-		463	440	23
6	D.C. Technical Study	2028	37,500	-	37,037	463	-		463	440	23
7	New Asset Supply/Linear	2020-2028	1,377,000	-	1,273,912	103,088	92,651		10,437	9,915	522
	Reserve Fund Balance								(90,121)	(85,615)	(4,506)
	Reserve Fund Adjustment								70,602	67,071	3,530
	Total		2,852,000	-	2,730,703	121,297	101,777	-	-	-	-



Infrastructure Costs Covered in the D.C. Calculation – Drumbo Wastewater Services

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 95%	Non-Residential Share 5%
1	Drumbo WWTP	2019-2020	4,490,000	2,268,807		2,221,193	1,496,663		724,530	688,304	36,227
2	SCADA Master Plan	2019-2023	600,000	-	592,593	7,407	6,657		750	712	37
3	W/WW Master Plan	2022-2023	200,000	-	197,531	2,469	617		1,852	1,759	93
4	W/WW Master Plan	2027	100,000	-	98,766	1,234	309		926	880	46
5	D.C. Technical Study	2023	37,500	-	37,037	463	231		231	220	12
6	D.C. Technical Study	2028	37,500	-	37,037	463	231		231	220	12
	Reserve Fund Balance								(392,840)	(373,198)	(19,642)
	Unfunded Projects/Reserve Fund Adjustment								(70,718)	(67,182)	(3,536)
	Total		5,465,000	2,268,807	962,964	2,233,230	1,504,709	-	264,962	251,714	13,248



Infrastructure Costs Covered in the D.C. Calculation – Tavistock Water Services

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 88%	Non-Residential Share 12%
1	Well 4 - Study and Construction	2019-2021	1,100,000	-		1,100,000	275,000		825,000	726,000	99,000
2	SCADA Master Plan	2019-2023	600,000	-	571,869	28,131	25,424		2,707	2,382	325
3	W/WW Master Plan	2022-2023	200,000	-	190,623	9,377	2,344		7,033	6,189	844
4	W/WW Master Plan	2027	100,000	-	95,312	4,688	1,172		3,516	3,094	422
5	Water Model and Related Studies (\$50,000/yr)	2019-2028	500,000	-	476,558	23,442	5,861		17,582	15,472	2,110
6	D.C. Technical Study	2023	37,500	-	35,742	1,758	-		1,758	1,547	211
7	D.C. Technical Study	2028	37,500	-	35,742	1,758	-		1,758	1,547	211
8	New Asset Supply/Linear	2020-2028	1,377,000	-	985,479	391,521	353,845		37,676	33,154	4,521
	Reserve Fund Balance								(580,118)	(510,504)	(69,614)
	Total		3,952,000	-	2,391,324	1,560,676	663,646	-	316,912	278,883	38,029



Infrastructure Costs Covered in the D.C. Calculation – Tavistock Wastewater Services

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 88%	Non-Residential Share 12%
1	NPV Principal Payments - Lagoon Upgrade	2019-2026	1,710,618	-		1,710,618	684,247		1,026,371	903,206	123,164
2	NPV Principal Payments - Lagoon Upgrade	2019-2026	303,873	-		303,873	121,549		182,324	160,445	21,879
3	NPV Principal Payments - Tavistock WWTP	2018-2033	398,718	-		398,718	159,487		239,231	210,523	28,708
4	NPV Interest Payments - Tavistock WWTP	2018-2033	131,140	-		131,140	52,456		78,684	69,242	9,442
5	SCADA Master Plan	2019-2023	600,000	-	571,869	28,131	25,424		2,707	2,382	325
6	W/WW Master Plan	2022-2023	200,000	-	190,623	9,377	2,344		7,033	6,189	844
7	W/WW Master Plan	2027	100,000	-	95,312	4,688	1,172		3,516	3,094	422
8	D.C. Technical Study	2023	37,500	-	35,742	1,758	-		1,758	1,547	211
9	D.C. Technical Study	2028	37,500	-	35,742	1,758	-		1,758	1,547	211
	Reserve Fund Balance								(79,294)	(69,779)	(9,515)
	Unfunded Projects								1,399,483	1,231,545	167,938
	Total		3,519,349	-	929,287	2,590,062	1,046,680	-	2,863,571	2,519,943	343,629



Infrastructure Costs Covered in the D.C. Calculation – Norwich Water Services

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 86%	Non-Residential Share 14%
1	SCADA Master Plan	2019-2023	600,000	-	577,242	22,758	21,405		1,353	1,163	189
2	W/WW Master Plan	2022-2023	200,000	-	192,414	7,586	1,897		5,690	4,893	797
3	W/WW Master Plan	2027	100,000	-	96,207	3,793	948		2,845	2,446	398
4	Water Model and Related Studies (\$50,000/yr)	2019-2028	500,000	-	481,035	18,965	4,741		14,224	12,232	1,991
5	D.C. Technical Study	2023	37,500	-	36,078	1,422	-		1,422	1,223	199
6	D.C. Technical Study	2028	37,500	-	36,078	1,422	-		1,422	1,223	199
7	New Asset Supply/Linear	2020-2028	1,377,000	-	1,060,258	316,742	297,914		18,828	16,192	2,636
	Reserve Fund Balance								(84,552)	(72,715)	(11,837)
	Unfunded Projects								402,356	346,026	56,330
	Total		2,852,000	-	2,479,311	372,689	326,905	-	363,588	312,685	50,902



Infrastructure Costs Covered in the D.C. Calculation – Norwich Wastewater Services

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 86%	Non-Residential Share 14%
1	WWTP Expansion	2020-2023	4,940,000	1,370,807		3,569,193	-		3,569,193	3,069,506	499,687
2	SCADA Master Plan	2019-2023	600,000	-	577,242	22,758	21,405		1,353	1,163	189
3	W/WW Master Plan	2022-2023	200,000	-	192,414	7,586	1,897		5,690	4,893	797
4	W/WW Master Plan	2027	100,000	-	96,207	3,793	948		2,845	2,446	398
5	D.C. Technical Study	2023	37,500	-	36,078	1,422	-		1,422	1,223	199
6	D.C. Technical Study	2028	37,500	-	36,078	1,422	-		1,422	1,223	199
	Reserve Fund Balance								(1,910,456)	(1,642,992)	(267,464)
	Total		5,915,000	1,370,807	938,018	3,606,175	24,250	-	1,671,469	1,437,463	234,006



Infrastructure Costs Covered in the D.C. Calculation – Thamesford Water Services

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 91%	Non-Residential Share 9%
1	Thames - Additional Supply	2019	204,000	-		204,000	-		204,000	185,640	18,360
2	SCADA Master Plan	2019-2023	600,000	-	585,800	14,200	13,305		895	815	81
3	W/WW Master Plan	2022-2023	200,000	-	195,267	4,733	1,183		3,550	3,230	319
4	W/WW Master Plan	2027	100,000	-	97,633	2,367	592		1,775	1,615	160
5	Water Model and Related Studies (\$50,000/yr)	2019-2028	500,000	-	488,167	11,833	2,958		8,875	8,076	799
6	D.C. Technical Study	2023	37,500	-	36,613	887	-		887	808	80
7	D.C. Technical Study	2028	37,500	-	36,613	887	-		887	808	80
8	New Asset Supply/Linear	2020-2028	1,377,000	-	1,179,370	197,630	185,171		12,459	11,337	1,121
	Reserve Fund Balance								(23,828)	(21,683)	(2,144)
	Reserve Fund Adjustments/Unfunded Projects								594,742	541,215	53,527
	Total		3,056,000	-	2,619,462	436,538	203,209	-	804,243	731,861	72,382



Infrastructure Costs Covered in the D.C. Calculation – Thamesford Wastewater Services

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 91%	Non-Residential Share 9%
1	SCADA Master Plan	2019-2023	600,000	-	585,800	14,200	13,305		895	815	81
2	W/WW Master Plan	2022-2023	200,000	-	195,267	4,733	1,183		3,550	3,230	319
3	W/WW Master Plan	2027	100,000	-	97,633	2,367	592		1,775	1,615	160
4	D.C. Technical Study	2023	37,500	-	36,613	887	-		887	808	80
5	D.C. Technical Study	2028	37,500	-	36,613	887	-		887	808	80
	Reserve Fund Balance								(229,334)	(208,694)	(20,640)
	Reserve Fund Adjustments/Unfunded Projects								221,339	201,418	19,921
	Total		975,000	-	951,925	23,075	15,080	-	-	-	-



Infrastructure Costs Covered in the D.C. Calculation – Mount Elgin Water Services

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 88%	Non-Residential Share 12%
1	Mt Elgin Graydon Well	2019-2020	1,780,920	471,037		1,309,883	593,640		716,243	630,294	85,949
2	SCADA Master Plan	2019-2023	600,000	-	586,798	13,202	12,407		795	699	95
3	W/WW Master Plan	2022-2023	200,000	-	195,599	4,401	1,100		3,300	2,904	396
4	W/WW Master Plan	2027	100,000	-	97,800	2,200	550		1,650	1,452	198
5	Water Model and Related Studies (\$50,000/yr)	2019-2028	500,000	-	488,998	11,002	10,339		662	583	79
6	D.C. Technical Study	2023	37,500	-	36,675	825	-		825	726	99
7	D.C. Technical Study	2028	37,500	-	36,675	825	-		825	726	99
8	New Asset Supply/Linear	2020-2028	1,377,000	-	1,193,258	183,742	172,681		11,062	9,734	1,327
	Total		4,632,920	471,037	2,635,803	1,526,081	790,717	-	735,363	647,120	88,244



Infrastructure Costs Covered in the D.C. Calculation – Mount Elgin Wastewater Services

Prj.No	Increased Service Needs Attributable to Anticipated Development 2019-2028	Timing (year)	Gross Capital Cost Estimate (2019\$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 88%	Non-Residential Share 12%
1	WW Servicing	2019-2020	356,773	-		356,773	356,773		-	-	-
2	SCADA Master Plan	2019-2023	600,000	-	586,798	13,202	12,407		795	699	95
3	W/WW Master Plan	2022-2023	200,000	-	195,599	4,401	1,100		3,300	2,904	396
4	W/WW Master Plan	2027	100,000	-	97,800	2,200	550		1,650	1,452	198
5	D.C. Technical Study	2023	37,500	-	36,675	825	-		825	726	99
6	D.C. Technical Study	2028	37,500	-	36,675	825	-		825	726	99
	Total		1,331,773	-	953,547	378,226	370,830	-	7,396	6,508	887