



Fiscal Impact Assessment

Township of Cavan Monaghan

Proposed Development of Towerhill Phase 2

October 25, 2018

Watson & Associates Economists Ltd.
905-272-3600
info@watsonecon.ca

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1. Introduction

1.1 Terms of Reference

The Township of Cavan Monaghan (“Township”) requires Towerhill Development Inc. to submit a fiscal impact analysis for their proposed subdivision. Towerhill has requested that Watson & Associates Economists Ltd. undertake a fiscal analysis of the impact of this development on the Township. This analysis is to assess the impact of this development on services provided by the Township and determine the capital and operating expenditure implications along with the anticipated revenues to be generated from this development.

The proposed development is a residential subdivision in the Millbrook area of the Township, located on the west side of County road 10 and north of Fallis Line. The subdivision would include a mix of single-detached homes, townhomes, and apartments. The development would consist of the following components:

- 74 units of 52’ Single Detached Homes;
- 148 units of 45’ Single Detached Homes;
- 138 units of 35’ Single Detached Homes;
- 244 units of Townhomes;
- 192 units of Apartments;
- 1.313 hectares of Parks, Open Space & Walkways;
- Approximately 4.84 kilometres of roads; and
- Stormwater Management Facility.

1.2 Approach

The approach utilized in this analysis is consistent with the methodology devised by the firm and used for over 30 years to evaluate fiscal impact for more than three dozen landowners, the Ministry of Municipal Affairs, the Ontario Land Corporation, Canada Mortgage and Housing Corporation (C.M.H.C.), and municipalities such as Oakville, Burlington, Halton Hills, Caledon, York Region, East Gwillimbury, Collingwood, Durham



Region, Pickering, Haldimand-Norfolk, Halton Region, Georgian Bay Township, as well as previous fiscal impact studies in Cavan Monaghan.

Essentially, the methodology involves an operating and capital cost analysis. The operating cost analysis involves calculating the municipality's tax and water/wastewater rates calculation with the addition of the subject development. Note that for the purposes of this analysis, we have used 2017 Financial Information Return (F.I.R.) data as it provides the most up to date data on actual spending and received revenues for the Township. For the evaluation, revenues and expenditures attributable to the development are estimated on an incremental basis. That is, revenue and expenditure dollars are assigned to the project, only in accordance with anticipated variations it would create from the 2017 base year, if it had been built out, as of that time. Sunk costs are ignored and service levels are planned as remaining generally constant.

The capital cost analysis discusses the funding sources available to the Township. The financing methods selected and the resultant charges involved are variable, depending on ultimate servicing solutions, municipal financial policy decisions and detailed benefiting area calculations.



2. Development Description

2.1 Introduction

This chapter of the report describes the proposal with respect to those matters most relevant to a fiscal impact assessment – land use, building area, development units, number of residents and employees and rate of development, as well as existing and replacement (i.e. future) assessment.

2.2 Development Proposal

The development, proposed by Towerhill Development Inc., is for a subdivision located in the Millbrook area of the Township, located on the west side of County road 10 and north of Fallis Line. This proposed development is adjacent to (North side) the recently approved Towerhill subdivision.

The overall development will include the following units:

- 74 units of 52' Single Detached Homes;
- 148 units of 45' Single Detached Homes;
- 138 units of 35' Single Detached Homes;
- 244 units of Townhomes;
- 192 units of Apartments;

Table 2-1 provides for a summary of the proposed development. Figure 2-1 provides a map of the proposed development.

Phasing of this development has not been provided, therefore the analysis will be provided based on the buildout of the development. Table 2-2 provides the estimated population arising from this development.



Table 2-1
Towerhill Phase 2
Summary of Proposed Development

Type Description	Number of Units
Single-Detached Dwellings (52')	74
Single-Detached Dwellings (45')	148
Single-Detached Dwellings (35')	138
Townhomes	244
Apartments	192
Total	796



Figure 2-1
Towerhill Phase 2
Map of Draft Plan of Subdivision

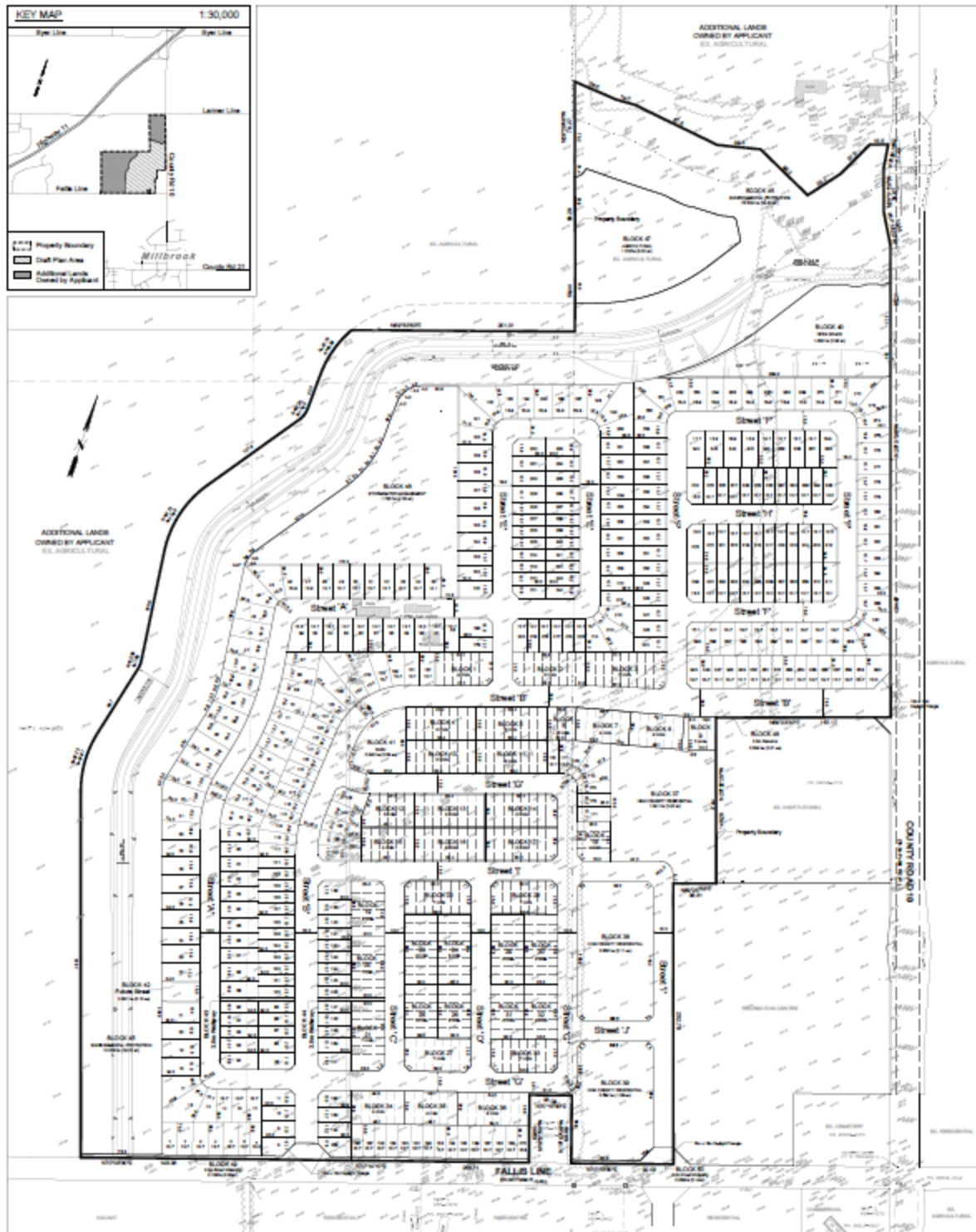




Table 2-2
Towerhill Phase 2
Growth Forecast

Type Of Units	Population Increment
	Number of Units
Single-Detached Dwellings (52')	237
Single-Detached Dwellings (45')	474
Single-Detached Dwellings (35')	442
Townhomes	508
Apartments	273
Total	1,934

**Based on Single Detached PPU of 3.20, Multiple PPU of 2.08, and Apartment PPU of 1.42 as provided in the Township's June 5, 2015 DC Background Study*

2.3 Assessment Assumptions

As the new development is constructed, the Township will receive additional assessment arising from the completion of the units. Table 2-3 provides for the estimated new assessment to be generated from the development. This estimated assessment was calculated based upon a similar process completed in recent studies. The steps undertaken in the recent study were as follows:

- Estimated ranges of sales prices, by unit type, were provided by the developing landowner. The average of the ranges was used.
- Due to a lack of comparable units within Cavan Monaghan, a survey of sales prices and assessments for single detached homes, townhomes, and apartments in the Peterborough area was undertaken.
- The average assessment values for single detached homes from Peterborough were applied to the 35' lots, as the average lot sizes from the Peterborough survey were approximately 38' lots.
 - For the 45' and 52' lots, the relationship between the sales price and average assessment value from the 35' lots was used to estimate the assessment for those lots, based on a proportionate share of their respective sale prices.
- Due to a lack of comparable townhomes within the survey, the same method of estimating the assessment for the 45' and 52' lot singles were applied to the townhomes.
- The average assessment values for apartments from Peterborough was used.



- The total assessment value (which will form the basis for the property tax revenue) was calculated using the estimated average assessment per unit multiplied by the number of units for each development type.

Table 2-3
Towerhill Phase 2
Basis of Assessment Estimates

Unit Type	Number of Units	Estimated Average Selling Price per Unit ²	Estimated Assessment per Unit ^{1,3,4,5}	Assessed Value (2017 \$)
Single-Detached Dwellings (52')	74	679,000	402,000	\$29,748,000
Single-Detached Dwellings (45')	148	621,500	368,000	\$54,464,000
Single-Detached Dwellings (35')	138	594,000	352,000	\$48,576,000
Townhomes	244	459,500	272,000	\$66,368,000
Apartments	192	N/A	185,000	\$35,520,000
Total	796			\$234,676,000

1 The assessed value is based on the assessment per unit utilized in recent Fiscal Impact Studies for developments in the Millbrook area. As home prices have increased dramatically in the past few years, utilizing an analysis of the historical relationship between sales prices and assessment may not provide accurate results. The above provides for a conservative estimate.

2 The sale price was provided by the developer as an estimate for singles, semis, and townhouses (using the average of the ranges). The sales price for apartments has not been provided at this time.

3 The assessed value for 35' Singles is based a survey of assessed values for recently constructed homes in Peterborough.

4 The assessed values for 52' Singles, 45' Singles, and Townhouses are based on the relationship between the 35' single-detached dwelling assessed value and anticipated sales price.

5 The assessed value for Apartments is based a survey of assessed values for recently constructed condominium apartments in Peterborough.



3. Impact on the Township of Cavan Monaghan Capital Program

3.1 Introduction

The Township's capital budget consists predominantly of non-growth-related capital projects. It is noted that some level of capital spending for growth has been made but more intermittently from year to year. The Township's residential and non-residential share of growth-related costs are partially funded from development charges.

Non-growth-related capital expenditures, which cover repairs, replacements, non-recoverable DC items, etc., are financed from existing reserves/reserve funds, operating budget transfers, debt, grant/ subsidies (when available) and related sources.

For the following analysis, as well as the lifecycle cost analysis in Chapter 5, the "Functional Servicing Report" completed by Valdor Engineering was used. This report identified the works required for the development for water, wastewater, stormwater, and roads.

3.2 Direct Development-related Capital Costs

The following provides an overview of the capital needs and commentary on the impact of this development on Township services:

Roads:

- The development includes approximately 4.84 kilometres of local (internal) roads within the site plan (0.88 kilometres of the total amount is related to an internal collector road). Under the Township's local service policy, the development of these roads is a direct developer responsibility and will be fully funded by the developer.
- As previously described, the proposed development is adjacent to Fallis Line and County Road 10 and is directly north of the recently constructed Towerhill subdivision. The plan has identified one entrance connecting to Fallis Line and one entrance connecting to County Road 10. Urbanization of Fallis Line – County Road 10 Westerly has been identified in the Township's Development



Charges Background Study which will accommodate growth in the area of the development. The project cost has been identified as \$500,000, with \$400,000 being a developer contribution. Therefore \$100,000 of the cost will come from development charges. It is assumed that the Towerhill development to the south will be responsible for urbanizing Fallis Line up to their westerly property line.

- Once the subdivision is assumed by the Township, maintenance and winter control costs will be borne by the Township.
- Sidewalks are assumed to be developed on one side of each local road within the development. It is assumed that the collector road that runs through the proposed development will have a sidewalk on both sides. Under the Township's local service policy, these sidewalks will be a direct developer responsibility.

Parkland:

- The plan of subdivision provided in Figure 2-1 provides for 1.035 hectares of open space and 0.240 hectares of parkland for 792 units.
- In regard to parkland requirements, the Township's Official Plan provides: "For residential development, redevelopment or plans of subdivision providing for low, medium and/or high density uses, conveyance or dedication shall be either equal to 5 percent of the land proposed for development, redevelopment or subdivision or 1 hectare per 300 dwelling units, whichever is greater".
- It has been identified through discussions with Township staff that additional land for park purposes have been dedicated to provide (in part) a land base for the proposed recreation centre.

Stormwater Management:

- The proposed development includes a stormwater management pond, along with stormwater mains within the local roads. The stormwater mains are assumed to be the same length as that of the roads, which equals 4.84 kilometres. The area associated with the pond is 1.733 hectares as noted in the draft plan of subdivision (Figure 2-1). Under the Township's local service policy, quality and quantity works are a direct developer responsibility.

Water:



- The proposed development is assumed to include 4.84 kilometres of local mains to service the units (estimated based on the length of the roads). Of this amount, 3.97 kilometres are 200mm mains for the local roads and 0.88 kilometres are 250mm mains for the internal collector road. Under the Township's local service policy these works would be considered a direct developer responsibility (as these mains are assumed to be 300 mm or less).
- The watermain within the proposed Towerhill Phase 2 development will connect with the existing Towerhill development (which is located south of Fallis Line) at several locations. As well, there are existing mains along County Road 10 which were identified in the Township's D.C., which have been constructed.

Wastewater:

- The proposed development is assumed to include 4.84 kilometres of local mains to service the units (estimated based on the length of the roads). Of this amount, 3.97 kilometres are 200mm mains for the local roads and 0.88 kilometres are 375mm mains for the internal collector road. Under the Township's local service policy these works would be considered a direct developer responsibility (as these mains are assumed to be 375 mm or less).
- The sanitary trunk main for the Towerhill development has been identified in the Township's D.C. study.

3.3 Indirect Development-related Capital Costs

The Township's D.C. background study identified a forecasted growth of 2,460 population in the Millbrook area and 2,957 in the Township over their forecast period. As the proposed development includes a forecast population of 1,934 (based on the P.P.U.s provided in the D.C. study), this amounts to 78.6% of the forecast period development for the Millbrook area and 65.4% of the development anticipated in the Township. The development charge provides for services which are external to the development to which a broader benefit is to be derived. An overview of the services is provided below.

Roads and Related:

- The Township's D.C. background study has identified a number of roads and sidewalks to be constructed due to growth. As development occurs throughout



the Township, the need for these projects will be required. Further, a depot at the Cavan Works Yard, a tandem dump truck/plow, and a bobcat have been identified to facilitate the road-related needs due to growth.

Fire Protection:

- The expansion of the new Fire hall Number 1 should be sufficient to accommodate this proposed development.

Police Services:

- The D.C. makes provision for additional police building space and equipment commensurate with growth. Hence, as growth occurs, further capital needs will be identified and acquired.

Parks and Recreation:

- The construction of the Community Centre/ Arena anticipated over the next few years would be sufficient to service the additional population growth resulting from the new development.

Library Services:

- The D.C. makes provision for additional library space and to expand collection materials. As development throughout the Township occurs, this will facilitate the additional capital needs.

Water Services:

- The D.C. makes provision for a number of waterworks to service the Millbrook area. These works include a standby generator, radio meter reading, standpipe, watermain, SCADA system upgrades, engineering, and studies.

Wastewater Services:

- The D.C. makes provision for a number of wastewater works to service the Millbrook area. These works include rehabilitation of Millbrook collection system, wastewater treatment plant expansion and pumping station, sanitary sewer works, SCADA system upgrades, engineering, and studies.



3.4 Township's Development Charge Policies

Based on the Township's Development Charge By-law (2015-38, as amended) and the rates currently imposed (as of April 3, 2018), the following development charge collections are expected:

Residential	Number of Units	Development Charges
Single-Detached Dwellings (52')	74	1,412,370
Single-Detached Dwellings (45')	148	2,824,740
Single-Detached Dwellings (35')	138	2,633,879
Townhomes	244	3,027,308
Apartments	192	1,752,243
Total	796	11,650,540

As noted in the previous section, this development accounts for approximately 65.4% of the growth anticipated over the forecast period for the Township. The growth attributed to this development was considered as part of the D.C. growth forecast. Given the level of residential building activity within Millbrook, Cavan Monaghan may need to address the additional servicing needs for a higher population forecast.



4. Impact on the Township of Cavan Monaghan's Operating Budget

4.1 Introduction

This chapter examines the potential impact of the subdivision proposal (at buildout) on the Township's operating budget. This is done by examining the revenue and expenditure implications separately, and then together with reference to net operating position. An additional analysis has been carried out to include lifecycle costs resulting from works required by this development. In the analysis below, the resultant impact on water and wastewater services in the Township is calculated separately.

4.2 Operating Expenditure Implications

Table 4-1 summarizes the Township's "Revenue Fund" or "Operating Fund" transactions for 2017 (based on the Township's Financial Information Return (F.I.R.)). This represents a simple "model" of the Township's financial position for the operating fund and provides the structure of the financial impact analysis contained in this chapter.

Table 4-2 modifies the operating expenditures shown in Table 4-1 by netting "Interest on Long Term Debt", "External Transfers", and "Amortization" from the total. The debt charges are for "sunk" investments, unaffected by growth. The external transfers can vary significantly from year to year and relate largely to capital expenditures and general reserves, which are addressed separately in this analysis. Further, amortization is an accounting allocation which seeks to capture annual replacement costs. As this is based on historical costs, a separate analysis on lifecycle expenditures (based on future replacement cost) is conducted later in this report. It is therefore appropriate to remove these three classes of expenditures from the spending base, before determining incremental loss and/or average operating fund spending levels per capita and employee.

Table 4-3 allocates the Township's existing operating expenditure components between the needs of residential development and non-residential development (i.e. industrial, commercial and institutional), based on differences in the amount of such development



and the need for particular types of services in each case. The expenditure allocation is then presented on a per household/per employee basis. The expenditures are divided between residential and non-residential development based on varying proportions for each service. Most expenditures have been shared on a population-to-employment basis. As the 2017 population is 8,942 and the 2017 employment is 2,200, these costs are split approximately 80%/20%. For solid waste collection, waste diversion, parks and recreation, and libraries, a minor allocation has been provided to non-residential development which acknowledges some usage by the non-residential sector (5%). In regard to water and wastewater services, the expenditures have been calculated on a per customer basis. The number of customers for the water and wastewater systems is based on the Township's 2018 water and wastewater rate study.

Table 4-4 assesses each of the Township's key service components in relation to the proposed development, to determine how the operating costs are likely to be impacted, based on the characteristics and location of the subject development.



Table 4-1
Towerhill Phase 2
Summary of Consolidated Expenditures, Revenues, and Tax Rates
2017 F.I.R. Data ('000's \$)

Summary of Consolidated Expenditures, Revenues, and Tax Rates 2017	General Levy
1. GROSS EXPENDITURES	
1.1 General Government	1,447.7
1.2 Fire	832.3
1.3 Police	1,207.8
1.4 Conservation Authority	343.6
1.5 Protective Inspection and Control	33.9
1.6 Building Permit and Inspection Services	175.1
1.7 Emergency Measures	3.8
1.8 Other: Truck	0.0
1.9 Roadways & Winter Control	2,899.8
1.10 Parking	0.0
1.11 Street Lighting	20.6
1.12 Other: Other	10.3
1.13 Wastewater Collection/Conveyance	44.0
1.14 Wastewater Treatment & Disposal	1,443.0
1.15 Urban Storm Sewer System	0.0
1.16 Rural Storm Sewer System	0.0
1.17 Water Treatment	180.0
1.18 Water Distribution/Transmission	261.4
1.19 Solid Waste Collection	73.5
1.20 Solid Waste Disposal	188.5
1.21 Waste Diversion	4.1
1.22 Other: Risk management	14.7
1.23 Parks	233.2
1.24 Recreation Facilities	414.8
1.25 Libraries	341.2
1.26 Other: Recreation and BIA	0.0
1.27 Planning and Zoning	258.3
1.28 Commercial and Industrial	165.3
1.29 Other: Truck	0.0
Total Gross Expenditures	10,597.2
2. REVENUES	
2.1 Payment in Lieu of Taxes	24.2
2.2 Unconditional Grants	494.5
2.3 Specific Grants - Operating	207.6
2.4 Specific Grants - Capital	297.9
2.5 Revenue from Other Municipalities	4.9
2.6 Total User Fees and Service Charges	1,942.1
2.7 Licenses, Permits, Rents etc.	36.7
2.8 Fines and Penalties	176.4
2.9 Investment Income	253.5
2.10 Gain/Loss on sale of land & Capital Assets	(82.9)
2.11 Deferred Revenue	379.9
2.12 Donations	17.6
2.13 Gaming and Casino Revenues	3,111.1
2.14 Other: Other revenue	131.8
2.15 Supplementary Taxes	74.7
2.16 BIA Revenues	32.9
2.17 (Surplus) / Deficit	(3,553.9)
Total Revenues	3,549.1
NET EXPENDITURES	7,048.1
3. PROPERTY TAXATION	7,048.1



Table 4-1 con't
Towerhill Phase 2
Summary of Consolidated Expenditures, Revenues, and Tax Rates
2017 F.I.R. Data ('000's \$)

Tax Classes	General Levy		
	Market Assessment	Tax Ratio	Weighted Assessment
4 <u>CALCULATION OF TAX RATES</u> <u>Weighted Assessment (000's)</u>			
4.1 Residential Assessment (RT)	965,062.6	1.0000	965,062.6
4.2 Multi-Residential Assessment (MT)	3,252.8	1.7802	5,790.5
4.3 Commercial Assessment (CT, CU, CX, CJ, XT)	78,383.0	1.0986	86,111.6
4.4 Industrial Assessment (IT, IH, IU, IX, JT)	7,920.6	1.5432	12,223.0
4.5 Pipeline Assessment (PT)	6,555.8	0.9386	6,153.2
4.6 Farmland and Managed Forest (FT, TT)	140,736.1	0.2500	35,184.0
4.7 Total Weighted Assessment (000's)	1,201,910.7		1,110,525.0
4.8 2017 Residential Tax Rate (RT)			0.619750%
4.9 2017 Multi-Residential Tax Rate (MT)			1.103279%
4.10 2017 Commercial Full Occupied Tax Rate (CT, XT)			0.956399%
4.11 2017 Commercial Excess and Vacant Land Tax Rate (CU, CX, CJ)			0.476600%
4.12 2017 Industrial Full Occupied Tax Rate (IT, IH, JT)			0.956399%
4.13 2017 Industrial Excess and Vacant Land Tax Rate (IU, IX)			0.621659%
4.14 2017 Pipeline Tax Rate (PT)			0.581698%
4.15 2017 Farmland and Managed Forest Tax Rate (FT, TT)			0.154938%

Source: Township of Cavan Monaghan 2017 Financial Information Return



Table 4-2
Towerhill Phase 2
Summary of Net Operating Expenditures for 2017

Category	Total Gross Expenditures	Interest on Long Term Debt	External Transfers	Amortization	Net Operating Expenditures
1.1 General Government	1,447,708	-	12,234	193,087	1,242,387
1.2 Fire	832,340	-	-	114,104	718,236
1.3 Police	1,207,817	-	-	-	1,207,817
1.4 Conservation Authority	343,590	-	332,197	-	11,393
1.5 Protective Inspection and Control	33,920	-	-	-	33,920
1.6 Building Permit and Inspection Serv	175,141	-	-	766	174,375
1.7 Emergency Measures	3,792	-	-	-	3,792
1.8 Other: Truck	-	-	-	-	-
1.9 Roadways & Winter Control	2,899,840	-	11,755	1,019,978	1,868,107
1.10 Parking	-	-	-	-	-
1.11 Street Lighting	20,620	-	-	-	20,620
1.12 Other: Other	10,291	-	-	10,291	-
1.13 Wastewater Collection/Conveyance	44,018	-	-	-	44,018
1.14 Wastewater Treatment & Disposal	1,443,038	139,456	-	725,680	577,902
1.15 Urban Storm Sewer System	-	-	-	-	-
1.16 Rural Storm Sewer System	-	-	-	-	-
1.17 Water Treatment	179,999	-	-	-	179,999
1.18 Water Distribution/Transmission	261,438	-	-	-	261,438
1.19 Solid Waste Collection	73,494	-	-	-	73,494
1.20 Solid Waste Disposal	188,464	-	-	-	188,464
1.21 Waste Diversion	4,062	-	-	-	4,062
1.22 Other: Risk management	14,749	-	-	-	14,749
1.23 Parks	233,226	-	-	-	233,226
1.24 Recreation Facilities	414,755	-	-	-	414,755
1.25 Libraries	341,181	-	-	39,675	301,506
1.26 Other: Recreation and BIA	-	-	-	-	-
1.27 Planning and Zoning	258,337	-	-	-	258,337
1.28 Commercial and Industrial	165,347	-	-	919	164,428
1.29 Other: Truck	-	-	-	-	-
TOTAL	10,597,167	139,456	356,186	2,104,500	7,997,025



Table 4-3
Towerhill Phase 2
Average Cost per Capita and Employee

Category	Total Net Operating Expenditure	Residential Share		Cost Per Capita	Non-Residential Share		Cost Per Employee
		%	\$		%	\$	
1. Expenditures							
1.1 General Government	1,242,387	80%	997,076	111.50	20%	245,311	111.50
1.2 Fire	718,236	80%	576,420	64.46	20%	141,817	64.46
1.3 Police	1,207,817	80%	969,332	108.40	20%	238,485	108.40
1.4 Conservation Authority	11,393	80%	9,143	1.02	20%	2,250	1.02
1.5 Protective Inspection and Control	33,920	80%	27,223	3.04	20%	6,698	3.04
1.6 Building Permit and Inspection Services	174,375	80%	139,945	15.65	20%	34,431	15.65
1.7 Emergency Measures	3,792	80%	3,043	0.34	20%	749	0.34
1.8 Other: Truck	0	80%	0	0.00	20%	0	0.00
1.9 Roadways & Winter Control	1,868,107	80%	1,499,247	167.66	20%	368,860	167.66
1.10 Parking	0	80%	0	0.00	20%	0	0.00
1.11 Street Lighting	20,620	80%	16,549	1.85	20%	4,071	1.85
1.12 Other: Other	0	80%	0	0.00	20%	0	0.00
1.15 Urban Storm Sewer System	0	80%	0	0.00	20%	0	0.00
1.16 Rural Storm Sewer System	0	80%	0	0.00	20%	0	0.00
1.19 Solid Waste Collection	73,494	95%	69,819	7.81	5%	3,675	1.67
1.20 Solid Waste Disposal	188,464	80%	151,252	16.91	20%	37,212	16.91
1.21 Waste Diversion	4,062	95%	3,859	0.43	5%	203	0.09
1.22 Other: Risk management	14,749	80%	11,837	1.32	20%	2,912	1.32
1.23 Parks	233,226	95%	221,565	24.78	5%	11,661	5.30
1.24 Recreation Facilities	414,755	95%	394,017	44.06	5%	20,738	9.43
1.25 Libraries	301,506	95%	286,431	32.03	5%	15,075	6.85
1.26 Other: Recreation and BIA	0	0%	0	0.00	100%	0	0.00
1.27 Planning and Zoning	258,337	80%	207,328	23.19	20%	51,009	23.19
1.28 Commercial and Industrial	164,428	0%	0	0.00	100%	164,428	74.74
1.29 Other: Truck	0	80%	0	0.00	20%	0	0.00
Subtotal	6,933,668		5,584,085	624.45		1,349,583	613.42
1.13 Wastewater Collection/Conveyance ¹	44,018			73.12			73.12
1.14 Wastewater Treatment & Disposal ¹	577,902			959.97			959.97
1.17 Water Treatment ¹	179,999			293.16			293.16
1.18 Water Distribution/Transmission ¹	261,438			425.79			425.79
Subtotal	1,063,357			1,752.04			1,752.04
TOTAL	7,997,025			2,376.49			2,365.46

2017 Population Estimate 8,942 80%
2017 Employment Estimate 2,200 20%

¹ water and wastewater calculated on a per customer basis

2017 Water Customers 614
2017 Wastewater Customers 602



Table 4-4a
Towerhill Phase 2
Operating Expenditures – Growth Sensitivity Analysis (Tax Supported)
(2017 \$)

Expenditure Category		RESIDENTIAL		
		Net Expenditure per Capita	Growth Share %	Net Expenditure Recast
1.1	General Government	111.50	25%	27.88
1.2	Protection to Person and Property			
	1.2.1 Fire	64.46	100%	64.46
	1.2.2 Police	108.40	100%	108.40
	1.2.3 Conservation Authority	1.02	100%	1.02
	1.2.4 Protective Inspection and Control	3.04	100%	3.04
	1.2.5 Building Permit and Inspection Service	15.65	100%	15.65
	1.2.6 Emergency Measures	0.34	100%	0.34
	1.2.7 Other: Truck	-	0%	-
1.3	Transportation Services			
	1.3.1 Roadways & Winter Control	167.66	75%	125.75
	1.3.2 Parking	-	0%	-
	1.3.3 Street Lighting	1.85	75%	1.39
1.4	Environmental Services			
	1.4.1 Urban Storm Sewer System	-	0%	-
	1.4.2 Rural Storm Sewer System	-	0%	-
	1.4.3 Solid Waste Collection	7.81	100%	7.81
	1.4.4 Solid Waste Disposal	16.91	100%	16.91
	1.4.5 Waste Diversion	0.43	100%	0.43
	1.4.6 Other: Risk management	1.32	100%	1.32
1.5	Recreation and Cultural Services			
	1.5.1 Parks	24.78	75%	18.59
	1.5.2 Recreation Facilities	44.06	100%	44.06
	1.5.3 Libraries	32.03	100%	32.03
	1.5.4 Other: Recreation and BIA	-	0%	-
1.6	Planning and Development			
	1.6.1 Planning and Zoning	23.19	100%	23.19
	1.6.2 Commercial and Industrial	-	0%	-
	1.6.3 Other: Truck	-	0%	-
TOTAL		624.45		492.27

Source: Township of Cavan Monaghan 2017 Financial Information Return



Table 4-4b
Towerhill Phase 2
Operating Expenditures – Growth Sensitivity Analysis (Rate Supported)
(2017 \$)

Expenditure Category	RESIDENTIAL		
	Net Expenditure per Customer	Growth Share %	Net Expenditure Recast
1.7 Water and Wastewater			
1.7.1 Wastewater Collection/Conveyance	73.12	100%	73.12
1.7.2 Wastewater Treatment & Disposal	959.97	100%	959.97
1.7.3 Water Treatment	293.16	100%	293.16
1.7.4 Water Distribution/Transmission	425.79	100%	425.80
TOTAL	1,752.04		1,752.05

The “Growth Share %” column denotes a particular percentage factor in each case. This factor reflects any variation from the current overall average per household expenditure level, which is called for in dealing with a development increment. For instance, if the average existing expenditure for a service is \$100 per household, economies of scale or other efficiencies, may indicate that service costs for the growth increment alone are likely to be lower than average, say 90% (or \$90 per capita), while being unaltered for the base population. This determination has been based on analysis of the municipality’s budget, discussions with Township staff, other relevant studies prepared as part of this process, facility configuration, practice elsewhere, and the consultant’s experience. The provisions made are considered to be adequate with respect to the proposed development and existing service capacity in the Township.

These percentage attributions are used to compute average incremental operating costs per household and per employee, which is reflected in the “Net Expenditure” column. The per household and employee expenditure averages are utilized, subsequently, to estimate the incremental expenditure requirement generated by growth.

Based on the analysis provided in Tables 4-4a and 4-4b, the forecast of annual expenditures has been undertaken. Tables 4-5a and 4-5b provide for the per household and per employee amount multiplied by the assumed growth take-up as provided in Table 2-2. The total line provides for the product of this calculation.



Table 4-5a
Towerhill Phase 2
Operating Expenditures Summary (Tax Supported)
(2017 \$)

Category	Cost Per Capita	Incremental Expenditures (2017 \$)
1. <u>Expenditures</u>		
1.1 General Government	27.88	53,920
1.2 Fire	64.46	124,666
1.3 Police	108.40	209,646
1.4 Conservation Authority	1.02	1,973
1.5 Protective Inspection and Control	3.04	5,879
1.6 Building Permit and Inspection Services	15.65	30,267
1.7 Emergency Measures	0.34	658
1.8 Other: Truck	-	-
1.9 Roadways & Winter Control	125.75	243,201
1.10 Parking	-	-
1.11 Street Lighting	1.39	2,688
1.15 Urban Storm Sewer System	-	-
1.16 Rural Storm Sewer System	-	-
1.19 Solid Waste Collection	7.81	15,105
1.20 Solid Waste Disposal	16.91	32,704
1.21 Waste Diversion	0.43	832
1.22 Other: Risk management	1.32	2,553
1.23 Parks	18.59	35,953
1.24 Recreation Facilities	44.06	85,212
1.25 Libraries	32.03	61,946
1.26 Other: Recreation and BIA	-	-
1.27 Planning and Zoning	23.19	44,849
1.28 Commercial and Industrial	-	-
1.29 Other: Truck	-	-
Total	492.27	952,050



Table 4-5b
Towerhill Phase 2
Operating Expenditures Summary (Rate Supported)
(2017 \$)

Category	Cost Per Customer	Incremental Expenditures (2017 \$)
1. <u>Expenditures</u>		
1.13 Wastewater Collection/Conveyance	73.12	58,204
1.14 Wastewater Treatment & Disposal	959.97	764,136
1.17 Water Treatment	293.16	233,355
1.18 Water Distribution/Transmission	425.80	338,937
Total	1,752.05	1,394,632

4.3 Operating Revenue Implications

Table 4-6 sets out the 2017 non-tax revenues for the Township as outlined in Table 4-1. The table distinguishes the revenues by service specific revenues in section 2.1 (defined as being directly related to individual programs) and those being of a general nature (section 2.2).

Table 4-7 assesses the 2017 non-tax revenues as to those which may be directly affected by growth. Generally, any grants and subsidies have been eliminated and the residual amounts are assessed as to their applicability to growth. The costs are then allocated between households and employees to provide a per household and per employee revenue.

Tables 4-8a and 4-8b assesses the estimated proportionate share of growth in a similar manner as provided in Tables 4-5a and 4-5b. Tables 4-9a and 4-9b then determines the forecast non-tax revenue to be generated annually based on the growth at buildout provided in Table 2-2.



Table 4-6
Towerhill Phase 2
Operating Revenue Summary
(2017 \$)

Category	NON-TAX OPERATING REVENUES (2017 \$)							Total Revenue - FIR 2017
	Ontario Conditional Grants	Canada Conditional Grants	Other Municipalities	User Fees and Service Charges	Ontario Grants - Tangible Capital Assets	Canada Grants - Tangible Capital Assets	User Fees, Service Charges, and Grants	
2. Revenues								
2.1 Service Specific Non-Tax Revenues								
General Government	-	-	-	69,495	-	-	69,495	69,495
Fire	-	-	-	56,054	-	-	56,054	56,054
Protective Inspection and Control	4,390	-	-	-	-	-	4,390	4,390
Building Permit and Inspection Services	-	-	-	183,647	-	-	183,647	183,647
Roadways & Winter Control	53,110	-	4,874	143,312	-	-	196,422	201,296
Wastewater Collection/Conveyance	-	115,000	-	640,439	-	-	755,439	755,439
Wastewater Treatment & Disposal	-	-	-	15,861	-	-	15,861	15,861
Water Distribution/Transmission	-	-	-	408,379	-	-	408,379	408,379
Solid Waste Collection	-	-	-	149,967	-	-	149,967	149,967
Solid Waste Disposal	-	-	-	45,310	-	-	45,310	45,310
Waste Diversion	-	-	-	3,953	-	-	3,953	3,953
Parks	-	6,000	-	9,305	-	-	15,305	15,305
Recreation Facilities	-	-	-	158,976	-	-	158,976	158,976
Libraries	23,642	4,004	-	8,408	-	-	36,054	36,054
Planning and Zoning	-	-	-	40,800	-	-	40,800	40,800
Commercial and Industrial	1,500	-	-	8,154	-	-	9,654	9,654
2.2 Other Non-Tax Revenues								
Payment in Lieu of Taxes								24,238
Unconditional Grants								494,500
Specific Grants - Operating								207,646
Specific Grants - Capital								297,943
Total User Fees and Service Charges								1,942,060
Licenses, Permits, Rents etc.								36,746
Fines and Penalties								176,380
Investment Income								253,525
Gain/Loss on sale of land & Capital Assets								(82,940)
Gaming and Casino Revenues								3,111,089
Other: Other revenue								131,848
Supplementary Taxes								74,669
BIA Revenues								32,862
(Surplus) / Deficit								(3,553,923)
Total	82,642	125,004	4,874	1,942,060	-	-	2,149,706	5,301,223

Source: Township of Cavan Monaghan 2017 Financial Information Return



Table 4-7
Towerhill Phase 2
Non-Tax Operating Revenue Summary
Average Revenue Per Capita and Employee

CATEGORY	Total Net Operating Revenue and Grants	Residential Share		Revenue Per Capita	Non-Residential Share		Revenue Per Employee ²
		%	\$		%	\$	
2. Revenues							
2 <u>Service Specific Non-Tax Revenues</u>							
General Government	69,495	80%	55,773	6.24	20%	13,722	6.24
Fire	56,054	80%	44,986	5.03	20%	11,068	5.03
Protective Inspection and Control	4,390	80%	3,523	0.39	20%	867	0.39
Building Permit and Inspection Services	183,647	80%	147,386	16.48	20%	36,261	16.48
Roadways & Winter Control	196,422	80%	157,638	17.63	20%	38,784	17.63
Solid Waste Collection	149,967	95%	142,469	15.93	5%	7,498	3.41
Solid Waste Disposal	45,310	80%	36,364	4.07	20%	8,947	4.07
Waste Diversion	3,953	95%	3,755	0.42	5%	198	0.09
Parks	15,305	95%	14,540	1.63	5%	765	0.35
Recreation Facilities	158,976	95%	151,027	16.89	5%	7,949	3.61
Libraries	36,054	95%	34,251	3.83	5%	1,803	0.82
Planning and Zoning	40,800	80%	32,744	3.66	20%	8,056	3.66
Commercial and Industrial	9,654	0%	-	-	100%	9,654	4.39
2 <u>Other Non-Tax Revenues</u>							
Payment in Lieu of Taxes	24,238	80%	19,452	2.18	20%	4,786	2.18
Unconditional Grants	494,500	80%	396,860	44.38	20%	97,640	44.38
Specific Grants - Operating ¹	207,646	n/a	-	-	n/a	-	-
Specific Grants - Capital ²	297,943	n/a	-	-	n/a	-	-
Total User Fees and Service Charges	1,942,060	80%	1,558,598	174.30	20%	383,462	174.30
Licenses, Permits, Rents etc.	36,746	80%	29,491	3.30	20%	7,256	3.30
Fines and Penalties	176,380	80%	141,554	15.83	20%	34,826	15.83
Investment Income	253,525	80%	203,466	22.75	20%	50,059	22.75
Gain/Loss on sale of land & Capital Assets	(82,940)	80%	(66,563)	(7.44)	20%	(16,377)	(7.44)
Gaming and Casino Revenues	3,111,089	80%	2,496,801	279.22	20%	614,288	279.22
Other: Other revenue	131,848	80%	105,815	11.83	20%	26,034	11.83
Supplementary Taxes	74,669	80%	59,926	6.70	20%	14,744	6.70
BIA Revenues	32,862	80%	26,373	2.95	20%	6,489	2.95
(Surplus) / Deficit	(3,553,923)	80%	(2,852,197)	(318.97)	20%	(701,726)	(318.97)
Subtotal	4,116,670		2,944,031	329.23		667,050	303.20
Water and Wastewater							
Wastewater Collection/Conveyance ³	755,439			1,254.88			1,254.88
Wastewater Treatment & Disposal ³	15,861			26.35			26.35
Water Distribution/Transmission ³	408,379			665.11			665.11
Subtotal	1,179,679			1,946.34			1,946.34
Total	5,296,349			2,275.57			2,249.54

2017 Population Estimate

8,942

2017 Water Customers

614

2017 Employment Estimate

2,200

2017 Wastewater Customers

602

¹ Specific operating grants have been included in section 2.1 above

² Specific capital grants have been netted from the operating analysis

³ water and wastewater calculated on a per customer basis



Table 4-8a
Towerhill Phase 2
Non-Tax Operating Revenue – Growth Sensitivity Analysis (Tax Supported)
(2017 \$)

REVENUE CATEGORY	RESIDENTIAL		
	Net Revenue per Capita	Growth Share %	Net Revenue Recast
2.1 Service Specific Non-Tax Revenues			
General Government	6.24	25%	1.56
Fire	5.03	100%	5.03
Protective Inspection and Control	0.39	100%	0.39
Building Permit and Inspection Services	16.48	100%	16.48
Roadways & Winter Control	17.63	75%	13.22
Solid Waste Collection	15.93	100%	15.93
Solid Waste Disposal	4.07	100%	4.07
Waste Diversion	0.42	100%	0.42
Parks	1.63	75%	1.22
Recreation Facilities	16.89	100%	16.89
Libraries	3.83	100%	3.83
Planning and Zoning	3.66	100%	3.66
Commercial and Industrial	-	100%	-
Sub-total	92.20		82.70
2.2 Other Non-Tax Revenues			
Payment in Lieu of Taxes	2.18	n/a	-
Unconditional Grants	44.38	n/a	-
Specific Grants - Operating ¹	-	n/a	-
Specific Grants - Capital ²	-	n/a	-
Total User Fees and Service Charges	174.30	n/a	-
Licenses, Permits, Rents etc.	3.30	100%	3.30
Fines and Penalties	15.83	100%	15.83
Investment Income	22.75	100%	22.75
Gain/Loss on sale of land & Capital Assets	(7.44)	0%	-
Gaming and Casino Revenues	279.22	0%	-
Other: Other revenue	11.83	50%	5.92
Supplementary Taxes	6.70	n/a	-
BIA Revenues	2.95	n/a	-
(Surplus) / Deficit	(318.97)	n/a	-
Sub-total	237.03		47.80
Total	329.23		130.50

Source: Township of Cavan Monaghan 2017 Financial Information Return

¹ Specific grants and user fees have been included in section 2.1 above

² Specific capital grants have been netted from the operating analysis



Table 4-8b
Towerhill Phase 2
Non-Tax Operating Revenue – Growth Sensitivity Analysis (Rate Supported)
(2017 \$)

REVENUE CATEGORY	RESIDENTIAL		
	Net Revenue per Customer	Growth Share %	Net Revenue Recast
Water and Wastewater			
Wastewater Collection/Conveyance	1,254.88	100%	1,254.88
Wastewater Treatment & Disposal	26.35	100%	26.35
Water Distribution/Transmission	665.11	100%	665.11
Total	1,946.34		1,946.34



Table 4-9a
Towerhill Phase 2
Non-Tax Operating Revenue Summary (Tax Supported)
(2017 \$)

Category	Revenue Per Capita	Incremental Revenues (2017 \$)
2. Revenues		
2.1 <u>Service Specific Non-Tax Revenues</u>		
General Government	1.56	3,017
Fire	5.03	9,728
Protective Inspection and Control	0.39	754
Building Permit and Inspection Services	16.48	31,872
Roadways & Winter Control	13.22	25,567
Solid Waste Collection	15.93	30,809
Solid Waste Disposal	4.07	7,871
Waste Diversion	0.42	812
Parks	1.22	2,359
Recreation Facilities	16.89	32,665
Libraries	3.83	7,407
Planning and Zoning	3.66	7,078
Commercial and Industrial	-	-
2.2 <u>Other Non-Tax Revenues</u>		-
Payment in Lieu of Taxes	-	-
Unconditional Grants	-	-
Specific Grants - Operating	-	-
Specific Grants - Capital	-	-
Total User Fees and Service Charges	-	-
Licenses, Permits, Rents etc.	3.30	6,382
Fines and Penalties	15.83	30,615
Investment Income	22.75	43,999
Gain/Loss on sale of land & Capital Assets	-	-
Gaming and Casino Revenues	-	-
Other: Other revenue	5.92	11,449
Supplementary Taxes	-	-
BIA Revenues	-	-
(Surplus) / Deficit	-	-
Total	130.50	252,387



Table 4-9b
Towerhill Phase 2
Non-Tax Operating Revenue Summary (Rate Supported)
(2017 \$)

Category	Revenue Per Customer	Incremental Revenues (2017 \$)
2 Water and Wastewater Revenues		
Wastewater Collection/Conveyance	1,254.88	998,884
Wastewater Treatment & Disposal	26.35	20,975
Water Distribution/Transmission	665.11	529,428
Total	1,946.34	1,549,287

4.4 Taxation Revenue

Based on the Weighted Assessment Increment calculations provided in Table 2-3, a forecast of the taxation revenue to be generated at buildout was undertaken using the 2017 tax rates. Table 4-10 provides for this calculation at buildout. In undertaking this calculation, it is recognized that the property does currently pay property taxes to the Township estimated at \$4,651 (based on 2017 phased-in assessment and 2017 residential tax rate). This amount has been netted from the estimated taxation revenue estimate to establish the additional taxation revenue increment.

Table 4-10
Towerhill Phase 2
Property Tax Revenue

Property Tax Classes	Property Tax Revenue (2017\$)
1. Property Tax¹	
Residential Growth	
<i>Residential Assessment (RT)</i>	234,676,000
Property Tax Revenue 0.6577%	1,543,380
Total Residential Property Tax Revenue	1,543,380
Less: Existing Tax Revenue	4,651
TOTAL PROPERTY TAX REVENUE	1,538,729

¹ Tax Rates (2017):	General Tax Rate
2017 Residential Tax Rate (RT)	0.6577%



5. Lifecycle Analysis

5.1 Summary of Lifecycle

Tables 5-1a and 5-1b provides for an analysis on the anticipated annual lifecycle costs associated with the direct (internal) capital works identified for this development (discussed in Chapter 3). Some of the works (i.e. roads, sidewalks, etc.) are a direct developer responsibility as per the Township's local service policy, however once these works are assumed, the Township will incur lifecycle costs associated with the future replacement of the works at the end of their useful life. This replacement of capital is often referred to as asset management or lifecycle cost. The method selected in this analysis to assess future asset replacement costing is the sinking fund method which provides that money will be contributed annually and invested, so that those funds will grow over time to equal the amount required for future replacement. The following factors were utilized to calculate the annual replacement cost of the capital projects (annual contribution = factor X capital asset cost) and are based on an annual growth rate of 2% (net of inflation) over the average useful life of the asset. These costs are included in the net impact calculations in Chapter 6.

Table 5-2 provides for an analysis of the indirect capital costs identified in the Township's D.C. study. As indicated in Chapter 3, the Township's D.C. background study identified a forecasted growth of 2,460 population in the Millbrook area and 2,957 in the Township over their forecast period. The annual lifecycle contribution amounts have been divided by their respective forecast period populations to generate a per capita cost by service. These per capita costs have been multiplied by the proposed development's population forecast of 1,934. These costs are included in the net impact calculations in Chapter 6.



Table 5-1a
Towerhill Phase 2
Annual Asset Replacement Costing Forecast – New Infrastructure (Tax Supported)

Service	Unit Measure	Unit Cost 2017 \$	Capital Cost	% of Cost	Asset Useful Life (years)	Lifecycle Factor	Annual Contribution Total
Transportation							
Local Roads, Streetlights and Inters. Improv. (2 lane)	3.97	743,500	2,949,200				
- Base			2,152,916	73%	75	0.0059	55,700
- Surface			796,284	27%	25	0.0312	40,800
Collector Road (Street "B")	0.88	855,000	749,600				
- Base			547,208	73%	75	0.0059	14,100
- Surface			202,392	27%	25	0.0312	10,400
Sidewalks	5.72	267,500	1,530,100	100%	25	0.0312	78,400
Drainage/Stormwater							
Storm Sewers (km)	4.84	263,600	1,276,700	100%	80	0.0052	32,100
Storm Pond (ha)*	1.73	665,600	1,153,500	100%	80	0.0052	29,000
Total			11,357,900				260,500

Investment Rate	2%
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*Storm pond cost estimated based on review of costs in other municipalities.

Replacement costs based on costs used for fiscal impact analysis of recent Millbrook developments, inflated to 2017\$

Table 5-1b
Towerhill Phase 2
Annual Asset Replacement Costing Forecast – New Infrastructure (Rate Supported)

Service	Unit Measure	Unit Cost 2017 \$	Capital Cost	% of Cost	Asset Useful Life (years)	Lifecycle Factor	Annual Contribution Total
Water							
Water Mains (200mm) - Local (km)	3.97	225,900	896,100	100%	100	0.0032	20,800
Water Mains (250mm) - Local (km)	0.88	248,500	217,900	100%	100	0.0032	5,100
Wastewater							
Wastewater Mains (200mm) - Local (km)	3.97	263,600	1,045,600	100%	100	0.0032	24,300
Wastewater Mains (375mm) - Local (km)	0.88	342,700	300,400	100%	100	0.0032	7,000
Total			2,159,600				50,200

Investment Rate	2%
-----------------	----

Replacement costs based on costs used for fiscal impact analysis of recent Millbrook developments, inflated to 2017\$

The above only includes localized mains. Major infrastructure lifecycle costs are included in the Broader Lifecycle Impact in Table 5-2



Table 5-2
Towerhill Phase 2
Indirect Annual Lifecycle Costs

Service	Annual Lifecycle Contribution	D.C. Forecast Population	Annual Lifecycle Contribution Per Capita Cost	Proportionate Share of Annual Lifecycle costs for this Development
Millbrook-Specific				
Wastewater Services (Millbrook)	92,700	2,460	37.68	72,879
Water Services (Millbrook)	22,300	2,460	9.07	17,532
Total Millbrook-specific	115,000			90,411
Township-wide				
Roads and Related	183,900	2,957	62.19	120,278
Fire Protection Services	33,600	2,957	11.36	21,976
Police Services	1,000	2,957	0.34	654
Outdoor Recreation Services	31,400	1,695	18.53	35,827
Indoor Recreation Services	100,000	1,695	59.00	114,100
Library Services	17,300	1,695	10.21	19,739
Administration Studies	-	1,695	-	-
Total Township-wide Services	367,200			312,575



6. Net Impact of the Proposed Development on the Township of Cavan Monaghan

6.1 Summary of Net Impact

Table 6-1 summarizes the foregoing analysis provided in Chapter 4 over a planned forecast period. This table calculates the operating expenditures, including a provision for overall capital spending and non-tax revenues and taxation revenues to provide for the net annual financial position.

Based on the results provided in Table 6-1, the development would provide a net positive contribution to the Township on an annual basis for both tax and rate supported services.

A net positive position is expected (at buildout of the lands) at approximately \$266,000 annually with respect to tax supported services and approximately \$14,000 for water and wastewater services, for a total of \$280,000 annually.



Table 6-1
Towerhill Phase 2
Summary of Tax Supported and Rate Supported Impact

Summary and Tax Rate Impact	(2017 \$)
	At Buildout
<u>Tax-supported</u>	
1. <u>Revenues</u>	
1.1 Property Tax	
Residential Growth	1,538,729
Total Property Tax Revenue	1,538,729
1.2 Non-Tax	
Residential Growth	252,387
Total Non-Tax Revenue	252,387
1.3 Total Revenue	
Residential Growth	1,791,116
Total Revenue	1,791,116
2. <u>Expenditures</u>	
2.1 Operating	
Residential Growth	952,050
Total Operating Expenditures	952,050
2.2 Lifecycle	
Total Internal Lifecycle Expenditure	260,500
Broader City-wide Lifecycle impact	312,575
Total Lifecycle Expenditures	573,075
Total Expenditures	1,525,125
3. Surplus (Deficit)	265,990
<u>Rate-supported</u>	
4. <u>Revenues</u>	
4.1 Operating Revenue	
Water Revenue	529,428
Wastewater Revenue	1,019,859
Total Revenue	1,549,287
5. <u>Expenditures</u>	
5.1 Operating	
Water Expenditure	572,292
Wastewater Expenditure	822,340
Total Operating Expenditures	1,394,632
5.2 Lifecycle	
Internal Lifecycle Expenditures	50,200
Broader Indirect Lifecycle impacts	90,411
Total Lifecycle Expenditures	140,611
Total Expenditures	1,535,242
6. Surplus (Deficit)	14,044
7. Grand Total Surplus (Deficit)	280,035