

VERSION FOR PUBLIC CONSULTATION

PREPARED BY HEMSON FOR THE TOWNSHIP OF PERTH EAST

DEVELOPMENT CHARGES BACKGROUND STUDY

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EXECUTIVE SUMMARY

The *Development Charges Act, 1997 (DCA)* and its associated *Ontario Regulation 82/98 (O. Reg. 82/98)* allow municipalities to impose development charges on development to pay for development-related capital costs. This 2021 Township of Perth East Development Charges Background Study is presented as part of a process to establish a development charges by-law that complies with this legislation. The Township of Perth East does not currently levy development charges and this study process is intended to facilitate the passage of a new by-law to implement DCs.

A. PURPOSE OF 2021 DEVELOPMENT CHARGES (DC) BACKGROUND STUDY

i. Legislative Context

This Township of Perth East 2021 Development Charges Background Study is presented as part of a process to approve a new DC by-law in compliance with the *DCA*. The study is prepared in accordance with the *DCA* and its associated regulations, including amendments that came into force through the *More Homes, More Choice Act* and *COVID-19 Economic Recovery Act*.

ii. Key Steps in Determining Future Development-Related Projects

In accordance with the *DCA* and associated regulations, several key steps are required to calculate development charges. This includes preparing a development forecast, establishing historical service levels, determining the increase in need for services arising from development and appropriate shares of costs, attribution to development types (i.e. residential and non-residential), and final adjustments to the calculated rates using a cash flow analysis.

iii. DC Eligible and Ineligible Costs

Development charges are intended to pay for the initial round of capital costs needed to service new development over an identified planning period. This is based on the overarching principle that “growth pays for growth”. However, the *DCA* and associated regulation includes several statutory adjustments and deductions that prevent these costs from fully being recovered by growth. Such adjustments include, but are not limited to: ineligible costs (e.g. computer equipment and vehicles with a replacement life of less than seven years); ineligible services, including parking facilities, parkland acquisition, etc.;

deductions for costs that exceed historical service level caps; and statutory exemptions for specific uses (e.g. industrial expansions).

iv. Development-Related Capital Program is Subject to Change

It is recommended that Council adopt the development-related capital program developed for the purposes of the 2021 DC Background Study. However, it is recognized that the DC Background Study is a point-in-time analysis and there may be changes to project timing, scope and costs through the Township’s normal annual budget process.

B. DEVELOPMENT FORECAST

The tables below provides a summary of the anticipated residential and non-residential growth over the 2021-2030 planning period. Details on the development forecast are provided in Appendix A.

**TOWNSHIP OF PERTH EAST
SUMMARY OF RESIDENTIAL AND NON-RESIDENTIAL
MUNICIPALITY- WIDE DEVELOPMENT FORECAST**

RESIDENTIAL FORECAST	2020 Estimate	Planning Period 2021 - 2030		Planning Period 2021 - 2046	
		Growth	Total at 2030	Growth	Total at 2046
Total Occupied Dwellings	4,140	160	4,300	320	4,460
Population					
Census	12,460	180	12,640	340	12,800
Population In New Dwellings		390		748	

NON-RESIDENTIAL FORECAST	2020 Estimate	Planning Period 2021 - 2030		Planning Period 2021 - 2046	
		Growth	Total at 2030	Growth	Total at 2046
Employment	3,520	390	3,920	670	4,190
Non-Residential Building Space (sq.m.)		23,620		39,940	

C. CALCULATED DEVELOPMENT CHARGES

The table below provides the Township-wide development charges for residential and non-residential development based on the aforementioned forecast.

Service	Charge Per Unit Type			Residential Charge (\$/m ²)
	Single & Semi Detached	Multiples	Apartments	
General Services	\$3,911	\$2,668	\$2,002	\$9.49
Engineered Services	\$5,648	\$3,852	\$2,889	\$30.91
Total Charge	\$9,559	\$6,520	\$4,891	\$40.40

For the purposes of this study, general services include: fire, library, parks and recreation and development-related studies. Engineered Services include: Services Related to a Highway (public works and roads), water and wastewater services.

D. LONG-TERM CAPITAL AND OPERATING COSTS

An overview of the long-term capital and operating costs for the capital facilities and infrastructure to be included in the DC by-law is provided in the study. This examination is required by the *DCA*. Additional details on the long-term capital and operating impact analysis are found in Appendix E.

Approximately \$2.52 million in non-DC funding sources has been identified to fund the development-related project costs over the planning period to 2046. Additionally, \$96,900 in interim financing may be required for projects related to the Pedestrian and Cycle Path development which will provide benefit beyond the 2030 planning horizon.

E. ASSET MANAGEMENT PLAN

The main purpose of the Asset Management Plan is to demonstrate that all assets proposed to be funded under the DC by-law are financially sustainable over their full life cycle. The DC recoverable annual asset management contributions for the 2021-2030 and 2021-2046 planning periods have been calculated. The years 2032 and 2047 have been included to calculate the annual contribution for the 2021-2030 and 2021-2046 periods as the expenditures in 2030 and 2046 will not trigger asset management contributions until 2031 and 2046 respectively. Further details on the asset management plan analysis for this DC study can be found in Appendix E.

F. PERTH EAST'S DEVELOPMENT CHARGES BY-LAW TO BE RELEASED UNDER SEPARATE COVER

The Township's proposed DC by-law will be made available under separate cover a minimum of two weeks in advance of the statutory public meeting.

1. INTRODUCTION

The *Development Charges Act, 1997 (DCA)* and its associated *Ontario Regulation 82/98 (O. Reg. 82/98)* allow municipalities to recover development-related capital costs from new development. The Township of Perth East Development Charges Background Study is presented as part of a process to establish a development charges by-law that complies with this legislation.

Anticipated growth in the Township of Perth East will increase the demand for all services. The Township wishes to implement development charges to fund capital projects related to growth in the Township so that development can continue to be serviced in a fiscally responsible manner.

When a development charges by-law is proposed, the *DCA* and *O. Reg. 82/98* require that a development charges background study be prepared in support of the proposed changes with reference to:

- A forecast of the amount, type and location of development anticipated in the Township;
- The average capital service levels provided in the Township over the 10-year period immediately preceding the preparation of the background study;
- A review of future capital projects, including an analysis of gross expenditures, funding sources, and net expenditures incurred, or to be incurred, by the Township or its local boards to provide for the expected development, including the determination of the development and non-development related components of the capital projects;
- An asset management plan that demonstrates that all assets are financially sustainable over their full life cycle; and
- An examination of the long-term capital and operating costs for the capital infrastructure required for each service to which the development charges by-laws would relate.

The study identifies the development-related net capital costs attributable to development that is forecast to occur in the Township. The costs are apportioned to types of development (residential and non-residential) in a manner that reflects the increase in the need for each service attributable to each type of development.

The *DCA* provides for a period of public review and comment regarding the calculated development charges. This process includes considering and responding to comments received by members of the public about the calculated charges. Following completion of this process, and in accordance with the *DCA* and Council's review of this study, it is intended that Council will pass new development charges for the Township.

The remainder of the study sets out the information and analysis upon which the calculated DCs are based.

Section II designates the services for which the DCs are calculated and the areas within the Township to which the DCs will apply. It also briefly reviews the methodologies that have been used in this background study.

Section III presents a summary of the forecast residential and non-residential development which is expected to occur within the Township over a planning period from 2021 to 2030 and from 2021 to 2046.

Section IV summarizes the 10-year historical average capital service levels that have been attained in the Township, which form the basis for the development charges calculations.

In Section V, the development-related capital program that has been developed by various Township departments is reviewed.

Section VI summarizes the calculation of applicable development charges and the resulting calculated development charges by class and type of development.

Section VII presents a cost of growth analysis, which considers an Asset Management Plan for the Township, demonstrating the financial sustainability of assets over the life cycle of the 2021 Development Charges By-law and satisfying the requirements of the recent amendments to the *DCA*. Additionally, the long-term operating impacts of the projects considered under this study are reviewed.

Section VIII provides a review of development charges administrative matters, consideration of area rating, and implementation options for the proposed development charges.

2. BOTH A MUNICIPAL-WIDE & AREA-SPECIFIC COST APPROACH TO ALIGN DEVELOPMENT-RELATED COSTS & BENEFITS IS CALCULATED

Several key steps are required when calculating any DC. However, specific circumstances arise in each municipality that must be reflected in the calculation. Therefore, the study has been tailored to the local conditions that exist in the Township of Perth East. The approach to calculating the proposed DCs is focused on providing a reasonable alignment of development-related costs with the development that necessitates them.

A. DEVELOPMENT CHARGES IS CALCULATED UNDER BOTH A MUNICIPAL-WIDE & AREA-SPECIFIC APPROACH

The Township of Perth East provides a wide range of services to the community and has an extensive inventory of facilities, land, infrastructure, vehicles and equipment. The *DCA* provides municipalities with flexibility to define services that will be included in a DC by-law, provided that the other provisions of the *Act* and its associated regulations are met. The *DCA* also requires the by-law to designate the areas within which the DCs shall be imposed. DCs may apply to all lands in the Township or to other designated development areas as specified in the by-law.

For the services that the Township provides, a range of capital facilities, land, equipment and infrastructure is available throughout the Township of Perth East: libraries, fire services, arterial roads, and so on. All residents in the Township have access to all facilities. As new development occurs, new facilities will need to be added such that overall service levels do not decline. A widely accepted method for sharing the development-related capital costs for such services is to apportion them over all new development anticipated in the Township.

The following services are included in the Municipal-wide DC calculation under both approaches:

- Fire Services
- Library Services
- Parks & Recreation
- Development-Related Studies

- Services Related to a Highway:
 - Public Works
 - Roads & Related

These services form a reasonable basis upon which to plan and administer the Municipal-wide DCs. It is noted that the analysis of each of these services examines the individual capital facilities and equipment currently in place. The resulting DC for these services is to be imposed against all development anywhere in the Township.

In addition to those services proposed under a municipal-wide approach, the following services have been calculated under both a Municipal-wide DC approach and area-specific DC approach for the Milverton and Shakespeare area for council's consideration:

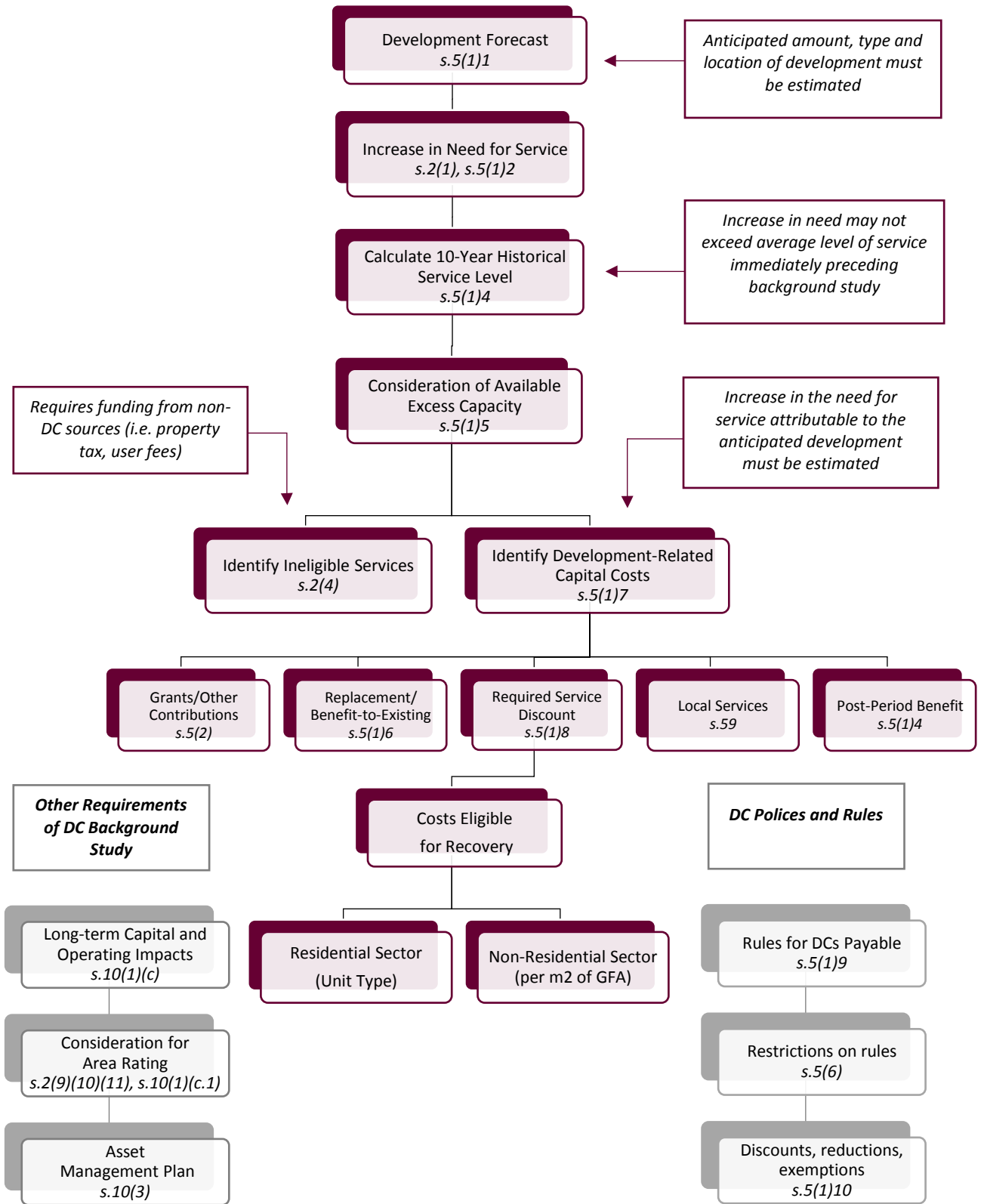
- Water Services
- Wastewater Services

Importantly, for the purposes of this background study, a municipal-wide approach for all services (including water and wastewater) is used in the representation of all tables throughout the study with exception to the consideration of area-rating (in Appendix D) in which the alternative area-specific approach for water and wastewater infrastructure is illustrated for council's consideration.

B. KEY STEPS IN DETERMINING DEVELOPMENT CHARGES FOR FUTURE DEVELOPMENT-RELATED PROJECTS

Several key steps are required in calculating DCs for future development-related projects. These are summarized in Figure 1 below and discussed further in the following sections.

Figure 1 Key Steps in Calculating Development Charges



i. Development Forecast

The first step in the methodology requires a development forecast to be prepared for the study period 2021-2030 for all services. The development forecast is broadly based on the Township achieving average annual growth in occupied dwellings of 10 units; this represent slightly lower growth that what has been experienced in last 5 years. Fuelled in part by contractions in population growth, the Township's employment is forecast to decrease over the planning period.

For the residential portion of the forecast, both net (or Census) population growth and population growth in new units is estimated. The use of net population growth is one approach to determining the increased need for servicing, infrastructure and facilities arising from development.

When calculating the DC however, the development-related net capital costs are spread over the total additional population that occupy new housing units. This population in new units represents the population from which DCs will be collected.

The non-residential portion of the forecast estimates the Gross Floor Area (GFA) of building space to be developed over the 10-year period, 2021 to 2030. The forecast of GFA is based on the employment forecast for the Township. Factors for floor space per worker are used to convert the employment forecast into gross floor area for the purposes of the DC Study.

ii. Service Categories and Historical Service Levels

The *DCA* states that the increase in the need for service attributable to anticipated development:

... must not include an increase that would result in the level of service exceeding the average level of that service provided in the Municipality over the 10-year period immediately preceding the preparation of the background study...(s. 5. (1) 4.)

Historical 10-year average service levels thus form the basis for development charges. A review of Township's capital service levels for buildings, land, vehicles and so on, has therefore been prepared as a reference for the calculation, so the portion of future capital projects that may be included in the development charge can be determined. The historical service levels used in this study have been calculated based on the period 2011–2020.

iii. **Development-Related Capital Program and Analysis of Net Capital Costs to be included in the Development Charges**

A development-related capital program has been prepared by Township staff as part of the present study. The program identifies development-related projects and their gross and net costs, after allowing for capital grants, subsidies or other contributions as required by the Act (*DCA*, s. 5. (2)). The capital program provides another cornerstone upon which development charges are based. The *DCA* requires the increase in the need for service attributable to the anticipated development may include an increase:

... only if the council of the Municipality has indicated that it intends to ensure that such an increase in need will be met. (s. 5. (1) 3.)

In conjunction with *DCA*, s. 5. (1) 4. referenced above, these sections have the effect of requiring that the development charge be calculated on the lesser of the historical 10-year average service levels or the service levels embodied in future plans of the Township. The development-related capital forecast prepared for this study ensures that development charges are only imposed to help pay for projects that have been, or are intended to be, purchased or built in order to accommodate future anticipated development. It is not sufficient in the calculation of development charges merely to have had the service in the past. There must also be a demonstrated commitment to continue to emplace facilities or infrastructure in the future. In this regard, *Ontario Regulation 82/98*, s. 3 states that:

For the purposes of paragraph 3 of subsection 5 (1) of the *Act*, the council of a Municipality has indicated that it intends to ensure that an increase in the need for service will be met if the increase in service forms part of an Official Plan, capital forecast or similar expression of the intention of the council and the plan, forecast or similar expression of the intention of the council has been approved by the council.

For some projects in the development-related capital forecast, a portion of the project may confer benefits to existing (a “BTE”) residents. As required by the *DCA*, s. 5. (1) 6., these portions of projects and their associated net costs must be funded by the Township from non-development charges sources. The amount of Township funding for such non-development shares of projects is also identified as part of the preparation of the development-related capital forecast.

There is also a requirement in the *DCA* to reduce the applicable development charge by the amount of any “uncommitted excess capacity” that is available for a service. Such capacity is available to partially meet future servicing requirements. Adjustments are made in the analysis to meet this requirement of the *Act*.

iv. Attribution to Types of Development

The next step in the determination of development charges is the allocation of the development-related net capital costs between the residential and the non-residential sectors. This is done by using different apportionments for different services in accordance with the demands which the two sectors would be expected to place on the various services and the different benefits derived from those services.

Where reasonable data exist, the apportionment is based on the expected demand for, and use of, the service by each sector (e.g. based on shares of population in new units and employment growth).

Finally, the residential component of the Municipal-wide charge is applied to different housing types on the basis of average occupancy factors. The non-residential component is applied on the basis of gross building space in square metres.

v. Final Adjustment

The final determination of the development charge results from adjustments made to development-related net capital costs for each service and sector resulting from the application of any unallocated reserve fund balances available to finance the development-related capital costs in the capital forecast. A cash flow analysis is also undertaken to account for the timing of projects and receipt of development charges for Municipal-wide services. Interest earnings or borrowing costs are therefore accounted for in the calculation as allowed under the *DCA*.

Note on Rounding

Due to rounding in some tables, numbers may not add up precisely to the totals indicated and percentages may not precisely reflect the absolute figures for the same reason.

3. DEVELOPMENT FORECAST

This section provides the basis for the development forecasts used in calculating the DCs, as well as a summary of the forecast results. A more detailed summary of the forecasts, including tables illustrating historical trends and forecast results is provided in Appendix A.

A. RESIDENTIAL FORECAST

DCs are levied on residential development as a charge per new unit. Therefore, for the residential forecast, a projection of both the *population growth*¹ as well as the *population in new units* is required.

- The *population growth* determines the need for additional facilities and provides the foundation for the development-related capital program.
- When calculating the DC, however, the development-related net capital costs are spread over the total additional population that occupy new housing units. This *population in new units* represents the population from which DCs will be collected.

Table 1 provides a summary of the residential forecast over the 10 and 26 year planning periods from 2021 to 2030 and from 2021 to 2046. As noted in Section II, for DC calculation purposes the planning period to 2030 is applicable to all general services considered in this study while the 2046 planning period is applicable to all engineered services.

The Township’s population is forecast to grow by 180 people over the next 10 years, and 340 over the next 26 years reaching 12,640 people by 2030 and 12,800 people by 2046. An additional 160 occupied dwelling units are forecast to be built between 2021 and 2030 and the additional population residing in these units is forecast to be 390. Between 2021 and 2046, an additional 320 occupied dwelling units are forecast to be built and an additional 750 people are anticipated to reside in these units.

B. NON-RESIDENTIAL FORECAST

DCs are levied on non-residential development as a charge per square metre of GFA. As with the residential forecast, the non-residential forecast requires both a projection of *employment growth* as well as a projection of the *employment growth associated with new floor space* in the Township.

¹ Commonly referred to as “net population growth” in the context of development charges.

The non-residential forecast projects an increase of 390 employees to 2030 and 670 employees to 2046. This is anticipated to be accommodated in 23,620 square metres of new non-residential building space by 2030 and 39,940 square metres of new non-residential building space by 2046.

Table 1 also provides a summary of the non-residential development forecasts used in this analysis.

**TABLE 1
TOWNSHIP OF PERTH EAST
SUMMARY OF RESIDENTIAL AND NON-RESIDENTIAL
MUNICIPALITY- WIDE DEVELOPMENT FORECAST**

RESIDENTIAL FORECAST	2020 Estimate	Planning Period 2021 - 2030		Planning Period 2021 - 2046	
		Growth	Total at 2030	Growth	Total at 2046
Total Occupied Dwellings	4,140	160	4,300	320	4,460
Population					
Census	12,460	180	12,640	340	12,800
Population In New Dwellings		390		748	

NON-RESIDENTIAL FORECAST	2020 Estimate	Planning Period 2021 - 2030		Planning Period 2021 - 2046	
		Growth	Total at 2030	Growth	Total at 2046
Employment	3,520	390	3,920	670	4,190
Non-Residential Building Space (sq.m.)		23,620		39,940	

4. SUMMARY OF HISTORICAL CAPITAL SERVICE LEVELS

The *DCA* and *Ontario Regulation 82/98* require that DCs be set at a level no higher than the average level of service provided in the municipality over the 10-year period immediately preceding the preparation of the Background Study, on a service by service basis.

For non-engineered services (Fire Services, Library Services, Parks & Recreation) the legislative requirement is met by documenting historical service levels for the preceding 10 years, in this case, for the period from 2011 to 2020. For Services related to a highway, service levels are measured in a similar fashion, as a ratio of inputs per capita, or per capita plus employment.

O. Reg. 82/98 requires that, when determining historical service levels, both quantity and quality of service be taken into consideration. In most cases, the service levels are initially established in quantitative terms. For example, service levels for buildings are presented in terms of square feet per capita. The qualitative aspect is introduced by the consideration of the monetary value of the facility or service. In the case of buildings, for example, the cost would be shown in terms of dollars per square foot to replace or construct a facility of the same quality. This approach helps to ensure that the development-related capital facilities that are to be charged to new development reflect not only the quantity (number and size) but also the quality (value or replacement cost) of service provided historically by the town. Both the quantitative and qualitative aspects of service levels used in the present analysis are based on information provided by municipal staff, based on historical records and experience with costs to acquire or construct similar facilities, equipment and infrastructure.

The service levels are expressed as a dollar value per capita (\$/capita) or a dollar value per capita plus employment (\$/capita + employment) of infrastructure value. This service level expression is a construction to meet the requirement of Section 5(1) of the *DCA* and does not directly reflect the utilization of infrastructure or the way municipalities plan for services.

Table 2 summarizes service levels for all applicable services included in the DC calculation. Appendix B and C (for services related to a highway) provides the detailed historical inventory data upon which the calculation of service levels for the general services is based.

TABLE 2
TOWNSHIP OF PERTH EAST
SUMMARY OF AVERAGE HISTORIC SERVICE LEVELS 2011 - 2020
FOR MUNICIPAL-WIDE SERVICES

Service	2011 - 2020 Service Level Indicator
FIRE SERVICES	\$695.01 per pop. & employment
Buildings	\$174.69 per pop. & employment
Land	\$55.09 per pop. & employment
Furniture & Equipment	\$48.43 per pop. & employment
Vehicles	\$416.80 per pop. & employment
LIBRARY SERVICES	\$112.88 per capita
Buildings	\$74.26 per capita
Land	\$11.43 per capita
Collection Materials	\$20.21 per capita
Furniture And Equipment	\$6.98 per capita
PARKS & RECREATION	\$1,559.70 per capita
Buildings and Equipment	\$1,193.23 per capita
Parkland Development	\$70.03 per capita
Park Amenities	\$296.44 per capita
SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS	\$650.81 per pop. & employment
Buildings	\$188.77 per pop. & employment
Land	\$79.28 per pop. & employment
Furniture And Equipment	\$5.44 per pop. & employment
Fleet	\$377.32 per pop. & employment
SERVICES RELATED TO A HIGHWAY: ROADS & RELATED	\$3,950.83 per pop. & employment
Roads	\$1,912.13 per pop. & employment
Bridges & Culverts	\$1,741.49 per pop. & employment
Sidewalks	\$180.34 per pop. & employment
Other Roads And Related	\$116.87 per pop. & employment

5. THE DEVELOPMENT-RELATED CAPITAL FORECAST

The *DCA* requires the Council of a municipality to express its intent to provide future capital facilities at the level reflected by the capital program incorporated in the DC calculation and recovered through the proposed rates. As noted in Section II, *Ontario Regulation 82/98*, s. 3 states that:

For the purposes of paragraph 3 of subsection 5 (1) of the Act, the council of a municipality has indicated that it intends to ensure that an increase in the need for service will be met if the increase in service forms part of an official plan, capital forecast or similar expression of the intention of the council and the plan, forecast or similar expression of the intention of the council has been approved by the council.

A. A DEVELOPMENT-RELATED CAPITAL FORECAST IS PROVIDED FOR COUNCIL'S APPROVAL

Based on the development forecasts summarized in Section III and detailed in Appendix A, Township staff, in collaboration with the consultants have created a development-related capital forecast setting out those projects that are required to service anticipated development. For all general services, the capital plan covers the planning period from 2021 to 2030. For all engineered services, the capital plan covers the planning period from 2021 to 2046.

One of the recommendations contained in this Background Study is for Council to adopt the capital forecast created for the purposes of the DC calculation. It is assumed that future capital budgets and forecasts will continue to bring forward the development-related projects contained herein, that are consistent with the development occurring in the Township of Perth East. It is acknowledged that changes to the forecast presented herein may occur through the Township's normal capital budget process.

B. THE DEVELOPMENT-RELATED CAPITAL FORECAST FOR GENERAL SERVICES

A summary of the development-related capital forecast for general services is presented in Table 3A.

The table provides a total for all general services analysed over the 10-year planning period. Further details on the capital plans for each individual service category are available in Appendix B.

The development-related capital forecast for general services amounts to a total gross cost of approximately \$2.35 million. Approximately \$604,000 in alternative funding sources have been identified for Parks & Recreation and Fire Services. After applying this deduction, the net municipal cost of the capital program is \$1.75 million.

Of the \$1.75 million 10-year net capital costs for general services, \$1.01 million (58 per cent) is related to the Fire Services capital program. The forecast includes two additional trucks as well as new defibrillator equipment.

The Parks & Recreation net development-related capital program, which totals approximately \$610,000, accounts for 35 per cent of the overall capital forecast for general services. The forecast includes new park development and amenities as well as a Parks & Recreation Master Plan.

Development-Related Studies include approximately \$110,000 in net capital costs (6 per cent of the program) and includes two development charges studies as well as a provision for other development-related studies.

The 10-year capital forecast for Library Services totals \$20,000 and accounts for 1 per cent of the capital program for general services. An annual provision for addition collection materials is included in the program.

The capital forecast incorporates those projects identified to be related to development anticipated in the next 10 years to 2030. It is not implied that all of these costs are to be recovered from new development by way of DCs (see Section VI for the method and determination of net capital costs attributable to development). Portions of this capital forecast may relate to providing servicing for replacement of existing capital facilities or for development anticipated to occur beyond the 2021–2030 planning period.

TABLE 3A
TOWNSHIP OF PERTH EAST
SUMMARY OF DEVELOPMENT-RELATED CAPITAL PROGRAM
GENERAL SERVICES 2021-2030
(in \$000)

Service	Gross Cost	Grants/ Subsidies	Municipal Cost
FIRE SERVICES	\$1,029.0	\$20.0	\$1,009.0
1.1 Fleet	\$1,025.0	\$20.0	\$1,005.0
1.2 Equipment	\$4.0	\$0.0	\$4.0
LIBRARY SERVICES	\$20.0	\$0.0	\$20.0
2.1 Collection Materials	\$20.0	\$0.0	\$20.0
PARKS & RECREATION	\$1,194.0	\$584.0	\$610.0
3.1 Park Development	\$1,144.0	\$534.0	\$610.0
3.2 Studies			
	\$110.0	\$0.0	\$110.0
Development-Related Studies	\$110.0	\$0.0	\$110.0
4.1 Studies			
TOTAL GENERAL SERVICES	\$2,353.0	\$604.0	\$1,749.0

C. THE DEVELOPMENT-RELATED CAPITAL FORECAST FOR ENGINEERED SERVICES

Table 3B provides the development-related capital costs for engineered services. The capital program totals approximately \$4.05 million and provides servicing for anticipated development over the planning period from 2021 to 2046. Approximately \$385,000 in subsidies have been identified to fund the program which leaves about \$3.67 million as the net municipal cost.

Of the \$3.67 million 26-year net municipal capital costs for engineered services, \$2.28 million (62 per cent) is related to the Services Related to a Highway; of which, \$1.94 million is related to Roads & Related works and \$340,000 is related to Public Works. The forecast includes road constructions and improvements to Roads 103, 67, and 33 as well as four addition fleet.

The Wastewater Services development-related capital program, which totals approximately \$950,000, accounts for 26 per cent of the overall net capital forecast for engineered services. This includes a new sewage pumping station, inflow & infiltration system work and a Master Plan.

Water Services include approximately \$440,000 in net capital costs (12 per cent of the program) and includes a new well, pickup truck, and Master Plan.

Details on the individual capital works in the program, including project costs, timing, and distribution of benefits are provided in Appendix C.

TABLE 3B
TOWNSHIP OF PERTH EAST
SUMMARY OF DEVELOPMENT-RELATED CAPITAL PROGRAM
ENGINEERED SERVICES 2021-2046
(in \$000)

Service	Gross Cost	Grants/ Subsidies	Municipal Cost
Services Related To A Highway: Public Works	\$340.0	\$0.0	\$340.0
1.1 Vehicles and Fleet	\$340.0	\$0.0	\$340.0
Services Related To A Highway: Roads & Related	\$2,212.6	\$275.0	\$1,937.6
2.1 Roads Construction	\$2,212.6	\$275.0	\$1,937.6
Water Services	\$500.0	\$60.0	\$440.0
3.1 Water Services	\$500.0	\$60.0	\$440.0
Wastewater Services	\$1,000.0	\$50.0	\$950.0
4.1 Wastewater Services	\$1,000.0	\$50.0	\$950.0
TOTAL ENGINEERED SERVICES	\$4,052.60	\$385.00	\$3,667.60

6. CALCULATED DEVELOPMENT CHARGES

This section summarizes the calculation of DCs for each service category and the resulting total charges by sector. For all Township services, the calculation of the “unadjusted” per capita (residential) and per square metre (non-residential) charges is reviewed.

Adjustments to these amounts resulting from a cash flow analysis that accounts for interest earnings and borrowing costs are also discussed.

For residential development, the adjusted total per capita amount is converted to a variable charge by housing unit type using various unit occupancy factors. For non-residential development, the charges are based on gross floor area of building space.

It is noted that the calculation of the Township-wide DCs does not include any provision for exemptions required under the *DCA*, such as the exemption from the payment of DCs for industrial building expansions. Such legislated exemptions, or other exemptions that Council may choose to provide, will result in loss of DC revenue for the affected types of development. However, any such revenue loss may not be made up by offsetting increases in other portions of the calculated charge.

A. UNADJUSTED DEVELOPMENT CHARGES CALCULATION

A summary of the “unadjusted” residential and non-residential DCs is presented in Tables 4 and 5 for general and engineered services respectively. Further details of the calculations for each individual service category are available in Appendices B and C.

i. General Services

A summary of the “unadjusted” residential and non-residential DCs for general services is presented in Table 4.

The net capital forecast for the general services totals \$1.75 million and incorporates those projects identified to be related to development anticipated in the next 10 years. However, not all of the capital costs are to be recovered from new development by way of DCs. As shown on Table 4, approximately \$907,000 relates to replacement of existing capital facilities or for shares of projects that provide benefit to the existing community. This amount has been netted off the chargeable capital costs.

A share of approximately \$96,900 related to Parks & Recreation is attributable to development beyond 2030. This development-related share has been removed from the DC calculation though it may be recovered under future DC studies or other growth-related funding mechanisms (such as CBCs if implemented).

The total costs eligible for recovery through DCs is approximately \$745,100. This amount is allocated between the residential and non-residential sectors to derive the unadjusted DCs. Library and Parks & Recreation services are deemed to benefit residential development only, while the remaining services are allocated between both sectors based on shares of population in new units and employment growth in new space in the Township. The allocation to the residential sector for Fire Services and Development-Related Studies is calculated at 50 per cent with 50 per cent to the non-residential sector.

Approximately \$523,100 of the DC eligible capital program is deemed to benefit residential development. When this amount is divided by the 10-year growth in population in new dwelling units (390), an unadjusted charge of \$1,342.70 per capita is the result. The non-residential share totals \$222,000, which yields an unadjusted charge of \$9.40 per square metre when divided by the 10-year increase in non-residential building space (23,622 sq.m.).

TABLE 4
TOWNSHIP OF PERTH EAST
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES
CAPITAL PROGRAM FOR GENERAL SERVICES

2021-2030 Year Growth in Population in New Units	390
2021-2030 Year Growth in Square Metres	23,622

Service	Development-Related Capital Forecast (2021 - 2030)					Residential Share		Non-Residential Share	
	Net Municipal Cost (\$000)	Replacement & Benefit to Existing (\$000)	Available DC Reserves (\$000)	Post-Period Benefit (\$000)	Total DC Eligible Costs for Recovery (\$000)	%	\$000	%	\$000
	Fire Services	\$1,009.0	\$675.0	\$0.0	\$0.0	\$334.0	50%	\$167.0	50%
Unadjusted Development Charge Per Capita (\$)							\$428.62		
Unadjusted Development Charge Per Sq. M. (\$)									\$7.07
Library Services	\$20.0	\$0.0	\$0.0	\$0.0	\$20.0	100%	\$20.0	0%	\$0.0
Unadjusted Development Charge Per Capita (\$)							\$51.33		
Unadjusted Development Charge Per Sq. M. (\$)									\$0.00
Parks & Recreation	\$610.0	\$232.0	\$0.0	\$96.9	\$281.1	100%	\$281.1	0%	\$0.0
Unadjusted Development Charge Per Capita (\$)							\$721.59		
Unadjusted Development Charge Per Sq. M. (\$)									\$0.00
Development-Related Studies	\$110.0	\$0.0	\$0.0	\$0.0	\$110.0	50%	\$55.0	50%	\$55.0
Unadjusted Development Charge Per Capita							\$141.2		
Unadjusted Development Charge Per Sq. M.									\$2.33
TOTAL GENERAL SERVICES	\$1,749.0	\$907.0	\$0.0	\$96.9	\$745.1		\$523.1		\$222.0
Unadjusted Development Charge Per Capita (\$)							\$1,342.70		
Unadjusted Development Charge Per Sq. M. (\$)									\$9.40



ii. Engineered Services

Table 5 displays the calculation of the DC rates for the engineered services. The development-related engineering infrastructure will be used to service development in the Township of Perth East between 2021 and 2046.

The net capital forecast for municipal-wide engineered services totals \$2.28 million. Given the benefit of Water and Wastewater services are exclusive to urban areas in the Township, the capital costs related to Water and Wastewater services are allocated between residential and non-residential development based on shares of population in new units and employment growth in new spaces in urban areas rather than on a municipal-wide basis. The net capital forecast for all urban services (which include water and wastewater) total \$3.67 million.

This amount is not to be recovered in full by way of development charges. Table 5 shows that approximately \$1.62 million of the capital program relates to replacement of existing capital works or for shares of projects that provide benefit to the existing community. This is mostly attributed to the Services Related to a Highway: Roads & Related based on the portion of the road constructions which are boundary roads with a neighbouring community.

No post-period shares have been calculated for any engineered servicing projects. The remaining \$2.05 million is related to development in the 2021 to 2046 planning period and has been included in the DC calculation for urban services.

The capital program eligible for recovery through DCs is allocated 53 per cent to the residential and 47 per cent non-residential sectors based on future shares of population in new units and employment growth over the planning period.

As a result, approximately \$1.09 million of the urban engineered services capital program is deemed to benefit residential development. When this amount is divided by the growth in population in new dwelling units for each service (748 for Services Related to a Highway, and 703 for Water and Wastewater Services), a charge of \$1,504.74 per capita is the result.

The non-residential share totals approximately \$963,900 and, when this amount is divided by the increase in long-term non-residential building space (39,942 square metres for Services Related to a Highway and 37,546 for Water and Wastewater Services), a charge of \$24.97 per square metre results.

TABLE 5
TOWNSHIP OF PERTH EAST
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES
CAPITAL PROGRAM FOR ENGINEERED SERVICES

2021-2046 Year Growth in Population in New Units	748
2021-2046 Year Growth in Square Metres	39,942
2021-2046 Year Growth in Population in New Units (Urban)	703
2021-2046 Year Growth in Square Metres (Urban)	37,546

Service	Development-Related Capital Forecast & (2021-2046)					Residential Share		Non-Residential Share	
	Net Municipal Cost (\$000)	Replacement & Benefit to Existing (\$000)	Available DC Reserves (\$000)	Post-Period Benefit (\$000)	Total DC Eligible Costs for Recovery (\$000)	%	\$000	%	\$000
Services Related To A Highway: Public Works	\$340.0	\$48.5	\$0.0	\$0.0	\$291.5	53%	\$154.5	47%	\$137.0
Unadjusted Development Charge Per Capita							\$206.63		
Unadjusted Development Charge Per Sq. M.									\$3.43
Services Related To A Highway: Roads & Related	\$1,937.6	\$1,305.8	\$0.0	\$0.0	\$631.8	53%	\$334.9	47%	\$296.9
Unadjusted Development Charge Per Capita							\$447.86		
Unadjusted Development Charge Per Sq. M.									\$7.43
TOTAL MUNICIPAL-WIDE SERVICES	\$2,277.6	\$1,354.3	\$0.0	\$0.0	\$923.3		\$489.3		\$434.0
Unadjusted Development Charge Per Capita (\$)							\$654.49		
Unadjusted Development Charge Per Sq. M. (\$)									\$10.86
Water Services	\$440.0	\$262.5	\$0.0	\$0.0	\$177.5	53%	\$94.1	47%	\$83.4
Unadjusted Development Charge Per Capita							\$133.85		
Unadjusted Development Charge Per Sq. M.									\$2.22
Wastewater Services	\$950.0	\$0.0	\$0.0	\$0.0	\$950.0	53%	\$503.5	47%	\$446.5
Unadjusted Development Charge Per Capita							\$716.40		
Unadjusted Development Charge Per Sq. M.									\$11.89
TOTAL URBAN SERVICES	\$1,390.0	\$262.5	\$0.0	\$0.0	\$1,127.5		\$597.6		\$529.9
Unadjusted Development Charge Per Capita (\$)							\$850.25		
Unadjusted Development Charge Per Sq. M. (\$)									\$14.11
TOTAL ENGINEERED SERVICES	\$3,667.6	\$1,616.8	\$0.0	\$0.0	\$2,050.8		\$1,086.9		\$963.9
Unadjusted Development Charge Per Capita (\$)							\$1,504.74		
Unadjusted Development Charge Per Sq. M. (\$)									\$24.97

*Note: growth in urban population & employment is applicable to water and wastewater services only.

iii. Adjusted Residential and Non-Residential Development Charges

Final adjustments to the “unadjusted” DC rates for all services are made through a cash flow analysis. The analysis, details of which are included in the appendices, considers the borrowing cost and interest earnings associated with the timing of expenditures and DC receipts for each service category.

Table 6 summarizes the results of the cash flow adjustments for the residential DC rates. The adjusted per capita rate for general and engineered services increases from \$2,847 per capita to \$3,260 per capita after the cash flow analysis for the residential DC.

Table 6 also provides the calculated rates by residential unit. As shown in the table, the calculated residential charge for dwelling units ranges from \$9,559 for an urban serviced single or semi-detached unit to \$4,891 for an apartment unit (with urban services). The calculated charge for multiple unit types is \$6,520 per unit. If a development occurs in a rural area without water and wastewater servicing, the municipal-wide rural rate would apply.

After cash flow considerations the unadjusted non-residential DC increases by \$6.03, from \$34.37 to \$40.40 per square metre. The final non-residential charges are displayed in Table 7. Please note, the Township of Perth East does not currently levy development charges and the residential and non-residential development charges calculated would represent a change from current practices if implemented.

TABLE 6
TOWNSHIP OF PERTH EAST
RESIDENTIAL DEVELOPMENT CHARGE
DEVELOPMENT CHARGE

SERVICE	Unadjusted Charge Per Capita	Adjusted Charge Per Capita After Cashflow	Charge Per Unit Type ⁽¹⁾		
			Single & Semi Detached	Multiples	Apartments
FIRE SERVICES	\$429	\$429	\$1,257	\$858	\$643
LIBRARY SERVICES	\$51	\$50	\$148	\$101	\$76
PARKS & RECREATION	\$722	\$713	\$2,090	\$1,426	\$1,070
DEVELOPMENT-RELATED STUDIES	\$141	\$142	\$416	\$283	\$213
SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS	\$207	\$260	\$763	\$520	\$390
SERVICES RELATED TO A HIGHWAY: ROADS & RELATED	\$448	\$595	\$1,746	\$1,191	\$893
SUB-TOTAL MUNICIPAL-WIDE CHARGE (RURAL)	\$1,997	\$2,190	\$6,420	\$4,379	\$3,285
WATER SERVICES	\$134	\$159	\$465	\$317	\$238
WASTEWATER SERVICES	\$716	\$912	\$2,674	\$1,824	\$1,368
SUB-TOTAL URBAN ENGINEERED SERVICE CHARGE	\$850	\$1,071	\$3,139	\$2,141	\$1,606
TOTAL DEVELOPMENT CHARGE (URBAN SERVICES)	\$2,847	\$3,260	\$9,559	\$6,520	\$4,891
1: Person per unit:			2.93	2.00	1.50

TABLE 7
TOWNSHIP OF PERTH EAST
NON-RESIDENTIAL DEVELOPMENT CHARGE
DEVELOPMENT CHARGE

SERVICE	Unadjusted Charge (\$/sq.m.)	Adjusted Charge (\$/sq.m.)
FIRE SERVICES	\$7.07	\$7.13
LIBRARY SERVICES	\$0.00	\$0.00
PARKS & RECREATION	\$0.00	\$0.00
DEVELOPMENT-RELATED STUDIES	\$2.33	\$2.36
SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS	\$3.43	\$4.18
SERVICES RELATED TO A HIGHWAY: ROADS & RELATED	\$7.43	\$9.56
SUB-TOTAL MUNICIPAL-WIDE CHARGE (RURAL)	\$20.26	\$23.23
WATER SERVICES	\$2.22	\$2.55
WASTEWATER SERVICES	\$11.89	\$14.62
SUB-TOTAL URBAN ENGINEERED SERVICE CHARGE	\$14.11	\$17.17
TOTAL DEVELOPMENT CHARGE PER SQ.M (URBAN SERVICE)	\$34.37	\$40.40

7. COST OF GROWTH ANALYSIS

This section summarizes the examination of the long-term capital and operating costs as well as the asset management-related annual provisions for the capital facilities and infrastructure to be included in the DC By-law. This examination is required as one of the provisions of the *DCA*. Additional details on the cost of growth analysis, including asset management analysis, is included in Appendix E.

A. ASSET MANAGEMENT PLAN

Tables 8 and 9 provides the calculated annual asset management contribution for the gross capital expenditures and the share related to the DC recoverable portion for general and engineered services respectively.

The year 2031 has been included in Table 8 to calculate the annual contribution for the 2021-2030 period as the expenditures in 2030 will not trigger asset management contributions until 2031. As shown in Table 8, by 2031, the Township should fund an additional \$30,200 per annum in order to fund the full life cycle costs of the new assets related to the municipal-wide 10-year services supported under the development charges by-law.

TABLE 8

TOWNSHIP OF PERTH EAST
CALCULATED ANNUAL PROVISION BY 2031

Service	2021 - 2030 Capital Program		Calculated AMP Annual Provision by 2031	
	DC Recoverable	Non-DC Funded*	DC Related	Non-DC Related
Fire Services	\$ 334,000	\$ 695,000	\$ 18,700	\$ 40,400
Library Services	\$ 20,000	\$ -	\$ 1,900	\$ -
Parks & Recreation	\$ 281,100	\$ 912,900	\$ 9,600	\$ 28,900
Development-Related Studies	\$ 110,000	\$ -	\$ -	\$ -
TOTAL	\$ 745,100	\$ 1,607,900	\$ 30,200	\$ 69,300

* Includes grants, subsidies, replacement costs, and costs that will be recovered in future development charges studies (e.g. other-development related)

Table 9 provides the calculated annual asset management contribution for the gross capital expenditures and the share related to the 2021-2046 DC recoverable portion. Similar to general services, the year 2047 has been included to calculate the annual contribution as the expenditures in 2046 will not trigger asset management contributions until 2047. As shown in Table 9, by 2047, the Township should fund an additional \$74,800 per annum in order to fund the full life cycle costs of the new assets related to the engineered services supported under the development charges by-law

TABLE 9

TOWNSHIP OF PERTH EAST
CALCULATED ANNUAL PROVISION BY 2047

Service	2021 - 2046 Capital Program		Calculated AMP Annual Provision by 2047	
	DC Recoverable	Non-DC Funded*	DC Related	Non-DC Related
Services Related To A Highway: Public Works	\$ 291,500	\$ 48,500	\$ 26,500	\$ 4,900
Services Related To A Highway: Roads & Related	\$ 631,800	\$ 1,580,800	\$ 26,200	\$ 65,700
Water Services	\$ 177,500	\$ 322,500	\$ 5,900	\$ 6,500
Wastewater Services	\$ 950,000	\$ 50,000	\$ 16,200	\$ -
TOTAL	\$ 2,050,800	\$ 2,001,800	\$ 74,800	\$ 77,100

* Includes grants, subsidies, replacement costs, and costs that will be recovered in future development charges studies (e.g. other-development related)

B. LONG-TERM CAPITAL AND OPERATING COSTS

Appendix E summarizes the estimated increase in net operating costs that the Township will experience for additions associated with the planned capital forecast. Table 10 summarizes the estimated increase in net operating costs that the Township will experience for additions associated with the planned capital program.

By 2030, the Township's net operating costs are estimated to increase by \$134,000 and \$365,000 by 2046.

Appendix E also summarizes the components of the development related capital program that will require funding from non-development charge sources.

- In total, \$907,000 will need to be financed from non-DC sources (likely property taxes) over the 2021-2030 period for general services;
- Over the longer-term for engineering related tax supported services, a further \$1.35 million has been identified which requires funding from non-DC sources; and
- Lastly, over the longer-term for utility rate supported services, \$262,500 has been identified as the share required from non-dc sources.

Council is made aware of these factors so that they understand the financial implications of the quantum and timing of the projects included in the development related capital forecast in this study.

TABLE 10

TOWNSHIP OF PERTH EAST
ESTIMATED NET OPERATING COST OF THE PROPOSED
DEVELOPMENT-RELATED CAPITAL PROGRAM

Service Area	Net Cost (in constant \$2021)	Estimated Operating Costs (\$000) 2030	Estimated Operating Costs (\$000) 2046
Fire Services Fleet & Equipment	\$0.10 per \$1.00 added	\$100.90	
Library Services Collection Materials	\$0.15 per \$1.00 added	\$3.00	
Parks & Recreation Park Development	\$0.05 per \$1.00 added	\$30.50	
Services Related To A Highway: Public Works Vehicles and Fleet	\$0.70 per \$1.00 added		\$238.00
Services Related To A Highway: Roads & Related Roads Construction	\$400 per household		\$126.65
TOTAL ESTIMATED OPERATING COSTS (\$000)		\$134	\$365

C. THE PROGRAM IS DEEMED TO BE FINANCIALLY SUSTAINABLE

In summary, the asset management plan and long-term capital and operating analysis contained in Appendix E demonstrate that the Township can afford to invest and operate the identified general and engineered services infrastructure over the planning periods to 2030 and 2046.

Importantly, the Township’s annual budget review allows staff to continue to monitor and implement mitigating measures should the program become less sustainable.

8. IMPLEMENTATION AND ADMINISTRATION

This section sets out the DCA requirements in respect of DC collection and administration. Implementation options are provided for Council's consideration.

A. DEVELOPMENT CHARGES COLLECTION & ADMINISTRATION

i. DC Amount Payable and Date of Payment

The total amount of a DC is the amount of the DC that would be determined under the by-law on the day of an application for site plan approval or the day of an application for rezoning or, if neither of these apply, the day of building permit issuance. Full details on determining the DCs payable in any particular case are provided in s.26 and s.26.2 of the *DCA*.

The default date of payment of a DC is the date of building permit issuance. However, under s.27 of the *DCA* the Township may enter into an agreement with a developer to alter the timing of payment.

For three specific types of development DCs must be paid according to the following plan:

- Six equal annual installments beginning at building occupancy (permit or actual occupancy) and for the following five anniversaries of that date for rental housing and institutional development.
- Twenty-one equal annual installments beginning at building occupancy (permit or actual occupancy) and for the following twenty anniversaries of that date for non-profit housing development.

For required instalments, the Township may charge interest from the date the DC would have been payable to the date the instalment is paid. Interest may accrue on each installment until the final payment has been made. Any skipped or late payments can be added to the tax roll (including interest). Full details on the prescribed payment plans are provided in s.26.1 of the *DCA*.

ii. Reserve Funds

Under the *DCA*, a municipality that has passed a development charge by-law must establish a separate reserve fund for each service to which the development charge relates and pay each development charge it collects into the respective reserve fund. While the *DCA* does

permit municipalities to borrow from the reserve fund, the amount borrowed is to be repaid with interest at a rate not less than the prescribed minimum interest rate. Additionally, money in the reserve fund is to be spent only on development-related capital costs.

Annual financial statements are to be provided to Council and must include the following:

- Opening and closing balances and in-year transactions
- A description of service or category of service
- Details on credits paid by individual credit holders
- Amounts borrowed and purpose of borrowing
- Interest accrued on borrowing
- Amount and source of money used to repay borrowing
- Projects funded from DCs including amount and source of DC and non-DC funding

Statutory and non-statutory exemptions should be funded from non-DC sources. As the Township does not currently impose DCs, no development charges funds are available in reserve to help offset any project cost in this study.

iii. Recommendations

- As required under the *DCA*, the Township should codify any rules regarding application of the by-law and exemptions within the DC by-law proposed for adoption.
- It is recommended that Council adopt the development-related capital forecast included in this Background Study, subject to annual review through the Township's normal capital budget process.
- It is recommended that limited exemptions, other than those required in the *DCA*, be formally adopted in the by-laws.
- It is recommended that the Township adopt indexing provisions in the by-law so as to ensure that the DC rates incorporate inflationary increases over the by-law term.

APPENDIX A

DEVELOPMENT FORECAST

DEVELOPMENT FORECAST

This appendix summarizes the development forecast used to prepare the 2021 Development Charges Background Study for the Township of Perth East. The forecast results are presented in the following tables:

Historical Development

Table 1	Historical Population, Occupied Households & Employment Summary
Table 2	Historical Annual Building Permits
Table 3	Historical Households by Period of Construction Showing Household Size

Forecast Development

Table 4	Population, Household & Employment Forecast Summary
Table 5	Forecast of Household Growth by Unit Type
Table 6	Forecast Population Growth in New Households by Unit Type
Table 7	Forecast Non-Residential Space (Square Metres of Gross Floor Area)

A. FORECAST APPROACH AND KEY ASSUMPTIONS

The *Development Charges Act* (DCA) requires the Township to estimate “the anticipated amount, type and location of development” for which development charges may be imposed. The forecast must cover both residential and non-residential development and be specific enough with regards to the quantum, type, location and timing of such development to allow the Township to prepare a reasonable development-related capital program.

A 10-year development time horizon, from 2021 to 2030, has been used to calculate the development charges for general services considered under this study and a longer-term horizon, to 2046, for Services Related to a Highway, Water and Wastewater services. The forecast was prepared consistent with those projections contained in the County of Perth Official Plan Update - Comprehensive Review dated April 2020 prepared by Watson and Associates Economists Ltd.

B. HISTORICAL DEVELOPMENT IN THE TOWNSHIP

Historical growth figures presented in Table 1 are based on Statistics Canada Census and building permit data. Figures shown in the development forecast represent mid-year estimates. A “Census-based” definition of population is used for the purposes of the development charges study. This definition does not include the Census net undercoverage, which represents those who were missed or double-counted by the Census.

For development charges purposes, a ten year historical period of 2011 to 2020 is used for calculating historical service levels. Since 2016 was the last year of the Census, figures from 2017 to 2020 are estimated.

Table 1 shows that the Township of Perth East experienced a modest increase in population growth since 2011. The Township’s population increased by 460 over the last decade, from 12,000 in 2011 to 12,460 in 2020.

Historical employment figures are also shown in Table 1 and are based on Statistics Canada place of work data. “Place of Work Employment” figures record where people work rather than their place of residence. It includes all employment with a regular or no fixed place of work but excludes those who work at home.

Following a similar growth pattern to that of population, the Township’s employment increased between 2011 and 2020—by about 930 jobs—with most growth occurring before 2016. The Township’s current activity rate is 28 per cent which has increased over the last decade from 22 per cent in 2011.

As with the recent population and employment growth, the number of occupied dwellings in the Township increased from 3,900 in 2011 to about 4,140 in 2020. The dominant type of housing in Perth East is the single and semi-detached homes, which accounts for nearly all the unit types. That said, recent building permit data does indicate a shift towards more row and apartment unit construction.

Table 3 provides details on historical occupancy patterns for permanently occupied households in Perth East. Occupancy levels for recently constructed single and semi-detached units, between 2006 and 2016, are often higher than the overall average and are generally used to support the development charges calculations since they better reflect the number of people that are likely to reside in new development. The average PPU of single detached units built in the Township in the period 2006 to 2016 is 2.93. For the purpose of this study, PPU levels of 2.00 and 1.50 are assumed for row units and apartments respectively as limited data on new construction units exist.

C. FORECAST METHOD AND RESULTS

This section describes the method used to establish the 10-year development charges forecast for the 2021-2030 planning period and longer-term forecast.

Development charges are levied on residential development as a charge per new unit. Therefore, for the residential forecast, a projection of both the *population growth*¹ as well as the *population in new housing units*, is required.

Population growth determines the need for additional facilities and provides the foundation for the development-related capital program. When calculating the development charge, however, the development-related net capital costs are spread over the total additional population that occupy new housing units. This *population in new units* represents the population from which development charges will be collected.

Development charges are levied on non-residential development as a charge per square metre of gross floor area (GFA). As with the residential forecast, the non-residential forecast requires both a projection of *employment growth* as well as a projection of the *employment growth associated with new floor space* in the Township.

i. Residential Forecast

The residential development forecast incorporates anticipated growth in population and occupied dwelling units by type. As detailed in Table 4, the Township's Census population is forecast to grow from 12,460 in 2020 to 12,640 in 2030 and 12,800 by 2046.

The number of occupied housing units is forecast to increase from by 157 units from 4,143 in 2020 to 4,300 in 2030. This reflects an average annual increase of 15 occupied dwelling units per year or a 4 per cent increase in occupied dwelling units over the time horizon to 2030. Over the longer-term, the number of occupied dwellings is anticipated to reach 4,460 units by 2046 (an increase of 317 units from 2020).

A breakdown of anticipated housing by unit type in the Township is shown in Table 5. The mix of new housing is indicating a shift to more medium to high-density dwelling units, with the largest share of housing (67 per cent) being single or semi-detached unit types in the next ten-years. Over the longer-term, the type of new dwelling units is expected to

¹ Commonly referred to as "net population growth" in the context of development charges.

transition further to medium and higher-density dwelling units from single and semi-detached dwellings.

Population growth in the new units is estimated by applying the following PPU's to the housing unit forecast: 2.93 for single and semi-detached units; 2.00 for rows; and 1.50 for apartments. The assumptions are informed by the historical occupancy patterns for permanently occupied single/semi detached units as set out in Table 3 and, due to the limited data on recently constructed units in the Township, historical trends related to row and apartment occupancy patterns in other communities.

The total forecast population in new housing units over the 2021 to 2030 period is 390 and 748 for growth over the longer-term to 2046 (see Table 6). Nearly 95% of all growth is anticipated to occur in the Township's urban serviced areas of Milverton and Shakespeare.

ii. Non-Residential Forecast

Non-residential development charges are calculated on a per unit of gross floor area basis. Therefore, as per the DCA, a forecast of future non-residential building space has been developed. As with the residential forecast, the GFA forecast covers the 10-year period from 2021 to 2030 for general services and 2021-2046 for engineered services. This forecast is shown in Table 7.

Place of work employment is forecast to increase by 394 over the planning period to 2030 and 666 by 2046.

An assumed floor space per worker (FSW) is applied to the employment forecast numbers in order to forecast growth in new non-residential space in the Township. The overall growth in new non-residential building space across the Township of Perth East between 2021 and 2030 is 23,622 square metres and 39,942 square metres between 2021 and 2046. Nearly 95% of all growth is anticipated to occur in the Township's urban serviced areas.

APPENDIX A

TABLE 1

TOWNSHIP OF PERTH EAST

HISTORICAL POPULATION, OCCUPIED HOUSEHOLDS & EMPLOYMENT SUMMARY

Mid-Year	Census Population	Growth	Occupied Households	Household Growth	PPU	Employment by Place of Work (POW)	Growth	Activity Rate
2011	12,000		3,900		3.08	2,590		22%
2012	12,059	59	3,920	20	3.08	2,720	130	23%
2013	12,119	60	3,940	20	3.08	2,857	137	24%
2014	12,179	60	3,960	20	3.08	3,001	144	25%
2015	12,239	60	3,980	20	3.08	3,152	151	26%
2016	12,300	61	4,000	20	3.08	3,310	158	27%
2017	12,340	40	4,035	35	3.06	3,362	52	27%
2018	12,380	40	4,071	36	3.04	3,415	53	28%
2019	12,420	40	4,107	36	3.02	3,469	54	28%
2020	12,460	40	4,143	36	3.01	3,524	55	28%
Growth 2011-2020		460		243			934	

Source: Statistics Canada, Census of Canada; Hemson Estimates based on Perth County Revised Official Plan Update - Comprehensive Review (2020)

Note: Activity rate is based on ratio of number of employees to census population.

Note: census figures are rounded.

APPENDIX A
 TABLE 2
 TOWNSHIP OF PERTH EAST
 HISTORICAL ANNUAL BUILDING PERMITS BY TYPE

Mid-Year	Annual Housing Building Permits - Units				Building Permits - Shares By Unit Type			
	Singles & Semis	Rows	Apts.	Total	Singles & Semis	Rows	Apts.	Total
2011	34	5	1	40	85%	13%	3%	100%
2012	13	-	-	13	100%	0%	0%	100%
2013	33	-	1	34	97%	0%	3%	100%
2014	26	-	5	31	84%	0%	16%	100%
2015	28	-	-	28	100%	0%	0%	100%
2016	25	4	6	35	71%	11%	17%	100%
2017	56	4	5	65	86%	6%	8%	100%
2018	64	4	-	68	94%	6%	0%	100%
2019	67	3	10	80	84%	4%	13%	100%
2020	40	6	-	46	87%	13%	0%	100%
Growth 2011 - 2020	386	26	28	440	88%	6%	6%	100%
<i>5 Year Avg.</i>	<i>47</i>	<i>4</i>	<i>4</i>	<i>54</i>				

APPENDIX A

TABLE 3

TOWNSHIP OF PERTH EAST

HISTORICAL HOUSEHOLDS BY PERIOD OF CONSTRUCTION SHOWING HOUSEHOLD SIZE

Dwelling Unit Type	Period of Construction										Period of Construction Summaries		
	Pre 1945	1946-1960	1961-1970	1971-1980	1981-1990	1991-1995	1996-2000	2001-2005	2006-2010	2011-2016	Pre 2006	2006-2016	Total
Singles and Semis													
Household Population	4,765	725	1,015	1,410	1,055	585	500	595	355	290	10,650	645	11,295
Households	1,470	305	370	480	365	170	175	175	110	110	3,510	220	3,730
Household Size	3.24	2.38	2.74	2.94	2.89	3.44	2.86	3.40	3.23	2.64	3.03	2.93	3.03
Rows													
Household Population	0	0	0	25	0	0	0	0	0	25	25	25	50
Households	10	0	10	15	10	0	0	0	0	25	45	25	70
Household Size	0.00	0.00	0.00	1.67	0.00	0.00	0.00	0.00	0.00	1.00	0.56	1.00	0.71
Apartments													
Household Population	160	35	0	40	35	0	0	0	0	0	270	0	270
Households	75	15	25	35	15	0	25	0	0	0	190	0	190
Household Size	2.13	2.33	0.00	1.14	2.33	0.00	0.00	0.00	0.00	0.00	1.42	0.00	1.42
All Units (excl. Duplexes)													
Household Population	4,925	760	1,015	1,475	1,090	585	500	595	355	315	10,945	670	11,615
Households	1,555	320	405	530	390	170	200	175	110	135	3,745	245	3,990
Household Size	3.17	2.38	2.51	2.78	2.79	3.44	2.50	3.40	3.23	2.33	2.92	2.73	2.91

Source: Statistics Canada, 2016 National Household Survey Special Run.

APPENDIX A

TABLE 4

TOWNSHIP OF PERTH EAST

POPULATION, HOUSEHOLD & EMPLOYMENT FORECAST SUMMARY

Mid-Year	Census Population	Census Pop'n Growth	Occupied Households	Household Growth	Household Size	Employment by POW	Employment by POW Growth	Activity Rate
2021	12,500	40	4,180	37	2.99	3,580	56	28.6%
2022	12,520	20	4,196	16	2.98	3,629	49	29.0%
2023	12,540	20	4,212	16	2.98	3,678	49	29.3%
2024	12,560	20	4,228	16	2.97	3,728	50	29.7%
2025	12,580	20	4,244	16	2.96	3,779	51	30.0%
2026	12,600	20	4,260	16	2.96	3,830	51	30.4%
2027	12,610	10	4,270	10	2.95	3,852	22	30.5%
2028	12,620	10	4,280	10	2.95	3,874	22	30.7%
2029	12,630	10	4,290	10	2.94	3,896	22	30.8%
2030	12,640	10	4,300	10	2.94	3,918	22	31.0%
2031	12,650	10	4,310	10	2.94	3,940	22	31.1%
2032	12,660	10	4,318	8	2.93	3,958	18	31.3%
2033	12,670	10	4,326	8	2.93	3,976	18	31.4%
2034	12,680	10	4,334	8	2.93	3,994	18	31.5%
2035	12,690	10	4,342	8	2.92	4,012	18	31.6%
2036	12,700	10	4,350	8	2.92	4,030	18	31.7%
2037	12,710	10	4,360	10	2.92	4,044	14	31.8%
2038	12,720	10	4,370	10	2.91	4,058	14	31.9%
2039	12,730	10	4,380	10	2.91	4,072	14	32.0%
2040	12,740	10	4,390	10	2.90	4,086	14	32.1%
2041	12,750	10	4,400	10	2.90	4,100	14	32.2%
2042	12,760	10	4,412	12	2.89	4,118	18	32.3%
2043	12,770	10	4,424	12	2.89	4,136	18	32.4%
2044	12,780	10	4,436	12	2.88	4,154	18	32.5%
2045	12,790	10	4,448	12	2.88	4,172	18	32.6%
2046	12,800	10	4,460	12	2.87	4,190	18	32.7%
Growth 2021-2030		180		157			394	
Growth 2021-2046		340		317			666	

Source: Perth County Revised Official Plan Update - Comprehensive Review (2020)

Note: Census population does not include net undercount; Employment figures do not include work from home

APPENDIX A
TABLE 5
TOWNSHIP OF PERTH EAST
FORECAST OF HOUSEHOLD GROWTH BY UNIT TYPE

Mid-Year	Annual Growth in Total Occupied Households				Shares By Unit Type			
	Singles & Semis	Rows & Other Multiples	Apartments	Total New Households	Singles & Semis	Rows & Other Multiples	Apartments	Total
2021	28	2	7	37	77%	6%	18%	100%
2022	12	0	4	16	76%	0%	24%	100%
2023	12	0	4	16	75%	0%	25%	100%
2024	12	0	4	16	75%	0%	25%	100%
2025	12	0	4	16	75%	0%	25%	100%
2026	12	0	4	16	74%	0%	26%	100%
2027	4	2	4	10	41%	20%	39%	100%
2028	4	2	4	10	40%	20%	40%	100%
2029	4	2	4	10	40%	20%	40%	100%
2030	4	2	4	10	40%	20%	40%	100%
2031	4	2	4	10	39%	20%	41%	100%
2032	4	0	4	8	51%	0%	49%	100%
2033	4	0	4	8	50%	0%	50%	100%
2034	4	0	4	8	50%	0%	50%	100%
2035	4	0	4	8	50%	0%	50%	100%
2036	4	0	4	8	49%	0%	51%	100%
2037	4	4	2	10	41%	39%	20%	100%
2038	4	4	2	10	41%	39%	20%	100%
2039	4	4	2	10	40%	40%	20%	100%
2040	4	4	2	10	39%	41%	20%	100%
2041	4	4	2	10	39%	41%	20%	100%
2042	4	6	2	12	35%	48%	17%	100%
2043	4	6	2	12	34%	49%	17%	100%
2044	4	6	2	12	33%	50%	17%	100%
2045	4	6	2	12	33%	51%	16%	100%
2046	4	6	2	13	32%	52%	16%	100%
Growth 2021-2030	104	10	42	157	67%	6%	27%	100%
Growth 2021-2046	168	62	87	317	53%	20%	27%	100%

Source: Perth County Revised Official Plan Update - Comprehensive Review (2020)

APPENDIX A

TABLE 6

TOWNSHIP OF PERTH EAST

FORECAST POPULATION GROWTH IN NEW HOUSEHOLDS BY UNIT TYPE*

Mid-Year	Singles & Semis	Rows & Other Multiples	Apartments	Total Population in New Households	Urban Services Total Population in New Households	Total Population in New Households - Milverton	Total Population in New Households - Shakespeare
2021	83	4	10	97	91	80	12
2022	35	0	6	41	38	33	5
2023	35	0	6	41	38	34	5
2024	35	0	6	41	39	34	5
2025	35	0	6	41	39	34	5
2026	35	0	6	42	39	34	5
2027	12	4	6	21	20	17	3
2028	12	4	6	22	20	18	3
2029	12	4	6	22	20	18	3
2030	12	4	6	22	21	18	3
2031	12	4	6	22	21	18	3
2032	12	0	6	17	16	14	2
2033	12	0	6	18	17	14	2
2034	12	0	6	18	17	15	2
2035	12	0	6	18	17	15	2
2036	12	0	6	18	17	15	2
2037	12	8	3	22	21	18	3
2038	12	8	3	22	21	18	3
2039	12	8	3	23	21	19	3
2040	12	8	3	23	22	19	3
2041	12	9	3	23	22	19	3
2042	12	11	3	26	24	21	3
2043	12	12	3	26	25	21	3
2044	12	12	3	27	25	22	3
2045	12	12	3	27	26	22	3
2046	12	13	3	28	26	23	3
Growth 2021-2030	306	20	64	390	366	319	47
Growth 2021-2046	494	124	130	748	703	613	90

*Based on PPUs 2.93 2.00 1.50

Source: Hemson Consulting Ltd., 2021 based on Perth County Revised Official Plan Update - Comprehensive Review (2020)

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TABLE 7

TOWNSHIP OF PERTH EAST

FORECAST NON-RESIDENTIAL SPACE (SQUARE METRES OF GROSS FLOOR AREA)

All Employment 60.0 m² per employee

Mid-Year	Total For DC Study		Urban Services	Milverton	Shakesphere
	Emp Growth in New Space	New Space (m ²)	New Space (m ²)	New Space (m ²)	New Space (m ²)
2021	56	3,342	3,142	2,741	401
2022	49	2,940	2,764	2,411	353
2023	49	2,940	2,764	2,411	353
2024	50	3,000	2,820	2,460	360
2025	51	3,060	2,876	2,509	367
2026	51	3,060	2,876	2,509	367
2027	22	1,320	1,241	1,082	158
2028	22	1,320	1,241	1,082	158
2029	22	1,320	1,241	1,082	158
2030	22	1,320	1,241	1,082	158
2031	22	1,320	1,241	1,082	158
2032	18	1,080	1,015	886	130
2033	18	1,080	1,015	886	130
2034	18	1,080	1,015	886	130
2035	18	1,080	1,015	886	130
2036	18	1,080	1,015	886	130
2037	14	840	790	689	101
2038	14	840	790	689	101
2039	14	840	790	689	101
2040	14	840	790	689	101
2041	14	840	790	689	101
2042	18	1,080	1,015	886	130
2043	18	1,080	1,015	886	130
2044	18	1,080	1,015	886	130
2045	18	1,080	1,015	886	130
2046	18	1,080	1,015	886	130
Growth 2021-2030	394	23,622	22,205	19,370	2,835
Growth 2021-2046	666	39,942	37,546	32,753	4,793

Source: Hemson Consulting Ltd., 2021 based on Perth County Revised Official Plan Update - Comprehensive Review (2020)

APPENDIX B
GENERAL SERVICES
TECHNICAL APPENDIX

GENERAL SERVICES TECHNICAL APPENDIX

This appendix provides the detailed analysis undertaken to establish the development charge rates for each of the eligible general services provided by the Township of Perth East. Four services have been analysed:

- Appendix B.1 Fire Services
- Appendix B.2 Library Services
- Appendix B.3 Parks & Recreation
- Appendix B.4 Development-Related Studies

Every sub-section, with the exception of Development-Related Studies, contains a set of three tables. The tables provide the background data and analysis undertaken to arrive at the calculated development charge rates for that particular service. An overview of the content and purpose of each of the tables is given below.

TABLE 1 HISTORICAL SERVICE LEVELS

Table 1 presents the data used to determine the ten-year historical service level. The *DCA* and *Ontario Regulation 82/98* require that development charges be set at a level no higher than the average service level provided in the Township over the ten-year period immediately preceding the preparation of the background study, on a service by service basis. For the purpose of this study, the historical inventory period is defined as 2011–2020.

O. Reg. 82/98 requires that when defining and determining historical service levels both the quantity and quality of service be taken into consideration. In most cases, the service levels are initially established in quantitative terms. For example, service levels for buildings are presented in terms of square feet. The qualitative aspect is introduced by considering the monetary value of the facility or service. In the case of buildings, for example, the cost would be shown in terms of cost per square foot to replace or construct a facility of the same quality. This approach helps to ensure that the growth-related capital facilities that are to be funded by new development reflect not only the quantity (number and size) but also the quality (replacement value or cost) of service provided by the municipality in the past. Both the quantitative and qualitative aspects of service levels used in the current analysis are based on information provided by Township staff. This information is generally based on historical records and experience with costs to acquire or construct similar facilities, equipment and infrastructure.

Table 1 also shows the calculation of the “maximum allowable” funding envelope. The maximum allowable is defined as the ten-year average historical service level (expressed as \$/capita or \$/population and employment) multiplied by the forecast increase in net population or net population and employment over the planning period. The resulting figure is the value of capital infrastructure that must be constructed for that particular service in order to maintain the ten-year average historical service level.

For those services with only a residential impact (Library and Parks & Recreation), the service level measure of net population has been utilized. For the remaining services that levy both a residential and non-residential charge, the service level measure of net population plus employment has been utilized.

TABLE 2 2021 – 2030 CAPITAL PROGRAM AND CALCULATION OF “UNADJUSTED” DEVELOPMENT CHARGES

The *DCA* requires that Council express its intent to provide capital facilities to support future development. Based on the development forecasts presented in Appendix A, Township staff in collaboration with consultants, have developed a development-related capital program that sets out the projects required to service anticipated development for the 10-year period from 2021–2030.

To determine the share of the program that is eligible for recovery through development charges, the project costs are reduced by any anticipated grants, subsidies or other recoveries and “benefit to existing” shares.

A benefit to existing share represents that portion of a capital project that will benefit the existing community. It could, for example, represent a portion of a new facility that, at least in part, replaces a facility that is demolished, redeployed or will otherwise not be available to serve its former function (a “replacement” share). The benefit to existing share of the capital program is not deemed to be development-related and is therefore removed from the development charge calculation. The capital cost for benefit to existing shares will require funding from non-development charge sources, typically property taxes or user fees.

The net capital program less any benefit to existing shares yields the development-related costs. Although identified as development-related, the development-related capital program may not be recoverable in full from development charges in the period from 2021 to 2030.

For some of the services, a portion of the capital program will service development that will not occur until after 2030. This portion of the capital program is either deemed “pre-built”

service capacity to be considered as committed excess capacity to be recovered under future development or represents a future service level increase that is ineligible for development charge recovery.

The remaining portion of the net capital program represents the development-related cost that may be included in the development charge calculation. In all cases this amount is equal to or less than the maximum allowable funding envelope that is calculated on the final page of Table 1. The result is the discounted development-related net capital cost that is eligible for recovery through development charges over the forecast period from 2021 to 2030.

i. Calculation of the Unadjusted Development Charges Rates

The section below the capital program displays the calculation of the “unadjusted” development charge rates. The term “unadjusted” development charge is used to distinguish the charge that is calculated prior to cash flow financing considerations. The cash flow analysis is shown in Table 3.

The first step in determining the unadjusted development charge rate is allocating the development-related net capital cost between the residential and non-residential sectors. For Fire Services and Development-Related Studies, the development-related costs have been apportioned as 50 per cent residential and 50 per cent non-residential. This apportionment is based on the anticipated shares of population growth in new units and employment growth in new space over the forecast period to 2030. For Library Services and Parks & Recreation, the development-related costs have been apportioned as 100 per cent residential to reflect the need for these facilities is driven entirely by residential development.

The residential share of the 2021–2030 development charge eligible cost is then divided by the forecasted population growth in new dwelling units. This gives the unadjusted residential development charge per capita. The non-residential development-related net capital cost is divided by the forecasted increase in non-residential gross floor area (GFA). This yields a charge per square metre of new non-residential development.

TABLE 3 CASH FLOW ANALYSIS

A cash flow analysis is also undertaken to account for the timing of projects and receipt of development charges. Interest earnings or borrowing costs are accounted for in the calculation as allowed under the *DCA*. Based on the development forecast, the analysis

calculates the DC rate required to finance the net development-related capital spending plan, including provisions for any borrowing costs or interest earnings on the reserve funds. The cash flow analysis is designed such that the closing cash balance at the end of the planning period is as close to nil as possible.

In order to determine appropriate development charge rates that reflect the borrowing and earnings that are necessary to support net development-related funding requirement, assumptions are used for the inflation rate and interest rate. An inflation rate of 2.0 per cent is adopted for the funding requirements, an interest rate of 5.5 per cent is adopted for borrowing on the funds, and an interest rate of 3.5 per cent is applied to positive balances.

Table 3 displays the results of the cash flow analysis and provides the adjusted, or final, per capita residential and per square metre (of GFA) non-residential development charges.

APPENDIX B.1

FIRE SERVICES

FIRE SERVICES

The following section sets out the 2021-2030 development-related inventory of capital assets, capital forecast and the calculation of the development charge for Fire Services in the Township of Perth East. This department currently operates out of three facilities: Sebringville, Shakespeare, and a new Milverton Station.

TABLE 1 HISTORICAL SERVICE LEVELS

Table 1 displays the ten-year historical inventory for buildings, land, materials, furniture and equipment, and vehicles for Fire Services. The Fire department operates out of three branches totalling 21,510 square feet which is valued at \$2.99 million. The Township's Fire Services facilities occupy 2.03 hectares of land valued at approximately \$1.02 million. The replacement value for furniture and equipment in the three stations amounts to approximately \$799,500.

Additionally, the Township owns 13 vehicles including an aerial truck, six fire tankers, two pickup trucks, two pumpers, and two rescue trucks. The total value of fleet associated with the Township's Fire department is \$6.28 million.

The current replacement value of the inventory of capital assets for Fire Services in the Township is \$11.08 million. This has provided the Township with a ten-year average service level of \$695.01 per capita and employment. Multiplying this historical service level by the net population and employment growth occurring between 2021 and 2030 (574 persons and employees) results in a maximum funding envelope of \$398,913.

TABLE 2 2021 – 2030 CAPITAL PROGRAM AND CALCULATION OF “UNADJUSTED” DEVELOPMENT CHARGES

The 2021-2030 Fire Services development-related capital program includes provisions for an additional rescue truck, a new ladder truck with pump, as well as additional defibrillator equipment.

The total cost of the capital program is \$1.03 million. Of this total program, approximately \$20,000 in grants has been identified and results in a net municipal cost of \$1.01 million. A portion of this total (\$675,000) has been removed from the development charge calculation as a benefit to existing share as it relates to the replacement of an existing fire pumper

truck in service. As such, only \$334,000 has been brought forward to the development charge.

The development-related share of the program cost has been allocated 50 per cent and 50 per cent to residential and non-residential development respectively. The residential share (\$167,000) is divided by the anticipated growth in population in new units over the planning period (390 persons) which yields an unadjusted development charge of \$428.62 per capita. Likewise, the non-residential share of the capital program (\$167,000) is divided by the anticipated growth in square metres over the period to 2030 (23,622 sq.m.) which yields an unadjusted charge of \$7.07 per square metre.

TABLE 3 CASH FLOW ANALYSIS

Given the Township does not currently collect development charges, no reserve fund is available for Library services and the cash flow is opened with a zero balance. After cash flow considerations, the per capita residential charge and per square metre non-residential development charge increase to \$428.80 and \$7.13 respectively. This is a reflection of the timing of the capital program and anticipated development charges revenues.

FIRE SERVICESUMMARY						
10-year Hist.	2021-2030		Unadjusted		Adjusted	
Service Level	Development-Related	Capital Program	Development Charge		Development Charge	
\$/pop & emp	Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m
\$695.01	\$1,029,000	\$334,000	\$428.62	\$7.07	\$428.80	\$7.13

APPENDIX B.1
TABLE 1 - PAGE 1

TOWNSHIP OF PERTH EAST
INVENTORY OF CAPITAL ASSETS
FIRE SERVICES

BUILDINGS Station Name	# of Square Feet										UNIT COST (\$/sq. ft.)
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Milverton	4,860	4,860	4,860	4,860	4,860	4,860	4,860	-	-	-	\$145
Milverton (New)	-	-	-	-	-	-	-	8,700	8,700	8,700	\$130
Sebringville	6,310	6,310	6,310	6,310	6,310	6,310	6,310	6,310	6,310	6,310	\$145
Shakespeare	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	\$145
Total (sq.ft.)	17,670	17,670	17,670	17,670	17,670	17,670	17,670	21,510	21,510	21,510	
Total (\$000)	\$2,562.2	\$2,562.2	\$2,562.2	\$2,562.2	\$2,562.2	\$2,562.2	\$2,562.2	\$2,988.5	\$2,988.5	\$2,988.5	

LAND Station Name	# of Hectares										UNIT COST (\$/ha)
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Milverton	0.43	0.43	0.43	0.43	0.43	0.43	0.43	-	-	-	\$500,000
Milverton (New)	-	-	-	-	-	-	-	0.90	0.90	0.90	\$500,000
Sebringville	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	\$500,000
Shakespeare	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	\$500,000
Total (ha)	1.56	1.56	1.56	1.56	1.56	1.56	1.56	2.03	2.03	2.03	
Total (\$000)	\$778.3	\$778.3	\$778.3	\$778.3	\$778.3	\$778.3	\$778.3	\$1,015.4	\$1,015.4	\$1,015.4	

**APPENDIX B.1
TABLE 1 - PAGE 2**

**TOWNSHIP OF PERTH EAST
INVENTORY OF CAPITAL ASSETS
FIRE SERVICES**

FURNITURE & EQUIPMENT Description	Total Value of Furniture & Equipment (\$)									
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Generators	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000
Defibrillators	\$6,750	\$6,750	\$6,750	\$6,750	\$6,750	\$6,750	\$6,750	\$6,750	\$6,750	\$6,750
Auto Extrication Equipment	\$20,000	\$20,000	\$20,000	\$47,720	\$47,720	\$47,720	\$47,720	\$47,720	\$47,720	\$47,720
Breathing Air Compressor	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
Radios	\$105,000	\$105,000	\$105,000	\$105,000	\$105,000	\$105,000	\$105,000	\$105,000	\$105,000	\$105,000
Bunker Gear	\$135,000	\$135,000	\$135,000	\$135,000	\$135,000	\$135,000	\$135,000	\$135,000	\$135,000	\$135,000
Station Furniture and Fixtures	\$310,000	\$310,000	\$310,000	\$310,000	\$310,000	\$310,000	\$310,000	\$375,000	\$375,000	\$375,000
Small Equipment (nozles, air comp,)	\$65,000	\$65,000	\$65,000	\$65,000	\$65,000	\$65,000	\$65,000	\$65,000	\$65,000	\$65,000
Total (\$000)	\$706.8	\$706.8	\$706.8	\$734.5	\$734.5	\$734.5	\$734.5	\$799.5	\$799.5	\$799.5

VEHICLES Vehicle Type	# of Vehicles										UNIT COST (\$/vehicle)
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Aerial Trucks - 50ft	1	1	1	1	1	-	-	-	-	-	\$750,000
Aerial Trucks - 78ft	-	-	-	-	-	1	1	1	1	1	\$1,000,000
Fire Tankers	6	6	6	6	6	6	6	6	6	6	\$580,000
Pickup Trucks	1	1	1	2	2	2	2	2	2	2	\$49,000
Pumpers	3	3	3	3	3	2	2	2	2	2	\$675,000
Rescue Trucks	1	1	1	1	2	2	2	2	2	2	\$175,000
Total (#)	12	12	12	13	14	13	13	13	13	13	
Total (\$000)	\$6,479.0	\$6,479.0	\$6,479.0	\$6,528.0	\$6,703.0	\$6,278.0	\$6,278.0	\$6,278.0	\$6,278.0	\$6,278.0	\$6,278.0



**APPENDIX B.1
TABLE 1 - PAGE 3**

**TOWNSHIP OF PERTH EAST
CALCULATION OF SERVICE LEVELS
FIRE SERVICES**

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Historical Population	12,000	12,059	12,119	12,179	12,239	12,300	12,340	12,380	12,420	12,460
Historical Employment	<u>2,590</u>	<u>2,720</u>	<u>2,857</u>	<u>3,001</u>	<u>3,152</u>	<u>3,310</u>	<u>3,362</u>	<u>3,415</u>	<u>3,469</u>	<u>3,524</u>
Total Historical Population & Employment	14,590	14,779	14,976	15,180	15,391	15,610	15,702	15,795	15,889	15,984

INVENTORY SUMMARY (\$000)

Buildings	\$2,562.2	\$2,562.2	\$2,562.2	\$2,562.2	\$2,562.2	\$2,562.2	\$2,562.2	\$2,988.5	\$2,988.5	\$2,988.5
Land	\$778.3	\$778.3	\$778.3	\$778.3	\$778.3	\$778.3	\$778.3	\$1,015.4	\$1,015.4	\$1,015.4
Furniture & Equipment	\$706.8	\$706.8	\$706.8	\$734.5	\$734.5	\$734.5	\$734.5	\$799.5	\$799.5	\$799.5
Vehicles	\$6,479.0	\$6,479.0	\$6,479.0	\$6,528.0	\$6,703.0	\$6,278.0	\$6,278.0	\$6,278.0	\$6,278.0	\$6,278.0
Total (\$000)	\$10,526.2	\$10,526.2	\$10,526.2	\$10,602.9	\$10,777.9	\$10,352.9	\$10,352.9	\$11,081.3	\$11,081.3	\$11,081.3

Average
Service
Level

SERVICE LEVEL (\$/population & employment)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average Service Level
Buildings	\$175.61	\$173.36	\$171.08	\$168.78	\$166.47	\$164.14	\$163.17	\$189.20	\$188.08	\$186.96	\$174.69
Land	\$53.34	\$52.66	\$51.97	\$51.27	\$50.57	\$49.86	\$49.56	\$64.29	\$63.91	\$63.53	\$55.09
Furniture & Equipment	\$48.44	\$47.82	\$47.19	\$48.38	\$47.72	\$47.05	\$46.78	\$50.62	\$50.32	\$50.02	\$48.43
Vehicles	\$444.07	\$438.39	\$432.63	\$430.04	\$435.51	\$402.18	\$399.82	\$397.47	\$395.11	\$392.77	\$416.80
Total (\$/pop & empl)	\$721.46	\$712.24	\$702.87	\$698.48	\$700.27	\$663.22	\$659.33	\$701.57	\$697.42	\$693.27	\$695.01

CALCULATION OF MAXIMUM ALLOWABLE FUNDING ENVELOPE

TOWNSHIP OF PERTH EAST

10-Year Funding Envelope Calculation	
10-Year Average Service Level 2011 - 2020	\$695.01
Net Population & Employment Growth 2021 - 2030	574
Maximum Allowable Funding Envelope	\$398,913



APPENDIX B.1
TABLE 2

TOWNSHIP OF PERTH EAST
DEVELOPMENT-RELATED CAPITAL PROGRAM
FIRE SERVICES

Service	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Cost	Total	DC Eligible Costs			
					Replacement & BTE Share	DC Eligible Costs	Available DC Reserves	2021-2030	Post 2030	
1.0 FIRE SERVICES										
1.1 Fleet										
1.1.1 Rescue Truck	2022	\$ 175,000	\$ 20,000	\$ 155,000	\$ -	\$ 155,000	\$ -	\$ 155,000	\$ -	
1.1.2 New Ladder Truck with Pump	2028	\$ 850,000	\$ -	\$ 850,000	\$ 675,000	\$ 175,000	\$ -	\$ 175,000	\$ -	
Subtotal Fleet		\$ 1,025,000	\$ 20,000	\$ 1,005,000	\$ 675,000	\$ 330,000	\$ -	\$ 330,000	\$ -	
1.2 Equipment										
1.2.1 Additional Defibrulator Equipment	2022	\$ 2,000	\$ -	\$ 2,000	\$ -	\$ 2,000	\$ -	\$ 2,000	\$ -	
1.2.2 Additional Defibrulator Equipment	2028	\$ 2,000	\$ -	\$ 2,000	\$ -	\$ 2,000	\$ -	\$ 2,000	\$ -	
Subtotal Equipment		\$ 4,000	\$ -	\$ 4,000	\$ -	\$ 4,000	\$ -	\$ 4,000	\$ -	
TOTAL FIRE SERVICES		\$ 1,029,000	\$ 20,000	\$ 1,009,000	\$ 675,000	\$ 334,000	\$ -	\$ 334,000	\$ -	

Residential Development Charge Calculation		
Residential Share of 2021-2030 DC Eligible Costs	50%	\$167,000
10 Year Growth in Population in New Units		390
Unadjusted Development Charge Per Capita (\$)		\$428.62
Non-Residential Development Charge Calculation		
Non-Residential Share of 2021-2030 DC Eligible Costs	50%	\$167,000
10 Year Growth in Square Meters		23,622
Unadjusted Development Charge Per Sq.M (\$)		\$7.07

2021 - 2030 Net Funding Envelope	\$398,913
Reserve Fund Balance	\$0

APPENDIX B.1
TABLE 3 - PAGE 1

TOWNSHIP OF PERTH EAST
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
FIRE SERVICES
RESIDENTIAL DEVELOPMENT CHARGE

FIRE SERVICES

OPENING CASH BALANCE FROM APPLICABLE RESERVES	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	TOTAL
OPENING CASH BALANCE (\$000)	0.0	42.4	(20.1)	(2.6)	16.3	36.5	57.8	70.3	(20.8)	(10.8)	
2021-2030 RESIDENTIAL FUNDING REQUIREMENTS											
Fire Services : Non Inflated	\$0.00	\$78.50	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$88.50	\$0.00	\$0.00	\$167.00
Fire Services: Inflated	\$0.00	\$80.07	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$101.66	\$0.00	\$0.00	\$181.73
POPULATION GROWTH											
- Population in New Units	97	41	41	41	41	42	21	22	22	22	390
REVENUE - current (\$000)											
- Dev. Charge Receipts	41.7	17.8	18.3	18.7	19.2	19.7	10.3	10.6	10.9	11.2	\$178.49
- Interest on Opening Balance	0.0	1.5	(1.1)	(0.1)	0.6	1.3	2.0	2.5	(1.1)	(0.6)	\$4.83
- Interest on In-year Transactions (excl.int.)	0.7	(1.7)	0.3	0.3	0.3	0.3	0.2	(2.5)	0.2	0.2	(\$1.59)
TOTAL REVENUE	42.4	17.6	17.5	18.9	20.1	21.4	12.5	10.6	10.0	10.8	\$181.73
CLOSING CASH BALANCE	42.4	(20.1)	(2.6)	16.3	36.5	57.8	70.3	(20.8)	(10.8)	0.0	

2021 Adjusted Charge Per Capita	\$428.80
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Allocation of Capital Program	
Residential Sector	50.0%
Non-Residential Sector	50.0%
Rates for 2021	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX B.1
TABLE 3 - PAGE 2

TOWNSHIP OF PERTH EAST
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
FIRE SERVICES
NON-RESIDENTIAL DEVELOPMENT CHARGE

FIRE SERVICES

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	TOTAL
OPENING CASH BALANCE FROM APPLICABLE RESERVES											
OPENING CASH BALANCE (\$000)	\$0.00	\$24.24	(\$35.21)	(\$14.96)	\$7.31	\$31.59	\$57.20	\$69.98	(\$20.91)	(\$10.85)	
2021-2030 NON-RESIDENTIAL FUNDING REQUIREMENTS											
Fire Services : Non Inflated	\$0.00	\$78.50	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$88.50	\$0.00	\$0.00	\$167.00
Fire Services: Inflated	\$0.00	\$80.07	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$101.66	\$0.00	\$0.00	\$181.73
NON-RESIDENTIAL GROWTH											
- Sq. Metres in New Buildings	3,342	2,940	2,940	3,000	3,060	3,060	1,320	1,320	1,320	1,320	23,622
REVENUE - current (\$000)											
- Dev. Charge Receipts	\$23.8	\$21.4	\$21.8	\$22.7	\$23.6	\$24.1	\$10.6	\$10.8	\$11.0	\$11.2	\$181.08
- Interest on Opening Balance	0.0	0.8	(1.9)	(0.8)	0.3	1.1	2.0	2.4	(1.2)	(0.6)	\$2.15
- Interest on In-year Transactions (excl.int.)	0.4	(1.6)	0.4	0.4	0.4	0.4	0.2	(2.5)	0.2	0.2	(\$1.51)
TOTAL REVENUE	24.2	20.6	20.3	22.3	24.3	25.6	12.8	10.8	10.1	10.8	\$181.73
CLOSING CASH BALANCE	24.2	(35.2)	(15.0)	7.3	31.6	57.2	70.0	(20.9)	(10.8)	(0.0)	

2021 Adjusted Charge Per Square Metre	\$7.13
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Allocation of Capital Program	
Residential Sector	50.0%
Non-Residential Sector	50.0%
Rates for 2021	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX B.2

LIBRARY SERVICES

LIBRARY SERVICES

The following section sets out the 2021-2030 development-related inventory of capital assets, capital forecast and the calculation of the development charge for Library Services in the Township of Perth East. Given all Township residents have access to the Library, the benefits of the Library Services are deemed to be Township-wide for the purpose of calculating the development charge.

TABLE 1 HISTORICAL SERVICE LEVELS

Table 1 displays the ten-year historical inventory for buildings, land, materials, furniture and equipment for Library Services. The Library operates out of one 5,350 square foot branch on Mill Street which was constructed in 2010. Building replacement costs for the branch amounts to \$909,500. The Perth East Public Library occupies 0.28 hectares of land which is valued at approximately \$140,000.

Collection materials in the Library system include books and audiovisual materials. The materials have a combined value of \$247,600. Furniture and equipment including the circulation system add approximately \$85,500 to the total value of the Library inventory.

The 2020 total replacement value of the inventory of capital assets for Library Services in the Township of Perth East is \$1.38 million, resulting in a ten-year historical average service level of \$112.88 per capita. The historical service level, multiplied by the net population growth to 2030 (180 persons), yields a maximum allowable funding envelope of \$20,348.

TABLE 2 2021 – 2030 CAPITAL PROGRAM AND CALCULATION OF “UNADJUSTED” DEVELOPMENT CHARGES

As shown in Table 2, the 2021-2030 Library services capital program includes a \$20,000 provision for additional collection material purchased over the planning period. Given no grants, subsidies, or benefit to existing shares have been identified, the full cost of the capital program has been brought forward to the development charge calculation.

The full cost of the capital program has been allocated 100 per cent to new residential development. The share, \$20,000, is divided by the anticipated growth in population in new units over the planning period (390 persons). This yields an unadjusted development charge of \$51.33 per capita.

TABLE 3 CASH FLOW ANALYSIS

After cash flow considerations, the residential development charge decreases from \$51.33 to \$50.50 per capita. Table 3 summarizes the final calculation of the development charge for Library Services.

LIBRARY SERVICES SUMMARY						
10-year Hist. Service Level \$/pop & emp	2021-2030 Development-Related Capital Program		Unadjusted Development Charge		Adjusted Development Charge	
	Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m
\$112.88	\$20,000	\$20,000	\$51.33	\$0.00	\$50.50	\$0.00

**APPENDIX B.2
TABLE 1 - PAGE 1**

**TOWNSHIP OF PERTH EAST
INVENTORY OF CAPITAL ASSETS
LIBRARY SERVICES**

BUILDINGS Branch Name	# of Square Feet										UNIT COST (\$/sq.ft.)
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Perth East Public Library (Mill Street)	5,350	5,350	5,350	5,350	5,350	5,350	5,350	5,350	5,350	5,350	\$170
Total (sq.ft.)	5,350	5,350	5,350	5,350	5,350	5,350	5,350	5,350	5,350	5,350	
Total (\$000)	\$909.5	\$909.5	\$909.5	\$909.5	\$909.5	\$909.5	\$909.5	\$909.5	\$909.5	\$909.5	\$909.5

LAND Branch Name	# of Hectares										UNIT COST (\$/ha)
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Perth East Public Library (Mill Street)	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	\$500,000
Total (ha)	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	
Total (\$000)	\$140.0	\$140.0	\$140.0	\$140.0	\$140.0	\$140.0	\$140.0	\$140.0	\$140.0	\$140.0	\$140.0

COLLECTION MATERIALS Type of Collection	Value of Collection Materials									
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Books and Audiovisual Materials	\$247,570	\$247,570	\$247,570	\$247,570	\$247,570	\$247,570	\$247,570	\$247,570	\$247,570	\$247,570
Total (\$000)	\$247.6	\$247.6	\$247.6	\$247.6	\$247.6	\$247.6	\$247.6	\$247.6	\$247.6	\$247.6

FURNITURE AND EQUIPMENT Description	Total Value of Furniture and Equipment (\$)									
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Furniture and Equipment	\$75,480	\$75,480	\$75,480	\$75,480	\$75,480	\$75,480	\$75,480	\$75,480	\$75,480	\$75,480
Circulation System	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
Total (\$000)	\$85.5	\$85.5	\$85.5	\$85.5	\$85.5	\$85.5	\$85.5	\$85.5	\$85.5	\$85.5



**APPENDIX B.2
TABLE 1 - PAGE 2**

**TOWNSHIP OF PERTH EAST
CALCULATION OF SERVICE LEVELS
LIBRARY SERVICES**

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Historic Population	12,000	12,059	12,119	12,179	12,239	12,300	12,340	12,380	12,420	12,460

INVENTORY SUMMARY (\$000)

Buildings	\$909.5	\$909.5	\$909.5	\$909.5	\$909.5	\$909.5	\$909.5	\$909.5	\$909.5	\$909.5
Land	\$140.0	\$140.0	\$140.0	\$140.0	\$140.0	\$140.0	\$140.0	\$140.0	\$140.0	\$140.0
Collection Materials	\$247.6	\$247.6	\$247.6	\$247.6	\$247.6	\$247.6	\$247.6	\$247.6	\$247.6	\$247.6
Furniture And Equipment	\$85.5	\$85.5	\$85.5	\$85.5	\$85.5	\$85.5	\$85.5	\$85.5	\$85.5	\$85.5
Total (\$000)	\$1,382.6	\$1,382.6	\$1,382.6	\$1,382.6	\$1,382.6	\$1,382.6	\$1,382.6	\$1,382.6	\$1,382.6	\$1,382.6

SERVICE LEVEL (\$/capita)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average Service Level
Buildings	\$75.79	\$75.42	\$75.05	\$74.68	\$74.31	\$73.94	\$73.70	\$73.47	\$73.23	\$73.00	\$74.26
Land	\$11.67	\$11.61	\$11.55	\$11.50	\$11.44	\$11.38	\$11.35	\$11.31	\$11.27	\$11.24	\$11.43
Collection Materials	\$20.63	\$20.53	\$20.43	\$20.33	\$20.23	\$20.13	\$20.06	\$20.00	\$19.93	\$19.87	\$20.21
Furniture And Equipment	\$7.12	\$7.09	\$7.05	\$7.02	\$6.98	\$6.95	\$6.93	\$6.90	\$6.88	\$6.86	\$6.98
Total (\$/capita)	\$115.21	\$114.65	\$114.08	\$113.52	\$112.96	\$112.40	\$112.04	\$111.68	\$111.32	\$110.96	\$112.88

CALCULATION OF MAXIMUM ALLOWABLE FUNDING ENVELOPE

TOWNSHIP OF PERTH EAST

10-Year Funding Envelope Calculation	
10 Year Average Service Level 2011 - 2020	\$112.88
Net Population Growth 2021 - 2030	180
Maximum Allowable Funding Envelope	\$20,348



APPENDIX B.2
TABLE 2

TOWNSHIP OF PERTH EAST
DEVELOPMENT-RELATED CAPITAL PROGRAM
LIBRARY SERVICES

Service	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Cost	Total	DC Eligible Costs			
					Replacement & BTE Share	DC Eligible Costs	Available DC Reserves	2021-2030	Post 2030	
2.0 LIBRARY SERVICES										
2.1 Collection Materials										
2.1.1 New Materials	various	\$ 20,000	\$ -	\$ 20,000	\$ -	\$ 20,000	\$ -	\$ 20,000	\$ -	
		\$ 20,000	\$ -	\$ 20,000	\$ -	\$ 20,000	\$ -	\$ 20,000	\$ -	
TOTAL LIBRARY SERVICES		\$ 20,000	\$ -	\$ 20,000	\$ -	\$ 20,000	\$ -	\$ 20,000	\$ -	

Residential Development Charge Calculation		
Residential Share of 2021-2030 DC Eligible Costs	100%	\$20,000
10 Year Growth in Population in New Units		390
Unadjusted Development Charge Per Capita (\$)		\$51.33
Non-Residential Development Charge Calculation		
Non-Residential Share of 2021-2030 DC Eligible Costs	0%	\$ -
10 Year Growth in Square Meters		23,622
Unadjusted Development Charge Per Sq.M (\$)		\$0.00

2021 - 2030 Net Funding Envelope	\$20,348
Reserve Fund Balance	\$0

**APPENDIX B.2
TABLE 3**

**TOWNSHIP OF PERTH EAST
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
LIBRARY SERVICES
RESIDENTIAL DEVELOPMENT CHARGE**

LIBRARY SERVICES

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	TOTAL
OPENING CASH BALANCE FROM APPLICABLE RESERVES											
OPENING CASH BALANCE (\$000)	0.0	3.0	3.1	3.3	3.5	3.7	4.0	3.0	2.1	1.1	
2021-2030 RESIDENTIAL FUNDING REQUIREMENTS											
Library Services : Non Inflated	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$20.0
Library Services: Inflated	\$2.00	\$2.04	\$2.08	\$2.12	\$2.16	\$2.21	\$2.25	\$2.30	\$2.34	\$2.39	\$21.9
POPULATION GROWTH											
- Population in New Units	97	41	41	41	41	42	21	22	22	22	390
REVENUE - current (\$000)											
- Dev. Charge Receipts	4.9	2.1	2.2	2.2	2.3	2.3	1.2	1.2	1.3	1.3	\$21.0
- Interest on Opening Balance	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	\$0.9
- Interest on In-year Transactions (excl.int.)	0.1	0.0	0.0	0.0	0.0	0.0	(0.0)	(0.0)	(0.0)	(0.0)	(\$0.1)
TOTAL REVENUE	5.0	2.2	2.3	2.3	2.4	2.5	1.3	1.3	1.3	1.3	\$21.9
CLOSING CASH BALANCE	3.0	3.1	3.3	3.5	3.7	4.0	3.0	2.1	1.1	0.0	

2021 Adjusted Charge Per Capita	\$50.50
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Allocation of Capital Program	
Residential Sector	100.0%
Non-Residential Sector	0.0%
Rates for 2021	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX B.3

PARKS & RECREATION

PARKS & RECREATION

The Township provides a variety of parks and playgrounds for its residents. The benefits of Parks & Recreation are deemed to be Township-wide for the purpose of calculating the development charge.

TABLE 1 HISTORICAL SERVICE LEVELS

The ten-year historical inventory for buildings, land, equipment and facilities in the Township are set out in Table 1. Shakespeare Hall and PERC are the two indoor buildings included in the Parks & Recreation inventory. These buildings have a combined floor area of 64,460 square feet and are valued at \$10.96 million. These buildings occupy 1.57 hectares of land which is valued at \$784,700. An additional \$1.19 million is added to the calculation to account for the replacement cost of the existing furniture and equipment. Finally, \$1.22 million is added to the historical inventory calculation to account for park buildings such as pavilions, gazebos, and washrooms.

The Township's Parks & Recreation department also oversees 17.2 hectares of parkland development valued at \$857,700 and park amenities (i.e. playgrounds, baseball diamonds, soccer pitches, etc.) totalling \$3.76 million.

The combined replacement value of the parks & recreation inventory is \$18.77 million and yields a ten-year historical service level of \$1,559.70 per capita. When multiplied by the Township's net population growth to 2030 (180 persons), a maximum allowable funding envelope of \$281,149 is established.

TABLE 2 2021 – 2030 CAPITAL PROGRAM AND CALCULATION OF “UNADJUSTED” DEVELOPMENT CHARGES

The development-related capital program for Parks & Recreation includes a variety of new facilities such as skateboard and pickle ball parks, an off-leash dog park, new playgrounds, and pedestrian and cycle paths. Additionally, a provision for a Parks & Recreation Master Plan is included in the capital program.

The capital plan totals \$1.19 million, and of this figure, approximately \$584,000 in grants and subsidies is recognized to offset a share of the cost. In addition, replacement shares of \$232,000 has been deducted to recognize that certain amenities are not growth-related reducing the total development-related cost to \$378,000. Given this amount exceeds the

funding envelope of \$281,149, \$96,851 has been deemed “other-development related” shares and is eligible to be recovered through future development charges (or other growth-related funding mechanism such as CBCs). The resulting development-related cost eligible for recovery in the 2021-2030 planning period is \$281,149. Similar to Library services, 100 per cent of this amount is apportioned to residential development. This translates to an unadjusted charge of \$721.59 per capita.

TABLE 3 CASH FLOW ANALYSIS

After cash flow considerations, the residential charge increases from \$721.59 to \$713.00 per capita. Details of the cash flow analysis are laid out in Table 3.

PARKS & RECREATION SUMMARY						
10-year Hist. Service Level \$/pop & emp	2021-2030 Development-Related Capital Program		Unadjusted Development Charge		Adjusted Development Charge	
	Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m
\$1,559.70	\$1,194,000	\$281,149	\$721.59	\$0.00	\$713.00	\$0.00

**APPENDIX B.3
TABLE 1 - PAGE 1**

**TOWNSHIP OF PERTH EAST
INVENTORY OF CAPITAL ASSETS
PARKS AND RECREATION**

BUILDINGS Facility Name	# of Square Feet										UNIT COST (\$/sq. ft.)
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Shakespeare Hall	11,660	11,660	11,660	11,660	11,660	11,660	11,660	11,660	11,660	11,660	\$170
PERC	52,800	52,800	52,800	52,800	52,800	52,800	52,800	52,800	52,800	52,800	\$170
Rostock Hall	3,260	3,260	3,260	3,260	3,260	3,260	3,260	-	-	-	\$100
Total (sq.ft.)	67,720	67,720	67,720	67,720	67,720	67,720	67,720	64,460	64,460	64,460	
Total (\$000)	\$11,284.2	\$11,284.2	\$11,284.2	\$11,284.2	\$11,284.2	\$11,284.2	\$11,284.2	\$10,958.2	\$10,958.2	\$10,958.2	

LAND Facility Name	# of Hectares										UNIT COST (\$/ha)
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Shakespeare Hall	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	\$500,000
PERC	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	\$500,000
Rostock Hall	0.68	0.68	0.68	0.68	0.68	0.68	0.68	-	-	-	\$500,000
Total (ha)	2.25	2.25	2.25	2.25	2.25	2.25	2.25	1.57	1.57	1.57	
Total (\$000)	\$1,125.4	\$1,125.4	\$1,125.4	\$1,125.4	\$1,125.4	\$1,125.4	\$1,125.4	\$784.7	\$784.7	\$784.7	



**APPENDIX B.3
TABLE 1 - PAGE 2**

**TOWNSHIP OF PERTH EAST
INVENTORY OF CAPITAL ASSETS
PARKS AND RECREATION**

FURNITURE & EQUIPMENT Facility Name	Total Value of Furniture & Equipment (\$)									
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Parks Furniture and Equipment	\$2,300	\$2,300	\$2,300	\$2,300	\$2,300	\$2,300	\$2,300	\$2,300	\$2,300	\$2,300
Shakespeare Booth Equipment	\$4,900	\$4,900	\$4,900	\$4,900	\$4,900	\$4,900	\$4,900	\$4,900	\$4,900	\$4,900
PERC Furniture and Fixtures	\$137,580	\$137,580	\$137,580	\$137,580	\$137,580	\$137,580	\$137,580	\$137,580	\$137,580	\$137,580
PERC Arena Equipment	\$532,500	\$532,500	\$532,500	\$532,500	\$532,500	\$532,500	\$532,500	\$532,500	\$532,500	\$532,500
PERC Ball Diamond Equipment	\$3,600	\$3,600	\$3,600	\$3,600	\$3,600	\$3,600	\$3,600	\$3,600	\$3,600	\$3,600
PERC Banquet Hall Equipment	\$82,000	\$82,000	\$82,000	\$82,000	\$82,000	\$82,000	\$82,000	\$82,000	\$82,000	\$82,000
PERC Pool Equipment	\$7,900	\$7,900	\$7,900	\$7,900	\$7,900	\$7,900	\$7,900	\$7,900	\$7,900	\$7,900
PERC Benches and Picnic Tables	\$10,130	\$10,130	\$10,130	\$10,130	\$10,130	\$10,130	\$10,130	\$10,130	\$10,130	\$10,130
Park Benches and Picnic Tables	\$0	\$10,500	\$10,500	\$10,500	\$10,500	\$10,500	\$10,500	\$10,500	\$10,500	\$10,500
Park Lighting	\$242,000	\$242,000	\$242,000	\$242,000	\$242,000	\$242,000	\$242,000	\$242,000	\$242,000	\$242,000
PERC Ball Diamond Lighting	\$118,100	\$118,100	\$118,100	\$118,100	\$118,100	\$118,100	\$118,100	\$118,100	\$118,100	\$118,100
PERC Mower	\$13,400	\$13,400	\$13,400	\$13,400	\$13,400	\$13,400	\$13,400	\$13,400	\$13,400	\$13,400
PERC Pickup Truck	\$5,230	\$5,230	\$5,230	\$5,230	\$5,230	\$5,230	\$5,230	\$5,230	\$5,230	\$5,230
Park and Recreation Fencing	\$17,300	\$17,300	\$17,300	\$17,300	\$17,300	\$17,300	\$17,300	\$17,300	\$17,300	\$17,300
Total (\$000)	\$1,176.9	\$1,187.4	\$1,187.4	\$1,187.4	\$1,187.4	\$1,187.4	\$1,187.4	\$1,187.4	\$1,187.4	\$1,187.4



**APPENDIX B.3
TABLE 1 - PAGE 3**

**TOWNSHIP OF PERTH EAST
INVENTORY OF CAPITAL ASSETS
PARKS AND RECREATION**

PARK BUILDINGS Description	# of Square Feet										UNIT COST (\$/sq.ft)
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Greenwood Park Pavilion	1,020	1,020	1,020	1,020	1,020	1,020	1,020	1,020	1,020	1,020	\$30
Greenwood Park Washrooms	340	340	340	340	340	340	340	340	340	340	\$60
Lyle Yost Memorial Park Pavilion	2,940	2,940	2,940	2,940	2,945	2,950	2,950	2,950	2,950	2,950	\$105
Lyle Yost Storage Building	190	190	190	190	190	190	190	190	190	190	\$30
Milverton Lions Park Gazebo	225	225	225	225	225	225	225	225	225	225	\$45
Morningdale Centennial Park Pavilion	2,940	2,940	2,940	2,940	2,940	2,940	2,940	2,940	2,940	2,940	\$20
Newton Pavilion	1,060	1,060	1,060	1,060	1,060	1,060	1,060	1,060	1,060	1,060	\$80
Newton Pavilion Washrooms	150	150	150	150	150	150	150	150	150	150	\$110
Shakespeare Park Booth	-	1,480	1,480	1,480	1,480	1,480	1,480	1,480	1,480	1,480	\$110
Shakespeare Park Pavilion	6,940	6,940	6,940	6,940	6,940	6,940	6,940	6,940	6,940	6,940	\$75
Quinlin Park Pavilion	1,360	1,360	1,360	1,360	1,360	1,360	1,360	-	-	-	\$10
Total (sq.ft.)	17,165	18,645	18,645	18,645	18,650	18,655	18,655	17,295	17,295	17,295	
Total (\$000)	\$1,070.9	\$1,233.7	\$1,233.7	\$1,233.7	\$1,234.2	\$1,234.7	\$1,234.7	\$1,221.1	\$1,241.0	\$1,221.1	



**APPENDIX B.3
TABLE 1 - PAGE 4**

**TOWNSHIP OF PERTH EAST
INVENTORY OF CAPITAL ASSETS
PARKS AND RECREATION
PARKLAND DEVELOPMENT**

PARK DEVELOPMENT Park Type	# of Hectares of Developed Parkland										UNIT COST (\$/ha)
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Quinlan Park	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	\$50,000
Newton Athletic Field	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	\$50,000
Llye Yost Memorial Park	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	\$50,000
Morningdale Centennial Park	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	\$50,000
Greenwood Park	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	\$50,000
Lions Park	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	\$50,000
Perc Park	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	\$50,000
At the Administration Building	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	\$50,000
Shakespeare Park Ball Fields and Pavillion	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	\$50,000
Millennium Garden - North on Main Street Milverton	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	\$50,000
Total (ha)	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	
Total (\$000)	\$857.7	\$857.7	\$857.7	\$857.7	\$857.7	\$857.7	\$857.7	\$857.7	\$857.7	\$857.7	

APPENDIX B.3
TABLE 1 - PAGE 5

TOWNSHIP OF PERTH EAST
INVENTORY OF CAPITAL ASSETS
PARKS AND RECREATION
PARK AMENITIES

PLAYGROUNDS Park Name	# of Playgrounds										UNIT COST (\$/unit)
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Shakespeare Athletic Club and Fair Grounds	1	1	1	1	1	1	1	1	1	1	\$89,000
Newton Athletic Field	1	1	1	1	1	1	1	1	1	1	\$71,000
Lyle Yost Memorial Park	1	1	1	1	1	1	1	1	1	1	\$83,000
Morningdale Centennial Park	1	1	1	1	1	1	1	1	1	1	\$35,000
Greenwood Park	1	1	1	1	1	1	1	1	1	1	\$90,000
Grand River CA (Pioneer) Park	-	-	-	-	-	1	1	1	1	1	\$56,000
Quinlan Park	-	-	-	-	-	-	1	1	1	1	\$69,000
Administrative Building	-	-	-	-	-	-	1	1	1	1	\$74,000
PERC	1	1	1	1	1	1	1	1	1	1	\$95,000
Total (#)	6	6	6	6	6	7	9	9	9	9	
Total (\$000)	\$463.0	\$463.0	\$463.0	\$463.0	\$463.0	\$519.0	\$662.0	\$662.0	\$662.0	\$662.0	\$662.0



APPENDIX B.3
TABLE 1 - PAGE 6

TOWNSHIP OF PERTH EAST
INVENTORY OF CAPITAL ASSETS
PARKS AND RECREATION
PARK AMENITIES

PARK AMENITIES Park Name	# of Amenities										UNIT COST (\$/unit)
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Baseball Diamonds											
Shakespeare Athletic Club and Fair Grounds	1	1	1	1	1	1	1	1	1	1	\$165,000
Newton Athletic Field	1	1	1	1	1	1	1	1	1	1	\$165,000
Llye Yost Memorial Park	2	2	2	2	2	2	2	2	2	2	\$330,000
PERC	1	1	1	1	1	1	1	1	1	1	\$165,000
Bleachers											
Newton Athletic Field	1	1	1	1	1	1	1	1	1	1	\$2,000
Llye Yost Memorial Park	1	1	1	1	1	1	1	1	1	1	\$25,000
Shakespeare Booth - Bleachers	-	1	1	1	1	1	1	1	1	1	\$85,000
PERC Bleachers	1	1	1	1	1	1	1	1	1	1	\$2,000
Soccer Field											
PERC	1	1	1	1	1	1	1	1	1	1	\$53,200
Newton	2	2	2	2	2	2	2	2	2	2	\$75,000
Walking Paths											
Former Railbed Milverton Walking Path	-	-	-	-	1	1	1	1	1	1	\$18,600
PERC Sportsfiled Walking Path	1	1	1	1	1	1	1	1	1	1	\$8,900
Pool											
PERC Pool	1	1	1	1	1	1	1	1	1	1	\$1,600,000
Total (#)	13	14	14	14	15	15	15	15	15	15	
Total (\$000)	\$2,996.1	\$3,081.1	\$3,081.1	\$3,081.1	\$3,099.7	\$3,099.7	\$3,099.7	\$3,099.7	\$3,099.7	\$3,099.7	



**APPENDIX B.3
TABLE 1 - PAGE 7**

**TOWNSHIP OF PERTH EAST
CALCULATION OF SERVICE LEVELS
PARKS AND RECREATION**

SUMMARY OF SERVICE LEVEL ANALYSIS

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Historic Population	12,000	12,059	12,119	12,179	12,239	12,300	12,340	12,380	12,420	12,460

INVENTORY SUMMARY (\$000)

Buildings and Equipment	\$14,657.4	\$14,830.7	\$14,830.7	\$14,830.7	\$14,831.2	\$14,831.8	\$14,831.8	\$14,151.5	\$14,171.4	\$14,151.5
Parkland Development	\$857.7	\$857.7	\$857.7	\$857.7	\$857.7	\$857.7	\$857.7	\$857.7	\$857.7	\$857.7
Park Amenities	\$3,459.1	\$3,544.1	\$3,544.1	\$3,544.1	\$3,562.7	\$3,618.7	\$3,761.7	\$3,761.7	\$3,761.7	\$3,761.7
Total (\$000)	\$18,974.2	\$19,232.5	\$19,232.5	\$19,232.5	\$19,251.6	\$19,308.1	\$19,451.1	\$18,770.8	\$18,790.8	\$18,770.8

SERVICE LEVEL (\$/capita)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average Service Level
Buildings and Equipment	\$1,221.45	\$1,229.85	\$1,223.76	\$1,217.73	\$1,211.80	\$1,205.83	\$1,201.95	\$1,143.13	\$1,141.05	\$1,135.78	\$1,193.23
Parkland Development	\$71.47	\$71.12	\$70.77	\$70.42	\$70.08	\$69.73	\$69.50	\$69.28	\$69.06	\$68.83	\$70.03
Park Amenities	\$288.26	\$293.90	\$292.44	\$291.00	\$291.09	\$294.20	\$304.84	\$303.86	\$302.88	\$301.91	\$296.44
Total (\$/capita)	\$1,581.18	\$1,594.86	\$1,586.97	\$1,579.15	\$1,572.97	\$1,569.77	\$1,576.30	\$1,516.27	\$1,512.99	\$1,506.52	\$1,559.70

CALCULATION OF MAXIMUM ALLOWABLE FUNDING ENVELOPE

TOWNSHIP OF PERTH EAST

10-Year Funding Envelope Calculation	
10 Year Average Service Level 2011 - 2020	\$1,559.70
Net Population Growth 2021 - 2030	180
Maximum Allowable Funding Envelope	\$281,149



APPENDIX B.3
TABLE 2

TOWNSHIP OF PERTH EAST
DEVELOPMENT-RELATED CAPITAL PROGRAM
PARKS & RECREATION

Service	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Cost	Total	DC Eligible Costs		
					Replacement & BTE Share	DC Eligible Costs	Available DC Reserves	2021-2030	Other Dev. Related
3.0 PARKS & RECREATION									
3.1 Park Development									
3.1.1 Shakespeare Skateboard Park	various	\$ 100,000	\$ 50,000	\$ 50,000	\$ -	\$ 50,000	\$ -	\$ 50,000	\$ -
3.1.2 PERC Skateboard Park	various	\$ 100,000	\$ 50,000	\$ 50,000	\$ -	\$ 50,000	\$ -	\$ 50,000	\$ -
3.1.3 PERC Pickle Ball Court	various	\$ 45,000	\$ -	\$ 45,000	\$ -	\$ 45,000	\$ -	\$ 45,000	\$ -
3.1.4 Greenwood Park Revitalization Project	various	\$ 105,000	\$ -	\$ 105,000	\$ 72,000	\$ 33,000	\$ -	\$ 33,000	\$ -
3.1.5 Morningdale Park Playground	various	\$ 80,000	\$ -	\$ 80,000	\$ 80,000	\$ -	\$ -	\$ -	\$ -
3.1.6 Lyle Yost Park Playground	various	\$ 80,000	\$ -	\$ 80,000	\$ 80,000	\$ -	\$ -	\$ -	\$ -
3.1.7 Provision for New Soccer Field (Milverton or Newton Area)	2025	\$ 75,000	\$ -	\$ 75,000	\$ -	\$ 75,000	\$ -	\$ 75,000	\$ -
3.1.8 New Pavillion	2021	\$ 434,000	\$ 434,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1.9 Off-Leash Dog Park	2025	\$ 25,000	\$ -	\$ 25,000	\$ -	\$ 25,000	\$ -	\$ 25,000	\$ -
3.1.10 Pedestrian and Cycle Paths	various	\$ 100,000	\$ -	\$ 100,000	\$ -	\$ 100,000	\$ -	\$ 3,149	\$ 96,851
Subtotal Park Development		\$ 1,144,000	\$ 534,000	\$ 610,000	\$ 232,000	\$ 378,000	\$ -	\$ 281,149	\$ 96,851
3.2. Studies									
3.2.1 Parks & Rec Master Plan	various	\$ 50,000	\$ 50,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal		\$ 50,000	\$ 50,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL PARKS & RECREATION		\$ 1,194,000	\$ 584,000	\$ 610,000	\$ 232,000	\$ 378,000	\$ -	\$ 281,149	\$ 96,851

Residential Development Charge Calculation		
Residential Share of 2021-2030 DC Eligible Costs	100%	\$281,149
10 Year Growth in Population in New Units		390
Unadjusted Development Charge Per Capita (\$)		\$721.59
Non-Residential Development Charge Calculation		
Non-Residential Share of 2021-2030 DC Eligible Costs	0%	\$ -
10 Year Growth in Square Meters		23,622
Unadjusted Development Charge Per Sq.M (\$)		\$0.00

2021 - 2030 Net Funding Envelope	\$281,149
Reserve Fund Balance	\$0



**APPENDIX B.3
TABLE 3**

**TOWNSHIP OF PERTH EAST
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
PARKS AND RECREATION
RESIDENTIAL DEVELOPMENT CHARGE**

PARKS & RECREATION

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	TOTAL
OPENING CASH BALANCE FROM APPLICABLE RESERVES											
OPENING CASH BALANCE (\$000)	0.0	52.1	65.2	79.2	94.1	(1.1)	11.9	9.0	6.0	3.0	
2021-2030 RESIDENTIAL FUNDING REQUIREMENTS											
Parks & Recreation : Non Inflated	\$18.11	\$18.11	\$18.11	\$18.11	\$118.11	\$18.11	\$18.11	\$18.11	\$18.11	\$18.11	\$281.15
Parks & Recreation: Inflated	\$18.11	\$18.48	\$18.85	\$19.22	\$127.85	\$20.00	\$20.40	\$20.81	\$21.22	\$21.65	\$306.60
POPULATION GROWTH											
- Population in New Units	97	41	41	41	41	42	21	22	22	22	390
REVENUE - current (\$000)											
- Dev. Charge Receipts	69.3	29.6	30.4	31.2	32.0	32.8	17.1	17.6	18.1	18.7	\$296.79
- Interest on Opening Balance	0.0	1.8	2.3	2.8	3.3	(0.1)	0.4	0.3	0.2	0.1	\$11.16
- Interest on In-year Transactions (excl.int.)	0.9	0.2	0.2	0.2	(2.6)	0.2	(0.1)	(0.1)	(0.1)	(0.1)	(\$1.26)
TOTAL REVENUE	70.2	31.6	32.8	34.1	32.6	33.0	17.4	17.8	18.3	18.7	\$306.70
CLOSING CASH BALANCE	52.1	65.2	79.2	94.1	(1.1)	11.9	9.0	6.0	3.0	0.1	

2021 Adjusted Charge Per Capita	\$713.00
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Allocation of Capital Program	
Residential Sector	100.0%
Non-Residential Sector	0.0%
Rates for 2021	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX B.4

DEVELOPMENT-RELATED STUDIES

DEVELOPMENT-RELATED STUDIES

The DCA allows the cost of development-related studies to be included in the calculation of development charges. The Town has identified a series of studies that need to be undertaken over the next few years to continue to appropriately plan for anticipated growth in the Township.

TABLE 1 2021-2030 DEVELOPMENT-RELATED CAPITAL PROGRAM AND CALCULATION OF THE “UNADJUSTED” DEVELOPMENT CHARGES

As shown in Table 1, the 2021–2030 development-related gross cost for this service area is \$110,000. The capital program relates to the preparation of two development charges background studies plus a provision for other development-related studies which may be required over the planning period (Secondary Plans, long-range financial plans, growth-related share of zoning by-law or official plan work, etc.).

Overall, as of these studies are directly related to growth in the Township of Perth East, the total study amount is entirely attributable to new development over the planning period.

This amount is apportioned 50 per cent (\$55,000) to residential development and 50 per cent (\$55,000) to non-residential development. The resulting unadjusted development charges are \$141.16 per capita and \$2.33 per square metre of new non-residential building space.

TABLE 2 CASH FLOW ANALYSIS

The cash-flow analysis is displayed in Table 2 and considers the timing of the development charges revenues to determine the adjusted rates. After cash flow considerations, the residential development charge increases to \$141.72 per capita. The non-residential development charge increases to \$2.36 per square metre.

DEVELOPMENT-RELATED STUDIES SUMMARY					
2021-2030		Unadjusted		Adjusted	
Development-Related Capital Program		Development Charge		Development Charge	
Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m
\$110,000	\$110,000	\$141.16	\$2.33	\$141.72	\$2.36

APPENDIX B.4
TABLE 1

TOWNSHIP OF PERTH EAST
DEVELOPMENT-RELATED CAPITAL PROGRAM
DEVELOPMENT-RELATED STUDIES

Service	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Cost	Total	DC Eligible Costs		
					Replacement & BTE Share	DC Eligible Costs	Available DC Reserves	2021-2030	Post 2030
4.0 DEVELOPMENT-RELATED STUDIES									
4.1 Studies									
4.1.1 Development Charge Study	2021	\$ 30,000	\$ -	\$ 30,000	\$ -	\$ 30,000	\$ -	\$ 30,000	\$ -
4.1.2 Development Charge Study	2026	\$ 30,000	\$ -	\$ 30,000	\$ -	\$ 30,000	\$ -	\$ 30,000	\$ -
4.1.3 Additional Development-Related Studies	various	\$ 50,000	\$ -	\$ 50,000	\$ -	\$ 50,000	\$ -	\$ 50,000	\$ -
		\$ 110,000	\$ -	\$ 110,000	\$ -	\$ 110,000	\$ -	\$ 110,000	\$ -
TOTAL DEVELOPMENT-RELATED STUDIES		\$ 110,000	\$ -	\$ 110,000	\$ -	\$ 110,000	\$ -	\$ 110,000	\$ -

Residential Development Charge Calculation			
Residential Share of 2021-2030 DC Eligible Costs	50%		\$55,000
10 Year Growth in Population in New Units			390
Unadjusted Development Charge Per Capita (\$)			\$141.16
Non-Residential Development Charge Calculation			
Non-Residential Share of 2021-2030 DC Eligible Costs	50%	\$	55,000
10 Year Growth in Square Meters			23,622
Unadjusted Development Charge Per Sq.M (\$)			\$2.33

APPENDIX B.4
TABLE 2 - PAGE 1

TOWNSHIP OF PERTH EAST
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
DEVELOPMENT-RELATED STUDIES
RESIDENTIAL DEVELOPMENT CHARGE

DEVELOPMENT-RELATED STUDIES

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	TOTAL
OPENING CASH BALANCE FROM APPLICABLE RESERVES											
OPENING CASH BALANCE (\$000)	0.0	(3.8)	(0.6)	2.8	6.5	10.5	(2.3)	(1.9)	(1.3)	(0.7)	
2021-2030 RESIDENTIAL FUNDING REQUIREMENTS											
Development-Related Studies : Non Inflated	\$17.50	\$2.50	\$2.50	\$2.50	\$2.50	\$17.50	\$2.50	\$2.50	\$2.50	\$2.50	\$55.00
Development-Related Studies : Inflated	\$17.50	\$2.55	\$2.60	\$2.65	\$2.71	\$19.32	\$2.82	\$2.87	\$2.93	\$2.99	\$58.94
POPULATION GROWTH											
- Population in New Units	97	41	41	41	41	42	21	22	22	22	390
REVENUE - current (\$000)											
- Dev. Charge Receipts	13.8	5.9	6.0	6.2	6.4	6.5	3.4	3.5	3.6	3.7	\$58.99
- Interest on Opening Balance	0.0	(0.2)	(0.0)	0.1	0.2	0.4	(0.1)	(0.1)	(0.1)	(0.0)	\$0.11
- Interest on In-year Transactions (excl.int.)	(0.1)	0.1	0.1	0.1	0.1	(0.4)	0.0	0.0	0.0	0.0	(\$0.16)
TOTAL REVENUE	13.7	5.7	6.1	6.4	6.6	6.5	3.3	3.4	3.5	3.7	\$58.94
CLOSING CASH BALANCE	(3.8)	(0.6)	2.8	6.5	10.5	(2.3)	(1.9)	(1.3)	(0.7)	0.0	

2021 Adjusted Charge Per Capita	\$141.72
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Allocation of Capital Program	
Residential Sector	50.0%
Non-Residential Sector	50.0%
Rates for 2021	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX B.4
TABLE 2 - PAGE 2

TOWNSHIP OF PERTH EAST
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
DEVELOPMENT-RELATED STUDIES
NON-RESIDENTIAL DEVELOPMENT CHARGE

DEVELOPMENT-RELATED STUDIES

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	TOTAL
OPENING CASH BALANCE FROM APPLICABLE RESERVES											
OPENING CASH BALANCE (\$000)	\$0.00	(\$9.87)	(\$5.80)	(\$1.41)	\$3.46	\$8.79	(\$2.55)	(\$1.99)	(\$1.37)	(\$0.71)	
2021-2030 NON-RESIDENTIAL FUNDING REQUIREMENTS											
Development-Related Studies : Non Inflated	\$17.50	\$2.50	\$2.50	\$2.50	\$2.50	\$17.50	\$2.50	\$2.50	\$2.50	\$2.50	\$55.00
Development-Related Studies : Inflated	\$17.50	\$2.55	\$2.60	\$2.65	\$2.71	\$19.32	\$2.82	\$2.87	\$2.93	\$2.99	\$58.94
NON-RESIDENTIAL GROWTH											
- Sq. Metres in New Buildings	3,342	2,940	2,940	3,000	3,060	3,060	1,320	1,320	1,320	1,320	23,622
REVENUE - current (\$000)											
- Dev. Charge Receipts	\$7.9	\$7.1	\$7.2	\$7.5	\$7.8	\$8.0	\$3.5	\$3.6	\$3.7	\$3.7	\$60.00
- Interest on Opening Balance	0.0	(0.5)	(0.3)	(0.1)	0.1	0.3	(0.1)	(0.1)	(0.1)	(0.0)	(\$0.88)
- Interest on In-year Transactions (excl.int.)	(0.3)	0.1	0.1	0.1	0.1	(0.3)	0.0	0.0	0.0	0.0	(\$0.19)
TOTAL REVENUE	7.6	6.6	7.0	7.5	8.0	8.0	3.4	3.5	3.6	3.7	\$58.94
CLOSING CASH BALANCE	(9.9)	(5.8)	(1.4)	3.5	8.8	(2.6)	(2.0)	(1.4)	(0.7)	(0.0)	

2021 Adjusted Charge Per Square Metre

\$2.36

Allocation of Capital Program

Residential Sector	50.0%
Non-Residential Sector	50.0%

Rates for 2021

Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

APPENDIX C
ENGINEERED SERVICES
TECHNICAL APPENDIX

ENGINEERED SERVICES TECHNICAL APPENDIX

The capital planning and management of all roads and related infrastructure in the Township is carried out by the Engineering Services Department. The Department also provides review and inspection services to facilitate new development and maintain service standards to sustain the existing infrastructure. The basis of the development related capital program for Service Related to a Highway, Water, and Wastewater infrastructure is based on discussions with Township staff.

This appendix provides the analysis undertaken to establish the development charge rates for the “Services Related to a Highway” in the Township of Perth East as well as water and wastewater infrastructure. The services have been analysed herein as part of the development charges study:

Appendix C.1 Services Related to a Highway:

C.1.1 Public Works

C.1.2 Roads & Related

Appendix C.2 Water Services

Appendix C.3 Wastewater Services

The services included in the Services Related to a Highway infrastructure as defined in subsection 1 (1) of the *Municipal Act, 2001* consist of the road network, bridges and culverts, streetlights, intersection improvements, traffic signalization, sidewalks, cycling lanes, transit priority measures, and other related structures. Township owned public works facilities, land, fleet, and associated furniture and equipment are also included in the service. A detailed summary of the inventory and capital plans for the two Services Related to a Highway can be found in Appendix C.1.1 and C.1.2. Both subsections contain a set of three tables which set out the 2021 to 2046 development-related capital program and the development charge calculations. The description, cost, and distribution of benefits of the projects included in the program have been developed by Township staff and the consulting team.

The services included in the Water and Wastewater infrastructure consist of sewage, pumping, inflow and infiltration, and other related facilities. A detailed summary of the capital plans for the Water and Wastewater Services can be found in Appendix C.2 and C.3. Please note Water and Wastewater infrastructure included in the DC capital forecast are required to achieve health and safety standards as identified in relevant legislation including Provincial regulations. As such, in accordance with section 4(3) of O.Reg. 82/98,

the ten-year historical service level does not apply. An overview of the content and purpose of each of the tables is given below.

TABLE 1 HISTORICAL SERVICE LEVELS

The *DCA* and *Ontario Regulation 82/98* require that development charges be set at a level no higher than the average service level provided in the Township over the 10 year period immediately preceding the preparation of the background study, on a service by service basis. For the purpose of this study, the historical inventory period has been defined as 2011 to 2020. *O. Reg. 82/98* requires that when defining and determining historical service levels both the quantity and quality of service be taken into consideration.

Table 1 summarizes the 10-year replacement value of the Township's Services Related to a Highway infrastructure and shows the calculation of the ten year historical average service level. Table 1 also shows the calculation of the "maximum allowable" funding envelope for Services Related to a Highway infrastructure. The maximum allowable is defined as the 10-year historical service level multiplied by the forecast increase in net population and employment over the planning period. The resulting maximum allowable funding envelope is the value of capital infrastructure that would have to be constructed over the 2021-2046 period so that the 10-year historical service level for Services Related to a Highway is maintained.

TABLE 2 2021 – 2046 CAPITAL PROGRAM AND CALCULATION OF "UNADJUSTED" DEVELOPMENT CHARGES

The *DCA* requires that Township Council express its intent to provide future capital facilities at the level incorporated in the development charges calculation. The projects identified in the capital program are required to service the demands of new development between 2021 and 2046, subject to annual capital budget reviews. While the need for individual works in the program is driven by development at specific locations, the benefits of the program will be broadly distributed across the entire Township. Capital costs have been allocated as development-related or non-development related (the "benefit to existing" share) based on the demands of new development on the particular project and need to improve the transportation, water, and wastewater facilities to accommodate the development-related impacts.

TABLE 3 CASH FLOW ANALYSIS

A cash flow analysis is also undertaken to account for the timing of projects and receipt of development charges. Interest earnings or borrowing costs are, therefore, accounted for in the calculation as allowed under the *DCA*. Based on the development forecast, the analysis calculates the development charge rate that is required to finance the net development-related capital spending plan including provisions for any borrowing costs or interest earnings on the reserve funds

APPENDIX C.1.1

SERVICES RELATED TO A HIGHWAY:

PUBLIC WORKS

SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS

The Public Works and Operations Department provides road maintenance services in the Township. This section details the capital infrastructure of Public Works buildings, land, and related furniture and equipment, and municipal fleet, as well as the engineered components related to roads.

TABLE 1 HISTORICAL SERVICE LEVELS

Table 1 demonstrates that the Township’s current public works infrastructure comprises four buildings totalling 32,550 square feet. Included in the building inventory are two public work shops, a salt shed, and a gravel pit scale house. The replacement cost for the mentioned facilities amount to \$2.67 million. The two public work shops occupy 4.85 hectares of land that is valued at approximately \$1.45 million. The furniture and equipment associated with the public works facilities and fleet add another \$83,700 and \$6.00 million respectively to the value of the inventory.

The current replacement value of the total inventory of capital assets for the Public Works Service is \$10.21 million. As shown, the 10-year historical average service level is calculated to be \$650.81 per capita and employment. When multiplied by the forecast increase in net population and employment over the planning period (1,006 persons and jobs), the resulting maximum allowable funding envelope is \$654,697.

TABLE 2 2021 – 2046 CAPITAL PROGRAM AND CALCULATION OF “UNADJUSTED” DEVELOPMENT CHARGES

The development-related capital program for Public Works totals \$340,000. This accounts for the acquisition of additional vehicles and fleet to service new development in the Township.

No grants or subsidies have been identified to offset the cost of the program, however, a share of \$48,500 has been identified and removed from the calculation as a portion of the multi-use truck and pickup truck is considered to be used to provide services unrelated to public works. The remaining \$291,500 is related to development in the 2021 to 2046 planning period.

This development-related cost is allocated 53 per cent (\$154,495) against new residential development and 47 per cent (\$137,005) to non-residential development. Dividing the residential share of the capital program (\$154,495) by the anticipated growth in new units (748) yields an unadjusted residential development charge of \$206.63 per capita. Likewise, dividing the non-residential share of the capital program (\$137,005) by the forecast non-residential growth in square metres (39,942) yields an unadjusted non-residential development charge of \$3.43 per square metre of new non-residential building space.

TABLE 3 CASH FLOW ANALYSIS

After cash flow considerations, the residential development charge increases to \$260.19 per capita and \$4.18 per square metre of non-residential building space. The increase in the charge is the result of a front-ended development-related capital program.

SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS SUMMARY						
10-year Hist. Service Level \$/pop & emp	2021-2046		Unadjusted		Adjusted	
	Development-Related Capital Program Total	Net DC Recoverable	Development Charge \$/capita	\$/sq.m	Development Charge \$/capita	\$/sq.m
\$650.81	\$340,000	\$291,500	\$206.63	\$3.43	\$260.19	\$4.18

**APPENDIX C.1.1
TABLE 1 - PAGE 1**

**TOWNSHIP OF PERTH EAST
INVENTORY OF CAPITAL ASSETS
SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS**

BUILDINGS Facility Name	# of Square Feet										UNIT COST (\$/sq.ft.)	
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		
NEH Public Works Shop	9,270	9,270	9,270	9,270	9,270	9,270	9,270	9,270	9,270	9,270	9,270	\$90
NEH Salt Shed	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	\$25
Public Works Shop Line 61	-	-	-	-	19,200	19,200	19,200	19,200	19,200	19,200	19,200	\$90
Rostock Public Works Shop	5,770	5,770	5,770	5,770	5,770	5,770	5,770	5,770	-	-	-	\$90
Gravel Pit Scale House	80	80	80	80	80	80	80	80	80	80	80	\$90
Newton Shop	4,690	4,690	4,690	4,690	-	-	-	-	-	-	-	\$90
Newton Storage Shed	3,020	3,020	3,020	3,020	-	-	-	-	-	-	-	\$90
Milverton Shop	5,225	5,225	5,225	5,225	5,225	-	-	-	-	-	-	\$90
Total (sq.ft.)	32,055	32,055	32,055	32,055	43,545	38,320	38,320	38,320	38,320	32,550	32,550	
Total (\$000)	\$2,625.0	\$2,625.0	\$2,625.0	\$2,625.0	\$3,659.1	\$3,188.8	\$3,188.8	\$3,188.8	\$3,188.8	\$2,669.5	\$2,669.5	

LAND Branch Name	# of Hectares										UNIT COST (\$/ha)	
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		
NEH Public Works Shop	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	\$300,000
Public Works Shop Line 61	-	-	-	-	3.42	3.42	3.42	3.42	3.42	3.42	3.42	\$300,000
Rostock Public Works Shop	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	-	-	-	\$300,000
Newton Shop	0.81	0.81	0.81	0.81	-	-	-	-	-	-	-	\$300,000
Milverton Shop	0.43	0.43	0.43	0.43	0.43	-	-	-	-	-	-	\$300,000
Total (ha)	2.76	2.76	2.76	2.76	5.37	4.94	4.94	4.94	4.85	4.85	4.85	
Total (\$000)	\$827.0	\$827.0	\$827.0	\$827.0	\$1,610.3	\$1,482.3	\$1,482.3	\$1,482.3	\$1,455.5	\$1,455.5	\$1,455.5	

FURNITURE AND EQUIPMENT Description	Value of Furniture and Equipment										
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Furniture and Small Equipment (pooled)	\$83,650	\$83,650	\$83,650	\$83,650	\$83,650	\$83,650	\$83,650	\$83,650	\$83,650	\$83,650	\$83,650
Total (\$000)	\$83.7	\$83.7	\$83.7	\$83.7	\$83.7	\$83.7	\$83.7	\$83.7	\$83.7	\$83.7	\$83.7



APPENDIX C.1.1
TABLE 1 - PAGE 2

TOWNSHIP OF PERTH EAST
INVENTORY OF CAPITAL ASSETS
OPERATIONS

FLEET & RELATED EQUIPMENT Description	# of Vehicles or Equipment										UNIT COST (\$/vehicle)
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Bulldozer	1	1	1	1	1	1	1	1	1	1	\$250,000
Excavator	-	-	-	-	-	-	1	1	1	1	\$150,000
Generator	1	1	1	1	1	2	2	2	2	2	\$37,000
Forklift	-	-	-	-	1	1	1	1	1	1	\$10,000
Fuel Tanks	-	-	-	-	1	1	1	1	1	1	\$28,000
Graders	5	5	5	5	5	5	5	5	5	5	\$400,000
Snow Plow	1	1	1	1	1	1	1	1	1	1	\$30,000
Jib Crane	-	-	-	-	1	1	1	1	1	1	\$45,000
Snow Plow Attachment	1	1	1	1	1	1	1	1	1	1	\$18,000
Loader	1	1	1	1	1	1	1	1	1	1	\$255,000
Mower	7	7	7	7	7	7	7	7	7	7	\$13,000
Welding Equipment	-	-	-	-	1	1	1	1	1	1	\$3,700
Snow Blower	3	3	3	3	3	3	3	3	3	3	\$41,000
Tractor	2	2	2	2	2	2	2	2	2	2	\$120,000
Trailer	-	-	-	-	-	-	1	1	2	2	\$19,000
Water Tank	1	1	1	1	1	1	1	1	1	1	\$16,000
Wood Chipper	-	-	-	-	-	1	1	1	1	1	\$52,000
Pick-up Truck	5	5	5	5	5	5	5	5	5	5	\$42,000
Tandem Axel Dump	2	2	2	2	2	2	2	2	2	2	\$300,000
Tri Axle Dump Truck	5	5	5	5	5	5	5	5	5	5	\$350,000
Snow Plow equipment	2	2	2	2	2	2	2	2	2	2	\$9,000
Total (#)	37	37	37	37	41	43	45	45	46	46	
Total (\$000)	\$5,638.0	\$5,638.0	\$5,638.0	\$5,638.0	\$5,724.7	\$5,813.7	\$5,982.7	\$5,982.7	\$6,001.7	\$6,001.7	

**APPENDIX C.1.1
TABLE 1 - PAGE 3**

**TOWNSHIP OF PERTH EAST
CALCULATION OF SERVICE LEVELS
SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS**

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Historical Population	12,000	12,059	12,119	12,179	12,239	12,300	12,340	12,380	12,420	12,460
Historical Employment	2,590	2,720	2,857	3,001	3,152	3,310	3,362	3,415	3,469	3,524
Total Historical Population & Employment	14,590	14,779	14,976	15,180	15,391	15,610	15,702	15,795	15,889	15,984

INVENTORY SUMMARY (\$000)

Buildings	\$2,625.0	\$2,625.0	\$2,625.0	\$2,625.0	\$3,659.1	\$3,188.8	\$3,188.8	\$3,188.8	\$2,669.5	\$2,669.5
Land	\$827.0	\$827.0	\$827.0	\$827.0	\$1,610.3	\$1,482.3	\$1,482.3	\$1,482.3	\$1,455.5	\$1,455.5
Furniture And Equipment	\$83.7	\$83.7	\$83.7	\$83.7	\$83.7	\$83.7	\$83.7	\$83.7	\$83.7	\$83.7
Fleet & Related Equipment	\$5,638.0	\$5,638.0	\$5,638.0	\$5,638.0	\$5,724.7	\$5,813.7	\$5,982.7	\$5,982.7	\$6,001.7	\$6,001.7
Total (\$000)	\$9,173.6	\$9,173.6	\$9,173.6	\$9,173.6	\$11,077.7	\$10,568.4	\$10,737.4	\$10,737.4	\$10,210.3	\$10,210.3

**Average
Service
Level**

SERVICE LEVEL (\$/population & employment)

Buildings	\$179.91	\$177.61	\$175.28	\$172.92	\$237.74	\$204.28	\$203.08	\$201.89	\$168.01	\$167.01	\$188.77
Land	\$56.69	\$55.96	\$55.22	\$54.48	\$104.63	\$94.96	\$94.40	\$93.84	\$91.60	\$91.06	\$79.28
Furniture And Equipment	\$5.73	\$5.66	\$5.59	\$5.51	\$5.43	\$5.36	\$5.33	\$5.30	\$5.26	\$5.23	\$5.44
Fleet	\$386.43	\$381.49	\$376.47	\$371.41	\$371.95	\$372.43	\$381.01	\$378.77	\$377.73	\$375.48	\$377.32
Total (\$/pop & empl)	\$628.76	\$620.72	\$612.56	\$604.32	\$719.75	\$677.03	\$683.82	\$679.80	\$642.60	\$638.78	\$650.81

CALCULATION OF MAXIMUM ALLOWABLE FUNDING ENVELOPE

TOWNSHIP OF PERTH EAST

10-Year Funding Envelope Calculation	
10-Year Average Service Level 2011 - 2020	\$650.81
Net Population & Employment Growth 2021 - 2046	1,006
Maximum Allowable Funding Envelope	\$654,697



APPENDIX C.1.1
TABLE 2

TOWNSHIP OF PERTH EAST
DEVELOPMENT-RELATED CAPITAL PROGRAM
SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS

Service	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Cost	Total	DC Eligible Costs			
					Replacement & BTE Share	DC Eligible Costs	Available DC Reserves	2021-2046	Post 2046	
1.0 SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS										
1.1 Vehicles and Fleet										
1.1.1 Multi-use Truck	2021	\$ 85,000	\$ -	\$ 85,000	\$ 8,500	\$ 76,500	\$ -	\$ 76,500	\$ -	
1.1.2 Pickup Truck	2021	\$ 50,000	\$ -	\$ 50,000	\$ 40,000	\$ 10,000	\$ -	\$ 10,000	\$ -	
1.1.3 Facilities Position Pickup Truck	2022	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 85,000	\$ -	
1.1.4 Sidewalk Tractor	2027	\$ 120,000	\$ -	\$ 120,000	\$ -	\$ 120,000	\$ -	\$ 120,000	\$ -	
Subtotal Vehicles and Fleet		\$ 340,000	\$ -	\$ 340,000	\$ 48,500	\$ 291,500	\$ -	\$ 291,500	\$ -	
TOTAL SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS		\$ 340,000	\$ -	\$ 340,000	\$ 48,500	\$ 291,500	\$ -	\$ 291,500	\$ -	

Residential Development Charge Calculation		
Residential Share of 2021-2030 DC Eligible Costs	53%	\$154,495
10 Year Growth in Population in New Units		748
Unadjusted Development Charge Per Capita (\$)		\$206.63
Non-Residential Development Charge Calculation		
Non-Residential Share of 2021-2030 DC Eligible Costs	47%	\$ 137,005
10 Year Growth in Square Meters		39,942
Unadjusted Development Charge Per Sq.M (\$)		\$3.43

2021 - 2030 Net Funding Envelope	\$654,697
Reserve Fund Balance	\$0

APPENDIX C.1.1
TABLE 3 - PAGE 1

TOWNSHIP OF PERTH EAST
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS
RESIDENTIAL DEVELOPMENT CHARGE

SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
OPENING CASH BALANCE FROM APPLICABLE RESERVES														
OPENING CASH BALANCE (\$000)	0.0	(21.1)	(58.4)	(50.3)	(41.5)	(31.9)	(21.5)	(89.9)	(88.3)	(86.4)	(84.2)	(81.7)	(80.4)	(78.9)
2021-2030 RESIDENTIAL FUNDING REQUIREMENTS														
Services Related To A Highway: Public Works : Non Inflated	\$45.85	\$45.05	\$0.00	\$0.00	\$0.00	\$0.00	\$63.60	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Services Related To A Highway: Public Works: Inflated	\$45.85	\$45.95	\$0.00	\$0.00	\$0.00	\$0.00	\$71.62	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
POPULATION GROWTH														
- Population in New Units	97	41	41	41	41	42	21	22	22	22	22	17	18	18
REVENUE - current (\$000)														
- Dev. Charge Receipts	25.3	10.8	11.1	11.4	11.7	12.0	6.2	6.4	6.6	6.8	7.0	5.7	5.8	6.0
- Interest on Opening Balance	0.0	(1.2)	(3.2)	(2.8)	(2.3)	(1.8)	(1.2)	(4.9)	(4.9)	(4.8)	(4.6)	(4.5)	(4.4)	(4.3)
- Interest on In-year Transactions (excl.int.)	(0.6)	(1.0)	0.2	0.2	0.2	0.2	(1.8)	0.1	0.1	0.1	0.1	0.1	0.1	0.1
TOTAL REVENUE	24.7	8.7	8.1	8.8	9.6	10.4	3.3	1.6	1.9	2.2	2.5	1.3	1.5	1.7
CLOSING CASH BALANCE	(21.1)	(58.4)	(50.3)	(41.5)	(31.9)	(21.5)	(89.9)	(88.3)	(86.4)	(84.2)	(81.7)	(80.4)	(78.9)	(77.2)

	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	TOTAL
OPENING CASH BALANCE FROM APPLICABLE RESERVES													
OPENING CASH BALANCE (\$000)	(77.2)	(75.2)	(73.0)	(68.9)	(64.4)	(59.3)	(53.7)	(47.5)	(39.8)	(31.2)	(21.8)	(11.4)	
2021-2030 RESIDENTIAL FUNDING REQUIREMENTS													
: Non Inflated	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$154.50
: Inflated	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$163.42
POPULATION GROWTH													
- Population in New Units	18	18	22	22	23	23	23	26	26	27	27	28	748
REVENUE - current (\$000)													
- Dev. Charge Receipts	6.1	6.3	7.9	8.2	8.4	8.7	9.0	10.2	10.5	11.0	11.4	11.8	\$242.35
- Interest on Opening Balance	(4.2)	(4.1)	(4.0)	(3.8)	(3.5)	(3.3)	(3.0)	(2.6)	(2.2)	(1.7)	(1.2)	(0.6)	(\$79.10)
- Interest on In-year Transactions (excl.int.)	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	\$0.17
TOTAL REVENUE	2.0	2.3	4.0	4.5	5.0	5.6	6.2	7.7	8.5	9.4	10.4	11.4	\$163.42
CLOSING CASH BALANCE	(75.2)	(73.0)	(68.9)	(64.4)	(59.3)	(53.7)	(47.5)	(39.8)	(31.2)	(21.8)	(11.4)	0.0	

2021 Adjusted Charge Per Capita \$260.19

Allocation of Capital Program	
Residential Sector	53.0%
Non-Residential Sector	47.0%
Rates for 2021	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX C.1.1
TABLE 3 - PAGE 2

TOWNSHIP OF PERTH EAST
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS
NON-RESIDENTIAL DEVELOPMENT CHARGE

SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
OPENING CASH BALANCE FROM APPLICABLE RESERVES														
OPENING CASH BALANCE (\$000)	\$0.00	(\$27.42)	(\$57.92)	(\$48.10)	(\$37.20)	(\$25.16)	(\$12.18)	(\$71.73)	(\$69.22)	(\$66.45)	(\$63.40)	(\$60.04)	(\$57.64)	(\$54.98)
2021-2030 NON-RESIDENTIAL FUNDING REQUIREMENTS														
Services Related To A Highway: Public Works : Non Inflated	\$40.66	\$39.95	\$0.00	\$0.00	\$0.00	\$0.00	\$56.40	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Services Related To A Highway: Public Works: Inflated	\$40.66	\$40.75	\$0.00	\$0.00	\$0.00	\$0.00	\$63.52	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
NON-RESIDENTIAL GROWTH														
- Sq. Metres in New Buildings	3,342	2,940	2,940	3,000	3,060	3,060	1,320	1,320	1,320	1,320	1,320	1,080	1,080	1,080
REVENUE - current (\$000)														
- Dev. Charge Receipts	\$14.0	\$12.5	\$12.8	\$13.3	\$13.8	\$14.1	\$6.2	\$6.3	\$6.5	\$6.6	\$6.7	\$5.6	\$5.7	\$5.8
- Interest on Opening Balance	0.0	(1.5)	(3.2)	(2.6)	(2.0)	(1.4)	(0.7)	(3.9)	(3.8)	(3.7)	(3.5)	(3.3)	(3.2)	(3.0)
- Interest on In-year Transactions (excl.int.)	(0.7)	(0.8)	0.2	0.2	0.2	0.2	(1.6)	0.1	0.1	0.1	0.1	0.1	0.1	0.1
TOTAL REVENUE	13.2	10.2	9.8	10.9	12.0	13.0	4.0	2.5	2.8	3.1	3.4	2.4	2.7	2.9
CLOSING CASH BALANCE	(27.4)	(57.9)	(48.1)	(37.2)	(25.2)	(12.2)	(71.7)	(69.2)	(66.5)	(63.4)	(60.0)	(57.6)	(55.0)	(52.1)

	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	TOTAL
OPENING CASH BALANCE FROM APPLICABLE RESERVES													
OPENING CASH BALANCE (\$000)	(\$52.06)	(\$48.87)	(\$45.37)	(\$42.96)	(\$40.33)	(\$37.44)	(\$34.30)	(\$30.87)	(\$25.61)	(\$19.92)	(\$13.77)	(\$7.14)	
2021-2030 NON-RESIDENTIAL FUNDING REQUIREMENTS													
Services Related To A Highway: Public Works : Non Inflated	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$137.01
Services Related To A Highway: Public Works: Inflated	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$144.92
NON-RESIDENTIAL GROWTH													
- Sq. Metres in New Buildings	1,080	1,080	840	840	840	840	840	1,080	1,080	1,080	1,080	1,080	39,942
REVENUE - current (\$000)													
- Dev. Charge Receipts	\$6.0	\$6.1	\$4.8	\$4.9	\$5.0	\$5.1	\$5.2	\$6.8	\$7.0	\$7.1	\$7.3	\$7.4	\$202.78
- Interest on Opening Balance	(2.9)	(2.7)	(2.5)	(2.4)	(2.2)	(2.1)	(1.9)	(1.7)	(1.4)	(1.1)	(0.8)	(0.4)	(\$57.75)
- Interest on In-year Transactions (excl.int.)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	(\$0.11)
TOTAL REVENUE	3.2	3.5	2.4	2.6	2.9	3.1	3.4	5.3	5.7	6.1	6.6	7.1	\$144.92
CLOSING CASH BALANCE	(48.9)	(45.4)	(43.0)	(40.3)	(37.4)	(34.3)	(30.9)	(25.6)	(19.9)	(13.8)	(7.1)	(0.0)	

2021 Adjusted Charge Per Square Metre	\$4.18
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Allocation of Capital Program	
Residential Sector	53.0%
Non-Residential Sector	47.0%
Rates for 2021	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX C.1.2

SERVICES RELATED TO A HIGHWAY:

ROADS & RELATED

SERVICES RELATED TO A HIGHWAY: ROADS & RELATED

This section provides the detailed analysis undertaken to establish the development charge rates for the Roads & Related service in the Township of Perth East. The service category includes the road network as well as bridges and culverts, streetlights, intersection improvements, studies, and other related expenditures.

TABLE 1 HISTORICAL SERVICE LEVELS

Table 1 demonstrates that the Township’s current road infrastructure comprises 200 km of roads with a current replacement value estimated at \$29.40 million (excluding the associated land value). The bridges and culverts associated with the road network (102 structures) add another \$29.62 million to the value of the inventory. The Township currently has 21,330 sq.m of sidewalk with an estimated replacement value of \$2.77 million. Additionally, a number of streetlights, road signs, traffic signals, curbs, and gutters add \$1.88 million to the Roads & Related inventory. The current replacement value of the inventory of capital assets for the Roads & Related Service is \$63.67 million.

Table 1 also summarizes the 10-year replacement value of the Township’s Roads & Related infrastructure and shows the calculation of the ten year historical average service level. As shown, the 10-year historical average service level is calculated to be \$3,950.83 per capita and employment.

The maximum allowable funding envelope is defined as the 10-year historical service level (\$3,950.83 per capita and employment) multiplied by the forecast increase in net population and employment over the planning period (1,006 persons and jobs). The resulting maximum allowable funding envelope of \$3.97 million is the value of capital infrastructure that would have to be constructed over the 2021-2046 period so that the 10-year historical service level for Roads & Related is maintained.

TABLE 2 2021 – 2046 CAPITAL PROGRAM AND CALCULATION OF “UNADJUSTED” DEVELOPMENT CHARGES

The 2021-2046 capital program for Roads & Related Services identifies capital projects throughout the Township’s road network and is set out in Table 2. The total cost of the capital program is \$2.21 million and includes five projects located throughout the Township.

Approximately \$275,000 in grants and subsidies has been identified to reflect the capital cost contribution of the neighbouring municipality of paving the boundary road.

Capital costs have been allocated as development-related or non-development related (the “benefit to existing” share) based on the demands of new development on the particular project and need to improve the transportation network to accommodate the development-related impacts. Approximately \$1.31 million of the capital program (nearly 60 per cent) has been identified as a benefit to existing share to represent the share of costs which the Township would be incurring in the absence of development to maintain the roads.

The cost eligible for recovery from development charges during the planning period from 2021 to 2046, excluding the benefit to existing share, is approximately \$631,800. Of this cost, 53 per cent (approximately \$334,854) has been allocated to new residential development and 47 per cent (approximately \$296,946) to new non-residential development. The allocation of costs is based on the ratio of forecast growth in population in new housing units and employment in new non-residential floor space over the planning period.

Dividing the residential share of the capital program (\$334,854) by the anticipated growth in new units (748) yields an unadjusted residential development charge of \$447.86 per capita. Likewise, dividing the non-residential share of the capital program (\$296,946) by the forecast non-residential growth in square metres (39,942) yields an unadjusted non-residential development charge of \$7.43 per square metre.

TABLE 3 CASH FLOW ANALYSIS

After cash flow considerations, the residential development charge increases to \$595.47 per capita and \$9.56 per square metre of non-residential building space. The increase in the charge is the result of significant costs in the early years of the program.

SERVICES RELATED TO A HIGHWAY: ROADS & RELATED SUMMARY						
10-year Hist. Service Level \$/pop & emp	2021-2046		Unadjusted		Adjusted	
	Development-Related Total	Capital Program Net DC Recoverable	Development Charge \$/capita	Development Charge \$/sq.m	Development Charge \$/capita	Development Charge \$/sq.m
\$3,950.83	\$2,212,600	\$631,800	\$447.86	\$7.43	\$595.47	\$9.56

APPENDIX C.1.2
TABLE 1 - PAGE 1

TOWNSHIP OF PERTH EAST
INVENTORY OF CAPITAL ASSETS
SERVICES RELATED TO A HIGHWAY: ROADS & RELATED

ROADS Type of Road	# of Lane Kilometres											UNIT COST (\$/km)
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
High Class Bitumen	180	180	180	180	180	180	180	180	180	180	180	\$147,000
Low Class Bitumen	20	20	20	20	20	20	20	20	20	20	20	\$147,000
Total (km)	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	
Total (\$000)	\$29,400.0	\$29,400.0	\$29,400.0	\$29,400.0	\$29,400.0	\$29,400.0	\$29,400.0	\$29,400.0	\$29,400.0	\$29,400.0	\$29,400.0	

BRIDGES & CULVERTS Description	# of Bridges & Culverts											UNIT COST (\$/unit)
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Bridges	33	33	33	33	33	33	33	33	33	39	39	\$501,100
Culverts	62	62	62	62	62	62	62	62	63	63	63	\$160,000
Total (#)	95	95	95	95	95	95	95	95	96	102	102	
Total (\$000)	\$26,456.3	\$26,456.3	\$26,456.3	\$26,456.3	\$26,456.3	\$26,456.3	\$26,456.3	\$26,456.3	\$26,616.3	\$29,622.9	\$29,622.9	

SIDEWALKS Description	# of Square Metres											UNIT COST (\$/m)
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Sidewalks	21,330	21,330	21,330	21,330	21,330	21,330	21,330	21,330	21,330	21,330	21,330	\$130
Total (km)	21,330.0	21,330.0	21,330.0	21,330.0	21,330.0	21,330.0	21,330.0	21,330.0	21,330.0	21,330.0	21,330.0	
Total (\$000)	\$2,772.9	\$2,772.9	\$2,772.9	\$2,772.9	\$2,772.9	\$2,772.9	\$2,772.9	\$2,772.9	\$2,772.9	\$2,772.9	\$2,772.9	

APPENDIX C.1.2
TABLE 1 - PAGE 2

TOWNSHIP OF PERTH EAST
INVENTORY OF CAPITAL ASSETS
ROADS AND RELATED

OTHER ROADS AND RELATED Description	# of Units											UNIT COST (\$/unit)
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Streetlights	649	650	650	650	650	650	660	660	660	660	660	\$980
Road Signs	11	11	11	11	11	11	11	11	11	11	11	\$10,990
Traffic Signals	2	2	2	2	2	2	2	2	2	3	3	\$66,200
Curb and Gutter (m)	10,910	10,910	10,910	11,180	11,370	11,370	11,370	11,370	11,370	11,370	11,370	\$80
Total (km)	11,572.00	11,573.00	11,573.00	11,843.00	12,033.00	12,033.00	12,043.00	12,043.00	12,043.00	12,044.00	12,044.00	
Total (\$000)	\$1,762.1	\$1,763.1	\$1,763.1	\$1,784.7	\$1,799.9	\$1,799.9	\$1,809.7	\$1,809.7	\$1,809.7	\$1,875.9	\$1,875.9	

**APPENDIX C.1.2
TABLE 1 - PAGE 3**

**TOWNSHIP OF PERTH EAST
INVENTORY OF CAPITAL ASSETS
SERVICES RELATED TO A HIGHWAY: ROADS & RELATED**

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Historical Population	12,000	12,059	12,119	12,179	12,239	12,300	12,340	12,380	12,420	12,460
Historical Employment	<u>2,590</u>	<u>2,720</u>	<u>2,857</u>	<u>3,001</u>	<u>3,152</u>	<u>3,310</u>	<u>3,362</u>	<u>3,415</u>	<u>3,469</u>	<u>3,524</u>
Total Historical Population & Employment	14,590	14,779	14,976	15,180	15,391	15,610	15,702	15,795	15,889	15,984

INVENTORY SUMMARY (\$000)

Roads	\$29,400.0	\$29,400.0	\$29,400.0	\$29,400.0	\$29,400.0	\$29,400.0	\$29,400.0	\$29,400.0	\$29,400.0	\$29,400.0
Bridges & Culverts	\$26,456.3	\$26,456.3	\$26,456.3	\$26,456.3	\$26,456.3	\$26,456.3	\$26,456.3	\$26,456.3	\$26,616.3	\$29,622.9
Sidewalks	\$2,772.9	\$2,772.9	\$2,772.9	\$2,772.9	\$2,772.9	\$2,772.9	\$2,772.9	\$2,772.9	\$2,772.9	\$2,772.9
Other Roads And Related	\$1,762.1	\$1,763.1	\$1,763.1	\$1,784.7	\$1,799.9	\$1,799.9	\$1,809.7	\$1,809.7	\$1,809.7	\$1,875.9
Total (\$000)	\$60,391.3	\$60,392.3	\$60,392.3	\$60,413.9	\$60,429.1	\$60,429.1	\$60,438.9	\$60,438.9	\$60,598.9	\$63,671.7

**Average
Service
Level**

SERVICE LEVEL (\$/population & employment)

Roads	\$2,015.08	\$1,989.31	\$1,963.14	\$1,936.76	\$1,910.21	\$1,883.41	\$1,872.37	\$1,861.34	\$1,850.33	\$1,839.34	\$1,912.1
Bridges & Culverts	\$1,813.32	\$1,790.13	\$1,766.58	\$1,742.84	\$1,718.95	\$1,694.83	\$1,684.89	\$1,674.97	\$1,675.13	\$1,853.28	\$1,741.5
Sidewalks	\$190.05	\$187.62	\$185.16	\$182.67	\$180.16	\$177.64	\$176.59	\$175.55	\$174.52	\$173.48	\$180.3
Other Roads And Related	\$120.78	\$119.30	\$117.73	\$117.57	\$116.94	\$115.30	\$115.25	\$114.57	\$113.90	\$117.36	\$116.9
Total (\$/pop & empl)	\$4,139.23	\$4,086.36	\$4,032.60	\$3,979.83	\$3,926.26	\$3,871.18	\$3,849.11	\$3,826.44	\$3,813.87	\$3,983.46	\$3,950.83

CALCULATION OF MAXIMUM ALLOWABLE FUNDING ENVELOPE

SERVICES RELATED TO A HIGHWAY: ROADS & RELATED

10-Year Funding Envelope Calculation	
10-Year Average Service Level 2011 - 2020	\$3,950.83
Net Population & Employment Growth 2021 - 2046	1,006
Maximum Allowable Funding Envelope	\$3,974,402



APPENDIX C.1.2
TABLE 2

TOWNSHIP OF PERTH EAST
DEVELOPMENT-RELATED CAPITAL PROGRAM
SERVICES RELATED TO A HIGHWAY: ROADS & RELATED

Service	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Cost	Total	DC Eligible Costs		
					Replacement & BTE Share	DC Eligible Costs	Available DC Reserves	2021-2046	Post 2046
2.0 SERVICES RELATED TO A HIGHWAY: ROADS & RELATED									
2.1 Roads Construction									
2.1.1 Road 103 (Phase I)	2023	\$ 275,000	\$ 137,500	\$ 137,500	\$ 82,500	\$ 55,000	\$ -	\$ 55,000	\$ -
2.1.2 Road 103 (Phase II)	2024	\$ 275,000	\$ 137,500	\$ 137,500	\$ 82,500	\$ 55,000	\$ -	\$ 55,000	\$ -
2.1.3 Line 67	2021	\$ 608,100	\$ -	\$ 608,100	\$ 508,100	\$ 100,000	\$ -	\$ 100,000	\$ -
2.1.4 Line 33 (Phase I)	2021	\$ 154,500	\$ -	\$ 154,500	\$ 92,700	\$ 61,800	\$ -	\$ 61,800	\$ -
2.1.5 Line 33 (Phase II)	2022	\$ 900,000	\$ -	\$ 900,000	\$ 540,000	\$ 360,000	\$ -	\$ 360,000	\$ -
Subtotal Roads Construction		\$ 2,212,600	\$ 275,000	\$ 1,937,600	\$ 1,305,800	\$ 631,800	\$ -	\$ 631,800	\$ -
TOTAL SERVICES RELATED TO A HIGHWAY: ROADS & RELATED		\$ 2,212,600	\$ 275,000	\$ 1,937,600	\$ 1,305,800	\$ 631,800	\$ -	\$ 631,800	\$ -

Residential Development Charge Calculation		
Residential Share of 2021-2046 DC Eligible Costs	53%	\$334,854
Growth in Population in New Units		748
Unadjusted Development Charge Per Capita (\$)		\$447.86
Non-Residential Development Charge Calculation		
Non-Residential Share of 2021-2046 DC Eligible Costs	47%	\$ 296,946
Growth in Square Meters		39,942
Unadjusted Development Charge Per Sq.M (\$)		\$7.43

2021 - 2030 Net Funding Envelope	\$3,974,402
Reserve Fund Balance	\$0

APPENDIX C.1.2
TABLE 3 - PAGE 1

TOWNSHIP OF PERTH EAST
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
SERVICES RELATED TO A HIGHWAY: ROADS & RELATED
RESIDENTIAL DEVELOPMENT CHARGE

SERVICES RELATED TO A HIGHWAY: ROADS & RELATED

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
OPENING CASH BALANCE FROM APPLICABLE RESERVES														
OPENING CASH BALANCE (\$000)	0.0	(28.6)	(204.8)	(221.1)	(238.4)	(224.3)	(208.7)	(205.7)	(202.0)	(197.7)	(192.7)	(186.9)	(184.1)	(180.7)
2021-2030 RESIDENTIAL FUNDING REQUIREMENTS														
Services Related To A Highway: Roads & Related : Non Inflated	\$85.75	\$190.80	\$29.15	\$29.15	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Services Related To A Highway: Roads & Related: Inflated	\$85.75	\$194.62	\$30.33	\$30.93	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
POPULATION GROWTH														
- Population in New Units	97	41	41	41	41	42	21	22	22	22	22	17	18	18
REVENUE - current (\$000)														
- Dev. Charge Receipts	57.9	24.7	25.4	26.0	26.7	27.4	14.3	14.7	15.2	15.6	16.1	12.9	13.3	13.7
- Interest on Opening Balance	0.0	(1.6)	(11.3)	(12.2)	(13.1)	(12.3)	(11.5)	(11.3)	(11.1)	(10.9)	(10.6)	(10.3)	(10.1)	(9.9)
- Interest on In-year Transactions (excl.int.)	(0.8)	(4.7)	(0.1)	(0.1)	0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
TOTAL REVENUE	57.1	18.5	14.0	13.7	14.1	15.5	3.1	3.7	4.3	5.0	5.8	2.9	3.4	4.0
CLOSING CASH BALANCE	(28.6)	(204.8)	(221.1)	(238.4)	(224.3)	(208.7)	(205.7)	(202.0)	(197.7)	(192.7)	(186.9)	(184.1)	(180.7)	(176.7)

	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	TOTAL
OPENING CASH BALANCE FROM APPLICABLE RESERVES													
OPENING CASH BALANCE (\$000)	(176.7)	(172.1)	(167.0)	(157.7)	(147.3)	(135.8)	(122.9)	(108.7)	(91.1)	(71.5)	(49.9)	(26.1)	
2021-2030 RESIDENTIAL FUNDING REQUIREMENTS													
Services Related To A Highway: Roads & Related : Non Inflated	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$334.85
Services Related To A Highway: Roads & Related: Inflated	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$341.63
POPULATION GROWTH													
- Population in New Units	18	18	22	22	23	23	23	26	26	27	27	28	748
REVENUE - current (\$000)													
- Dev. Charge Receipts	14.0	14.4	18.1	18.7	19.3	20.0	20.6	23.2	24.1	25.1	26.1	27.1	\$554.63
- Interest on Opening Balance	(9.7)	(9.5)	(9.2)	(8.7)	(8.1)	(7.5)	(6.8)	(6.0)	(5.0)	(3.9)	(2.7)	(1.4)	(\$214.65)
- Interest on In-year Transactions (excl.int.)	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	\$1.65
TOTAL REVENUE	4.6	5.2	9.3	10.4	11.6	12.8	14.2	17.7	19.5	21.6	23.8	26.1	\$341.63
CLOSING CASH BALANCE	(172.1)	(167.0)	(157.7)	(147.3)	(135.8)	(122.9)	(108.7)	(91.1)	(71.5)	(49.9)	(26.1)	(0.0)	

2021 Adjusted Charge Per Capita	\$595.47
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Allocation of Capital Program	
Residential Sector	53.0%
Non-Residential Sector	47.0%
Rates for 2021	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX C.1.2
TABLE 3 - PAGE 2

TOWNSHIP OF PERTH EAST
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
SERVICES RELATED TO A HIGHWAY: ROADS & RELATED
NON-RESIDENTIAL DEVELOPMENT CHARGE

SERVICES RELATED TO A HIGHWAY: ROADS & RELATED

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
OPENING CASH BALANCE FROM APPLICABLE RESERVES														
OPENING CASH BALANCE (\$000)	\$0.00	(\$45.29)	(\$195.65)	(\$204.01)	(\$212.17)	(\$191.61)	(\$169.27)	(\$164.12)	(\$158.39)	(\$152.05)	(\$145.06)	(\$137.38)	(\$131.87)	(\$125.80)
2021-2030 NON-RESIDENTIAL FUNDING REQUIREMENTS														
Services Related To A Highway: Roads & Related : Non Inflated	\$76.05	\$169.20	\$25.85	\$25.85	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Services Related To A Highway: Roads & Related: Inflated	\$76.05	\$172.58	\$26.89	\$27.43	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
NON-RESIDENTIAL GROWTH														
- Sq. Metres in New Buildings	3,342	2,940	2,940	3,000	3,060	3,060	1,320	1,320	1,320	1,320	1,320	1,080	1,080	1,080
REVENUE - current (\$000)														
- Dev. Charge Receipts	\$32.0	\$28.7	\$29.3	\$30.4	\$31.7	\$32.3	\$14.2	\$14.5	\$14.8	\$15.1	\$15.4	\$12.8	\$13.1	\$13.4
- Interest on Opening Balance	0.0	(2.5)	(10.8)	(11.2)	(11.7)	(10.5)	(9.3)	(9.0)	(8.7)	(8.4)	(8.0)	(7.6)	(7.3)	(6.9)
- Interest on In-year Transactions (excl.int.)	(1.2)	(4.0)	0.0	0.1	0.6	0.6	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2
TOTAL REVENUE	30.8	22.2	18.5	19.3	20.6	22.3	5.2	5.7	6.3	7.0	7.7	5.5	6.1	6.7
CLOSING CASH BALANCE	(45.3)	(195.6)	(204.0)	(212.2)	(191.6)	(169.3)	(164.1)	(158.4)	(152.1)	(145.1)	(137.4)	(131.9)	(125.8)	(119.1)

	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	TOTAL
OPENING CASH BALANCE FROM APPLICABLE RESERVES													
OPENING CASH BALANCE (\$000)	(\$119.12)	(\$111.81)	(\$103.82)	(\$98.31)	(\$92.27)	(\$85.67)	(\$78.47)	(\$70.64)	(\$58.60)	(\$45.58)	(\$31.51)	(\$16.34)	
2021-2030 NON-RESIDENTIAL FUNDING REQUIREMENTS													
Services Related To A Highway: Roads & Related : Non Inflated	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$296.95
Services Related To A Highway: Roads & Related: Inflated	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$302.96
NON-RESIDENTIAL GROWTH													
- Sq. Metres in New Buildings	1,080	1,080	840	840	840	840	840	1,080	1,080	1,080	1,080	1,080	39,942
REVENUE - current (\$000)													
- Dev. Charge Receipts	\$13.6	\$13.9	\$11.0	\$11.2	\$11.5	\$11.7	\$11.9	\$15.7	\$16.0	\$16.3	\$16.6	\$16.9	\$463.98
- Interest on Opening Balance	(6.6)	(6.1)	(5.7)	(5.4)	(5.1)	(4.7)	(4.3)	(3.9)	(3.2)	(2.5)	(1.7)	(0.9)	(\$161.96)
- Interest on In-year Transactions (excl.int.)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	\$0.94
TOTAL REVENUE	7.3	8.0	5.5	6.0	6.6	7.2	7.8	12.0	13.0	14.1	15.2	16.3	\$302.96
CLOSING CASH BALANCE	(111.8)	(103.8)	(98.3)	(92.3)	(85.7)	(78.5)	(70.6)	(58.6)	(45.6)	(31.5)	(16.3)	0.0	

2021 Adjusted Charge Per Square Metre	\$9.56
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Allocation of Capital Program	
Residential Sector	53.0%
Non-Residential Sector	47.0%
Rates for 2021	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX C.2

WATER SERVICES

WATER SERVICES

As part of this Development Charges Study for the Township of Perth East, projects related to Water infrastructure are being considered for recovery. In order to properly service the Township's growing population, development-related works are being studied and planned for.

TABLE 1 2021-2046 DEVELOPMENT RELATED CAPITAL PROGRAM & CALCULATION OF THE "UNADJUSTED" DEVELOPMENT CHARGES

The Township is planning a redevelopment of the Milverton well as well as fleet addition and Water Master Plan. The total cost of the three projects identified in the capital plan amounts to \$500,000. Approximately \$60,000 in grants and contributions has been netted off the total gross program. This funding share represents:

- 50% of the Water and Waster Master Plan will be funded from wastewater services
- 20% of the pick-up truck is to be funded by public works representing the share of the truck being used to maintain roads.

Given the nature of the Milverton well redevelopment, a share of \$262,500 has been identified as benefit to the existing residents as it represents a replacement of the existing infrastructure and therefore removed from the development charges calculation. Although, the capacity of the well is being expanded by 25% and only the capacity associated with the expansion is considered for recovery from DCs (being \$87,500). Overall, the resulting \$177,500 is the development-related share of the capital program eligible for recovery during the 2021-2046 planning period.

Of the \$177,500; \$94,075, or 53 per cent, is allocated to residential development. This results in a charge of \$133.85 per capita. The remaining \$83,425 (47 per cent) is allocated to non-residential development, yielding in a charge of \$2.22 per square metre. Please note the costs are only attributable against the urban serviced areas in the Township where water services are planned.

TABLE 2 CASH FLOW ANALYSIS

After taking into account the timing of projects and development, the residential charge increases to \$158.55 per capita and the non-residential charge increases to \$2.55 per square metre.

WATER SERVICES SUMMARY						
10-year Hist.	2021-2046		Unadjusted		Adjusted	
Service Level	Development-Related Capital Program		Development Charge		Development Charge	
\$/pop & emp	Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m
	\$500,000	\$177,500	\$133.85	\$2.22	\$158.55	\$2.55

APPENDIX C.2
TABLE 1

TOWNSHIP OF PERTH EAST
DEVELOPMENT-RELATED CAPITAL PROGRAM
WATER SERVICES

Service	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Cost Replacement & BTE Share	Total DC Eligible Costs	DC Eligible Costs		
							Available DC Reserves	2021-2046	Post 2046
3.0 WATER SERVICES									
3.1 WATER SERVICES									
3.1.1 Milverton Well	2024	\$ 350,000	\$ -	\$ 350,000	\$ 262,500	\$ 87,500	\$ -	\$ 87,500	\$ -
3.1.2 Master Plan (Water Share)	various	\$ 100,000	\$ 50,000	\$ 50,000	\$ -	\$ 50,000	\$ -	\$ 50,000	\$ -
3.1.3 Pickup Truck	2021	\$ 50,000	\$ 10,000	\$ 40,000	\$ -	\$ 40,000	\$ -	\$ 40,000	\$ -
		\$ 500,000	\$ 60,000	\$ 440,000	\$ 262,500	\$ 177,500	\$ -	\$ 177,500	\$ -
TOTAL WATER SERVICES		\$ 500,000	\$ 60,000	\$ 440,000	\$ 262,500	\$ 177,500	\$ -	\$ 177,500	\$ -

Residential Development Charge Calculation		
Residential Share of 2021-2046 DC Eligible Costs	53%	\$94,075
Growth in Population in New Units		703
Unadjusted Development Charge Per Capita (\$)		\$133.85
Non-Residential Development Charge Calculation		
Non-Residential Share of 2021-2046 DC Eligible Costs	47%	\$ 83,425
Growth in Square Meters		37,546
Unadjusted Development Charge Per Sq.M (\$)		\$2.22

2021 - 2030 Net Funding Envelope
Reserve Fund Balance

APPENDIX C.2
TABLE 2 - PAGE 1

TOWNSHIP OF PERTH EAST
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
WATER SERVICES
RESIDENTIAL DEVELOPMENT CHARGE

WATER SERVICES

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
OPENING CASH BALANCE FROM APPLICABLE RESERVES														
OPENING CASH BALANCE (\$000)	0.0	(7.9)	(3.1)	2.1	(42.9)	(39.5)	(35.9)	(35.4)	(34.8)	(34.0)	(33.2)	(32.2)	(31.9)	(31.6)
2021-2030 RESIDENTIAL FUNDING REQUIREMENTS														
Water Services : Non Inflated	\$22.22	\$1.02	\$1.02	\$47.39	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02
Water Services : Inflated	\$22.22	\$1.04	\$1.06	\$50.30	\$1.10	\$1.13	\$1.15	\$1.17	\$1.19	\$1.22	\$1.24	\$1.27	\$1.29	\$1.32
POPULATION GROWTH														
- Population in New Units	91	38	38	39	39	39	20	20	20	21	21	16	17	17
REVENUE - current (\$000)														
- Dev. Charge Receipts	14.5	6.2	6.3	6.5	6.7	6.9	3.6	3.7	3.8	3.9	4.0	3.2	3.3	3.4
- Interest on Opening Balance	0.0	(0.4)	(0.2)	0.1	(2.4)	(2.2)	(2.0)	(1.9)	(1.9)	(1.9)	(1.8)	(1.8)	(1.8)	(1.7)
- Interest on In-year Transactions (excl.int.)	(0.2)	0.1	0.1	(1.2)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL REVENUE	14.3	5.8	6.3	5.4	4.4	4.8	1.6	1.8	1.9	2.1	2.2	1.5	1.6	1.7
CLOSING CASH BALANCE	(7.9)	(3.1)	2.1	(42.9)	(39.5)	(35.9)	(35.4)	(34.8)	(34.0)	(33.2)	(32.2)	(31.9)	(31.6)	(31.2)

	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	TOTAL
OPENING CASH BALANCE FROM APPLICABLE RESERVES													
OPENING CASH BALANCE (\$000)	(31.2)	(30.7)	(30.1)	(28.6)	(26.9)	(24.9)	(22.7)	(20.2)	(17.0)	(13.4)	(9.4)	(4.9)	
2021-2030 RESIDENTIAL FUNDING REQUIREMENTS													
Water Services : Non Inflated	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$94.08
Water Services : Inflated	\$1.34	\$1.37	\$1.40	\$1.43	\$1.46	\$1.48	\$1.51	\$1.54	\$1.58	\$1.61	\$1.64	\$1.67	\$104.73
POPULATION GROWTH													
- Population in New Units	17	17	21	21	21	22	22	24	25	25	26	26	703
REVENUE - current (\$000)													
- Dev. Charge Receipts	3.5	3.6	4.5	4.7	4.8	5.0	5.2	5.8	6.0	6.3	6.5	6.8	\$138.81
- Interest on Opening Balance	(1.7)	(1.7)	(1.7)	(1.6)	(1.5)	(1.4)	(1.2)	(1.1)	(0.9)	(0.7)	(0.5)	(0.3)	(\$34.16)
- Interest on In-year Transactions (excl.int.)	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	\$0.08
TOTAL REVENUE	1.8	2.0	2.9	3.2	3.4	3.7	4.0	4.8	5.2	5.6	6.1	6.6	\$104.73
CLOSING CASH BALANCE	(30.7)	(30.1)	(28.6)	(26.9)	(24.9)	(22.7)	(20.2)	(17.0)	(13.4)	(9.4)	(4.9)	0.0	

2021 Adjusted Charge Per Capita	\$158.55
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Allocation of Capital Program	
Residential Sector	53.0%
Non-Residential Sector	47.0%
Rates for 2021	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX C.2
TABLE 2 - PAGE 2

TOWNSHIP OF PERTH EAST
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
WATER SERVICES
NON-RESIDENTIAL DEVELOPMENT CHARGE

WATER SERVICES

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
OPENING CASH BALANCE FROM APPLICABLE RESERVES														
OPENING CASH BALANCE (\$000)	\$0.00	(\$12.03)	(\$6.32)	(\$0.18)	(\$38.19)	(\$33.22)	(\$27.84)	(\$26.78)	(\$25.62)	(\$24.34)	(\$22.94)	(\$21.40)	(\$20.46)	(\$19.41)
2021-2030 NON-RESIDENTIAL FUNDING REQUIREMENTS														
Water Services : Non Inflated	\$19.70	\$0.90	\$0.90	\$42.03	\$0.90	\$0.90	\$0.90	\$0.90	\$0.90	\$0.90	\$0.90	\$0.90	\$0.90	\$0.90
Water Services : Inflated	\$19.70	\$0.92	\$0.94	\$44.60	\$0.98	\$1.00	\$1.02	\$1.04	\$1.06	\$1.08	\$1.10	\$1.12	\$1.15	\$1.17
NON-RESIDENTIAL GROWTH														
- Sq. Metres in New Buildings	3,142	2,764	2,764	2,820	2,876	2,876	1,241	1,241	1,241	1,241	1,241	1,015	1,015	1,015
REVENUE - current (\$000)														
- Dev. Charge Receipts	\$8.0	\$7.2	\$7.3	\$7.6	\$7.9	\$8.1	\$3.6	\$3.6	\$3.7	\$3.8	\$3.9	\$3.2	\$3.3	\$3.3
- Interest on Opening Balance	0.0	(0.7)	(0.3)	(0.0)	(2.1)	(1.8)	(1.5)	(1.5)	(1.4)	(1.3)	(1.3)	(1.2)	(1.1)	(1.1)
- Interest on In-year Transactions (excl.int.)	(0.3)	0.1	0.1	(1.0)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL REVENUE	7.7	6.6	7.1	6.6	5.9	6.4	2.1	2.2	2.3	2.5	2.6	2.1	2.2	2.3
CLOSING CASH BALANCE	(12.0)	(6.3)	(0.2)	(38.2)	(33.2)	(27.8)	(26.8)	(25.6)	(24.3)	(22.9)	(21.4)	(20.5)	(19.4)	(18.3)

	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	TOTAL
OPENING CASH BALANCE FROM APPLICABLE RESERVES													
OPENING CASH BALANCE (\$000)	(\$18.27)	(\$17.02)	(\$15.65)	(\$14.96)	(\$14.21)	(\$13.39)	(\$12.48)	(\$11.50)	(\$9.54)	(\$7.42)	(\$5.13)	(\$2.66)	
2021-2030 NON-RESIDENTIAL FUNDING REQUIREMENTS													
Water Services : Non Inflated	\$0.90	\$0.90	\$0.90	\$0.90	\$0.90	\$0.90	\$0.90	\$0.90	\$0.90	\$0.90	\$0.90	\$0.90	\$83.43
Water Services : Inflated	\$1.19	\$1.22	\$1.24	\$1.27	\$1.29	\$1.32	\$1.34	\$1.37	\$1.40	\$1.43	\$1.45	\$1.48	\$92.88
NON-RESIDENTIAL GROWTH													
- Sq. Metres in New Buildings	1,015	1,015	790	790	790	790	790	1,015	1,015	1,015	1,015	1,015	37,546
REVENUE - current (\$000)													
- Dev. Charge Receipts	\$3.4	\$3.5	\$2.8	\$2.8	\$2.9	\$2.9	\$3.0	\$3.9	\$4.0	\$4.1	\$4.2	\$4.2	\$116.11
- Interest on Opening Balance	(1.0)	(0.9)	(0.9)	(0.8)	(0.8)	(0.7)	(0.7)	(0.6)	(0.5)	(0.4)	(0.3)	(0.1)	(\$23.15)
- Interest on In-year Transactions (excl.int.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(\$0.08)
TOTAL REVENUE	2.4	2.6	1.9	2.0	2.1	2.2	2.3	3.3	3.5	3.7	3.9	4.1	\$92.88
CLOSING CASH BALANCE	(17.0)	(15.6)	(15.0)	(14.2)	(13.4)	(12.5)	(11.5)	(9.5)	(7.4)	(5.1)	(2.7)	(0.0)	

2021 Adjusted Charge Per Square Metre	\$2.55
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Allocation of Capital Program	
Residential Sector	53.0%
Non-Residential Sector	47.0%
Rates for 2021	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX C.3

WASTEWATER SERVICES

WASTEWATER SERVICES

As part of this Development Charges Study for the Township of Perth East, projects related to Wastewater infrastructure are being considered for recovery through development charges. Details on the development-related wastewater capital program is summarized below.

TABLE 1 2021-2046 DEVELOPMENT RELATED CAPITAL PROGRAM & CALCULATION OF THE “UNADJUSTED” DEVELOPMENT CHARGES

The Township is planning to expand the existing Millstreet Sewage Pumping Station due to constrained capacity as a result of growth in the Township. It is assumed the benefit of the pumping station will be entirely attributable to development as this is necessary infrastructure required to ensure growth in this area can continue, thus, the entire cost of the project (\$800,000) has been brought forward to the development charges calculation.

In addition to the sewage pumping station, an a provision for inflow and infiltration works (growth-related share) over the planning horizon as well as a Water and Wastewater Master Plan are included in the capital plan. The total cost of the development-related capital program for Wastewater Services amounts to \$1.00 million before deductions (see Table 1). The entire \$1.00 million development-related capital program is not to be fully recovered from future development charges; a deduction of \$50,000 is made to the gross value to account for the shared cost of the Water and Wastewater Master Plan. No non-growth-related shares have been identified, thus, after netting off the portion of the Master Plan that is to be funded by water services, the result is a development-related and development charge recoverable share of the capital program of \$950,000.

Of the \$950,000, \$503,500, or 53 per cent, is allocated to residential development which results in a charge of \$716.40 per capita and \$446,500 (47 per cent) is allocated to non-residential development resulting in a charge of \$11.89 per square metre. Please note the costs are only attributable against the urban serviced areas in the Township where wastewater services are planned.

TABLE 2 CASH FLOW ANALYSIS

After taking into account reserve fund balances and interest costs, the residential charge increases \$912.06 per capita and the non-residential charge increases to \$14.62 per square metre.

WASTEWATER SERVICES SUMMARY						
10-year Hist.	2021-2046		Unadjusted		Adjusted	
Service Level	Development-Related Capital Program		Development Charge		Development Charge	
\$/pop & emp	Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m
	\$1,000,000	\$950,000	\$716.40	\$11.89	\$912.06	\$14.62

APPENDIX C.3
TABLE 1

TOWNSHIP OF PERTH EAST
DEVELOPMENT-RELATED CAPITAL PROGRAM
WASTEWATER SERVICES

Service	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Cost Replacement & BTE Share	Total DC Eligible Costs	DC Eligible Costs		
							Available DC Reserves	2021-2046	Post 2046
4.0 WASTEWATER SERVICES									
4.1 WASTEWATER SERVICES									
4.1.1 Millstreet Sewage Pumping Station	2022	\$ 800,000	\$ -	\$ 800,000	\$ -	\$ 800,000	\$ -	\$ 800,000	\$ -
4.1.2 Master Plan	various	\$ 100,000	\$ 50,000	\$ 50,000	\$ -	\$ 50,000	\$ -	\$ 50,000	\$ -
4.1.3 Inflow & Infiltration System	various	\$ 100,000	\$ -	\$ 100,000	\$ -	\$ 100,000	\$ -	\$ 100,000	\$ -
		\$ 1,000,000	\$ 50,000	\$ 950,000	\$ -	\$ 950,000	\$ -	\$ 950,000	\$ -
TOTAL WASTEWATER SERVICES		\$ 1,000,000	\$ 50,000	\$ 950,000	\$ -	\$ 950,000	\$ -	\$ 950,000	\$ -

Residential Development Charge Calculation			
Residential Share of 2021-2046 DC Eligible Costs	53%		\$503,500
Growth in Population in New Units			703
Unadjusted Development Charge Per Capita (\$)			\$716.40
Non-Residential Development Charge Calculation			
Non-Residential Share of 2021-2046 DC Eligible Costs	47%	\$	446,500
Growth in Square Meters			37,546
Unadjusted Development Charge Per Sq.M (\$)			\$11.89

2021 - 2030 Net Funding Envelope
Reserve Fund Balance

APPENDIX C.3
TABLE 2 - PAGE 1

TOWNSHIP OF PERTH EAST
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
WASTEWATER SERVICES
RESIDENTIAL DEVELOPMENT CHARGE

WASTEWATER SERVICES

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
OPENING CASH BALANCE FROM APPLICABLE RESERVES														
OPENING CASH BALANCE (\$000)	0.0	81.7	(326.5)	(310.5)	(292.8)	(273.1)	(251.4)	(247.8)	(243.5)	(238.3)	(232.2)	(225.3)	(222.6)	(219.3)
2021-2030 RESIDENTIAL FUNDING REQUIREMENTS														
Wastewater Services : Non Inflated	\$3.06	\$427.06	\$3.06	\$3.06	\$3.06	\$3.06	\$3.06	\$3.06	\$3.06	\$3.06	\$3.06	\$3.06	\$3.06	\$3.06
Wastewater Services : Inflated	\$3.06	\$435.60	\$3.18	\$3.24	\$3.31	\$3.38	\$3.44	\$3.51	\$3.58	\$3.65	\$3.73	\$3.80	\$3.88	\$3.96
POPULATION GROWTH														
- Population in New Units	91	38	38	39	39	39	20	20	20	21	21	16	17	17
REVENUE - current (\$000)														
- Dev. Charge Receipts	83.4	35.6	36.5	37.5	38.4	39.5	20.6	21.2	21.8	22.5	23.1	18.6	19.1	19.7
- Interest on Opening Balance	0.0	2.9	(18.0)	(17.1)	(16.1)	(15.0)	(13.8)	(13.6)	(13.4)	(13.1)	(12.8)	(12.4)	(12.2)	(12.1)
- Interest on In-year Transactions (excl.int.)	1.4	(11.0)	0.6	0.6	0.6	0.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
TOTAL REVENUE	84.8	27.4	19.1	21.0	23.0	25.1	7.1	7.9	8.8	9.7	10.7	6.5	7.2	7.9
CLOSING CASH BALANCE	81.7	(326.5)	(310.5)	(292.8)	(273.1)	(251.4)	(247.8)	(243.5)	(238.3)	(232.2)	(225.3)	(222.6)	(219.3)	(215.4)

	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	TOTAL
OPENING CASH BALANCE FROM APPLICABLE RESERVES													
OPENING CASH BALANCE (\$000)	(215.4)	(210.8)	(205.4)	(194.5)	(182.1)	(168.3)	(152.8)	(135.6)	(113.8)	(89.5)	(62.6)	(32.8)	
2021-2030 RESIDENTIAL FUNDING REQUIREMENTS													
Wastewater Services : Non Inflated	\$3.06	\$3.06	\$3.06	\$3.06	\$3.06	\$3.06	\$3.06	\$3.06	\$3.06	\$3.06	\$3.06	\$3.06	\$503.50
Wastewater Services : Inflated	\$4.03	\$4.12	\$4.20	\$4.28	\$4.37	\$4.45	\$4.54	\$4.63	\$4.73	\$4.82	\$4.92	\$5.02	\$535.44
POPULATION GROWTH													
- Population in New Units	17	17	21	21	21	22	22	24	25	25	26	26	703
REVENUE - current (\$000)													
- Dev. Charge Receipts	20.2	20.7	26.1	26.9	27.8	28.7	29.7	33.4	34.7	36.1	37.5	39.0	\$798.53
- Interest on Opening Balance	(11.8)	(11.6)	(11.3)	(10.7)	(10.0)	(9.3)	(8.4)	(7.5)	(6.3)	(4.9)	(3.4)	(1.8)	(\$263.70)
- Interest on In-year Transactions (excl.int.)	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	\$0.60
TOTAL REVENUE	8.6	9.4	15.2	16.6	18.2	19.9	21.7	26.5	29.0	31.7	34.7	37.8	\$535.44
CLOSING CASH BALANCE	(210.8)	(205.4)	(194.5)	(182.1)	(168.3)	(152.8)	(135.6)	(113.8)	(89.5)	(62.6)	(32.8)	(0.0)	

2021 Adjusted Charge Per Capita \$912.06

Allocation of Capital Program
Residential Sector 53.0%
Non-Residential Sector 47.0%

Rates for 2021
Inflation Rate 2.0%
Interest Rate on Positive Balances 3.5%
Interest Rate on Negative Balances 5.5%



APPENDIX C.3
TABLE 2 - PAGE 2

TOWNSHIP OF PERTH EAST
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
WASTEWATER SERVICES
NON-RESIDENTIAL DEVELOPMENT CHARGE

WASTEWATER SERVICES

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
OPENING CASH BALANCE FROM APPLICABLE RESERVES														
OPENING CASH BALANCE (\$000)	\$0.00	\$43.99	(\$309.03)	(\$286.11)	(\$260.25)	(\$231.23)	(\$199.74)	(\$193.04)	(\$185.62)	(\$177.43)	(\$168.42)	(\$158.55)	(\$151.91)	(\$144.61)
2021-2030 NON-RESIDENTIAL FUNDING REQUIREMENTS														
Wastewater Services : Non Inflated	\$2.71	\$378.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71
Wastewater Services : Inflated	\$2.71	\$386.29	\$2.82	\$2.88	\$2.94	\$2.99	\$3.05	\$3.11	\$3.18	\$3.24	\$3.31	\$3.37	\$3.44	\$3.51
NON-RESIDENTIAL GROWTH														
- Sq. Metres in New Buildings	3,142	2,764	2,764	2,820	2,876	2,876	1,241	1,241	1,241	1,241	1,241	1,015	1,015	1,015
REVENUE - current (\$000)														
- Dev. Charge Receipts	\$45.9	\$41.2	\$42.0	\$43.8	\$45.5	\$46.4	\$20.4	\$20.8	\$21.3	\$21.7	\$22.1	\$18.5	\$18.8	\$19.2
- Interest on Opening Balance	0.0	1.5	(17.0)	(15.7)	(14.3)	(12.7)	(11.0)	(10.6)	(10.2)	(9.8)	(9.3)	(8.7)	(8.4)	(8.0)
- Interest on In-year Transactions (excl.int.)	0.8	(9.5)	0.7	0.7	0.7	0.8	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
TOTAL REVENUE	46.7	33.3	25.7	28.7	32.0	34.5	9.8	10.5	11.4	12.2	13.2	10.0	10.7	11.5
CLOSING CASH BALANCE	44.0	(309.0)	(286.1)	(260.3)	(231.2)	(199.7)	(193.0)	(185.6)	(177.4)	(168.4)	(158.5)	(151.9)	(144.6)	(136.6)

	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	TOTAL
OPENING CASH BALANCE FROM APPLICABLE RESERVES													
OPENING CASH BALANCE (\$000)	(\$136.60)	(\$127.82)	(\$118.23)	(\$112.39)	(\$105.99)	(\$98.98)	(\$91.33)	(\$82.99)	(\$68.84)	(\$53.54)	(\$37.02)	(\$19.20)	
2021-2030 NON-RESIDENTIAL FUNDING REQUIREMENTS													
Wastewater Services : Non Inflated	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71	\$446.50
Wastewater Services : Inflated	\$3.58	\$3.65	\$3.72	\$3.80	\$3.87	\$3.95	\$4.03	\$4.11	\$4.19	\$4.28	\$4.36	\$4.45	\$474.82
NON-RESIDENTIAL GROWTH													
- Sq. Metres in New Buildings	1,015	1,015	790	790	790	790	790	1,015	1,015	1,015	1,015	1,015	37,546
REVENUE - current (\$000)													
- Dev. Charge Receipts	\$19.6	\$20.0	\$15.9	\$16.2	\$16.5	\$16.8	\$17.2	\$22.5	\$23.0	\$23.4	\$23.9	\$24.4	\$666.91
- Interest on Opening Balance	(7.5)	(7.0)	(6.5)	(6.2)	(5.8)	(5.4)	(5.0)	(4.6)	(3.8)	(2.9)	(2.0)	(1.1)	(\$192.00)
- Interest on In-year Transactions (excl.int.)	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	(\$0.09)
TOTAL REVENUE	12.4	13.2	9.6	10.2	10.9	11.6	12.4	18.3	19.5	20.8	22.2	23.6	\$474.82
CLOSING CASH BALANCE	(127.8)	(118.2)	(112.4)	(106.0)	(99.0)	(91.3)	(83.0)	(68.8)	(53.5)	(37.0)	(19.2)	0.0	

2021 Adjusted Charge Per Square Metre	\$14.62
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Allocation of Capital Program	
Residential Sector	53.0%
Non-Residential Sector	47.0%
Rates for 2021	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX D

AREA RATING CONSIDERATION

AREA RATING CONSIDERATION

This appendix provides the detailed analysis undertaken to establish the possible area-specific development charge rates for the Water and Wastewater Services

Four area-specific engineered services are included:

- Appendix D.1 Milverton Water Services
- Appendix D.2 Milverton Wastewater Services
- Appendix D.3 Shakespeare Water Services
- Appendix D.4 Shakespeare Wastewater Services

The projects identified in the capital program are required to service the demands of the anticipated development in the urban area to occur over the planning period of 2021 to 2046.

The following tables provide details of the projects included in the potential area-specific engineered infrastructure development charge calculations for the Township's urban area. The content of the tables is as follows:

- Table 1: Development Related Capital Program
- Table 2: Residential & Non-Residential Cash Flow Analysis

ALLOCATION OF CAPITAL COSTS AND CALCULATED ASDC RATES

The projects and costs have been identified and allocated through discussions with Township staff. All costs are represented in current (2021) dollars.

The following table summarizes the allocation of the urban area engineered services capital costs:

Service	Gross Cost	Grants / Subsidies / Other	Replacement / Benefit to Existing	Other Development -Related	2021-2046 DC Share	Allocation	
						Residential (53%)	Non-Residential (47%)
Milverton Water Services	\$480,851	\$52,340	\$262,500	\$0	\$166,011	\$87,986	\$78,025
Milverton Wastewater Services	\$974,468	\$43,617	\$0	\$0	\$930,851	\$493,351	\$437,500
Shakespeare Water Services	\$19,149	\$7,660	\$0	\$0	\$11,489	\$6,089	\$5,400
Shakespeare Wastewater Services	\$25,532	\$6,383	\$0	\$0	\$19,149	\$10,149	\$9,000
Total	\$1,500,000	\$110,000	\$262,500	\$0	\$1,127,500	\$597,575	\$529,925

The following tables summarize the calculated rates for each of the service areas in Milverton and Shakespeare. These ADDC rate are illustrated for council consideration in addition to the municipal-wide DCs calculated and shown in the other appendices of this background study. Also of importance, the service areas related to fire, library, parks and recreation, development-related studies and services related to a highway are recommended to be levied municipal-wide under both council options and only the water and wastewater infrastructure is differentiated between ASDC and municipal-wide.

**TOWNSHIP OF PERTH EAST
RESIDENTIAL DEVELOPMENT CHARGE
MILVERTON DEVELOPMENT CHARGE**

SERVICE	Unadjusted Charge Per Capita	Adjusted Charge Per Capita After Cashflow	Charge Per Unit Type ⁽¹⁾		
			Single & Semi Detached	Multiples	Apartments
FIRE SERVICES	\$429	\$429	\$1,257	\$858	\$643
LIBRARY SERVICES	\$51	\$50	\$148	\$101	\$76
PARKS & RECREATION	\$722	\$713	\$2,090	\$1,426	\$1,070
DEVELOPMENT-RELATED STUDIES	\$141	\$142	\$416	\$283	\$213
SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS	\$207	\$260	\$763	\$520	\$390
SERVICES RELATED TO A HIGHWAY: ROADS & RELATED	\$448	\$595	\$1,746	\$1,191	\$893
SUB-TOTAL MUNICIPAL-WIDE CHARGE (RURAL)	\$1,997	\$2,190	\$6,420	\$4,379	\$3,285
WATER SERVICES	\$144	\$171	\$500	\$341	\$256
WASTEWATER SERVICES	\$805	\$1,030	\$3,020	\$2,060	\$1,545
TOTAL DEVELOPMENT CHARGE (URBAN SERVICES)	\$948	\$1,201	\$3,520	\$2,401	\$1,801
TOTAL MILVERTON CHARGE	\$2,945	\$3,390	\$9,940	\$6,780	\$5,086
1: Person per unit:			2.93	2.00	1.50

**TOWNSHIP OF PERTH EAST
NON-RESIDENTIAL DEVELOPMENT CHARGE
MILVERTON DEVELOPMENT CHARGE**

SERVICE	Unadjusted Charge (\$/sq.m.)	Adjusted Charge (\$/sq.m.)
FIRE SERVICES	\$7.07	\$7.13
LIBRARY SERVICES	\$0.00	\$0.00
PARKS & RECREATION	\$0.00	\$0.00
DEVELOPMENT-RELATED STUDIES	\$2.33	\$2.36
SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS	\$3.43	\$4.18
SERVICES RELATED TO A HIGHWAY: ROADS & RELATED	\$7.43	\$9.56
SUB-TOTAL MUNICIPAL-WIDE CHARGE (RURAL)	\$20.26	\$23.23
WATER SERVICES	\$2.38	\$2.74
WASTEWATER SERVICES	\$13.36	\$16.52
TOTAL DEVELOPMENT CHARGE (URBAN SERVICES)	\$15.74	\$19.26
TOTAL MILVERTON CHARGE PER SQ.M	\$36.00	\$42.49

**TOWNSHIP OF PERTH EAST
RESIDENTIAL DEVELOPMENT CHARGE
SHAKESPEARE DEVELOPMENT CHARGE**

SERVICE	Unadjusted Charge Per Capita	Adjusted Charge Per Capita After Cashflow	Charge Per Unit Type ⁽¹⁾		
			Single & Semi Detached	Multiples	Apartments
FIRE SERVICES	\$429	\$429	\$1,257	\$858	\$643
LIBRARY SERVICES	\$51	\$50	\$148	\$101	\$76
PARKS & RECREATION	\$722	\$713	\$2,090	\$1,426	\$1,070
DEVELOPMENT-RELATED STUDIES	\$141	\$142	\$416	\$283	\$213
SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS	\$207	\$260	\$763	\$520	\$390
SERVICES RELATED TO A HIGHWAY: ROADS & RELATED	\$448	\$595	\$1,746	\$1,191	\$893
SUB-TOTAL MUNICIPAL-WIDE CHARGE (RURAL)	\$1,997	\$2,190	\$6,420	\$4,379	\$3,285
WATER SERVICES	\$68	\$76	\$224	\$153	\$115
WASTEWATER SERVICES	\$113	\$110	\$322	\$219	\$165
TOTAL DEVELOPMENT CHARGE (URBAN SERVICES)	\$181	\$186	\$546	\$372	\$280
TOTAL SHAKESPEARE CHARGE	\$2,178	\$2,376	\$6,966	\$4,751	\$3,565
1: Person per unit:			2.93	2.00	1.50

**TOWNSHIP OF PERTH EAST
NON-RESIDENTIAL DEVELOPMENT CHARGE
SHAKESPEARE DEVELOPMENT CHARGE**

SERVICE	Unadjusted Charge (\$/sq.m.)	Adjusted Charge (\$/sq.m.)
FIRE SERVICES	\$7.07	\$7.13
LIBRARY SERVICES	\$0.00	\$0.00
PARKS & RECREATION	\$0.00	\$0.00
DEVELOPMENT-RELATED STUDIES	\$2.33	\$2.36
SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS	\$3.43	\$4.18
SERVICES RELATED TO A HIGHWAY: ROADS & RELATED	\$7.43	\$9.56
SUB-TOTAL MUNICIPAL-WIDE CHARGE (RURAL)	\$20.26	\$23.23
WATER SERVICES	\$1.13	\$1.23
WASTEWATER SERVICES	\$1.88	\$1.79
TOTAL DEVELOPMENT CHARGE (URBAN SERVICES)	\$3.01	\$3.02
TOTAL SHAKESPEARE CHARGE PER SQ.M	\$23.27	\$26.25

APPENDIX D.1

MILVERTON WATER SERVICES

MILVERTON WATER SERVICES

The following section sets out the 2021-2046 development-related capital forecast and calculation of the area-specific development charge for Water Services in the Milverton area.

The details and timing of the 2021-2046 development-related Water capital program are shown in Table 1. The gross costs included in the program total \$480,851, which includes a new well, Master Plan and vehicle. Of this total, \$52,340 and \$262,500 have been identified in grants/subsidies/other contributions and benefit to the existing community respectively. As such, these costs have been excluded from the development charge calculation. Please note, the cost of the Pick-up Truck and Master Plan Study have been proportionately allocated between the Milverton and Shakespeare service areas.

The remaining \$166,011 is identified as the net development-related share eligible for funding through development charges over the planning period from 2021 to 2046.

Table 1 summarizes the capital program and calculation of the unadjusted residential and non-residential development charges for water servicing. The DC eligible share of \$166,011 has been allocated 53 per cent to new residential development and 47 per cent to non-residential development based on shares of population in new units and employment growth in new space within the Milverton area to 2046.

The residential share of the capital program totals \$87,986 and, when divided by the forecast growth in population in new units (613), results in an unadjusted charge of \$143.51 per capita.

The non-residential share, approximately \$78,025, is applied against the forecast increase in square metres of non-residential floor space (32,753). This results in an unadjusted charge of \$2.38 per square metre.

The residential and non-residential cash flow analysis is shown in Table 2. After cash flow considerations, the residential and non-residential charge increase to \$171 per capita \$2.74 per square metre, respectively.

MILVERTON WATER SERVICES SUMMARY

2021-2046		Unadjusted		Adjusted	
Development-Related Capital Program		Development Charge		Development Charge	
Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m
\$480,851	\$166,011	\$144	\$2.38	\$171	\$2.74

APPENDIX D.1
TABLE 1

TOWNSHIP OF PERTH EAST
DEVELOPMENT-RELATED CAPITAL PROGRAM
WATER SERVICES
ASDC - SENSITIVITY TEST

Service	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Cost	Total	DC Eligible Costs			
					Replacement & BTE Share	DC Eligible Costs	Available DC Reserves	2021-2046	Post 2046	
1.0 WATER SERVICES										
1.1 WATER SERVICES										
1.1.1 Milverton Well	2024	\$ 350,000	\$ -	\$ 350,000	\$ 262,500	\$ 87,500	\$ -	\$ 87,500	\$ -	
1.1.2 Master Plan	various	\$ 87,234	\$ 43,617	\$ 43,617	\$ -	\$ 43,617	\$ -	\$ 43,617	\$ -	
1.1.3 Pickup Truck	2021	\$ 43,617	\$ 8,723	\$ 34,894	\$ -	\$ 34,894	\$ -	\$ 34,894	\$ -	
		\$ 480,851	\$ 52,340	\$ 428,511	\$ 262,500	\$ 166,011	\$ -	\$ 166,011	\$ -	
TOTAL WATER SERVICES		\$ 480,851	\$ 52,340	\$ 428,511	\$ 262,500	\$ 166,011	\$ -	\$ 166,011	\$ -	

Residential Development Charge Calculation			
Residential Share of 2021-2046 DC Eligible Costs	53%	\$87,986	
Growth in Population in New Units		613	
Unadjusted Development Charge Per Capita (\$)		\$143.51	
Non-Residential Development Charge Calculation			
Non-Residential Share of 2021-2046 DC Eligible Costs	47%	\$ 78,025	
Growth in Square Meters		32,753	
Unadjusted Development Charge Per Sq.M (\$)		\$2.38	

Reserve Fund Balance	\$0
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APPENDIX D.1
TABLE 2 - PAGE 1

TOWNSHIP OF PERTH EAST
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
WATER SERVICES
RESIDENTIAL DEVELOPMENT CHARGE

WATER SERVICES

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
OPENING CASH BALANCE FROM APPLICABLE RESERVES														
OPENING CASH BALANCE (\$000)	0.0	(5.9)	(1.3)	3.8	(41.3)	(38.2)	(34.8)	(34.3)	(33.7)	(33.0)	(32.1)	(31.2)	(30.9)	(30.6)
2021-2030 RESIDENTIAL FUNDING REQUIREMENTS														
Water Services : Non Inflated	\$19.38	\$0.89	\$0.89	\$47.26	\$0.89	\$0.89	\$0.89	\$0.89	\$0.89	\$0.89	\$0.89	\$0.89	\$0.89	\$0.89
Water Services : Inflated	\$19.38	\$0.91	\$0.93	\$50.16	\$0.96	\$0.98	\$1.00	\$1.02	\$1.04	\$1.06	\$1.08	\$1.11	\$1.13	\$1.15
POPULATION GROWTH														
- Population in New Units	80	33	34	34	34	34	17	18	18	18	18	14	14	15
REVENUE - current (\$000)														
- Dev. Charge Receipts	13.6	5.8	6.0	6.1	6.3	6.4	3.4	3.5	3.6	3.7	3.8	3.0	3.1	3.2
- Interest on Opening Balance	0.0	(0.3)	(0.1)	0.1	(2.3)	(2.1)	(1.9)	(1.9)	(1.9)	(1.8)	(1.8)	(1.7)	(1.7)	(1.7)
- Interest on In-year Transactions (excl.int.)	(0.2)	0.1	0.1	(1.2)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL REVENUE	13.4	5.6	6.0	5.0	4.1	4.4	1.5	1.6	1.8	1.9	2.1	1.4	1.5	1.6
CLOSING CASH BALANCE	(5.9)	(1.3)	3.8	(41.3)	(38.2)	(34.8)	(34.3)	(33.7)	(33.0)	(32.1)	(31.2)	(30.9)	(30.6)	(30.2)

	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	TOTAL
OPENING CASH BALANCE FROM APPLICABLE RESERVES													
OPENING CASH BALANCE (\$000)	(30.2)	(29.7)	(29.1)	(27.6)	(25.9)	(24.0)	(21.8)	(19.5)	(16.4)	(12.9)	(9.0)	(4.7)	
2021-2030 RESIDENTIAL FUNDING REQUIREMENTS													
Water Services : Non Inflated	\$0.89	\$0.89	\$0.89	\$0.89	\$0.89	\$0.89	\$0.89	\$0.89	\$0.89	\$0.89	\$0.89	\$0.89	\$87.99
Water Services : Inflated	\$1.17	\$1.20	\$1.22	\$1.24	\$1.27	\$1.30	\$1.32	\$1.35	\$1.37	\$1.40	\$1.43	\$1.46	\$97.64
POPULATION GROWTH													
- Population in New Units	15	15	18	18	19	19	19	21	21	22	22	23	613
REVENUE - current (\$000)													
- Dev. Charge Receipts	3.3	3.4	4.3	4.4	4.5	4.7	4.8	5.5	5.7	5.9	6.1	6.4	\$130.33
- Interest on Opening Balance	(1.7)	(1.6)	(1.6)	(1.5)	(1.4)	(1.3)	(1.2)	(1.1)	(0.9)	(0.7)	(0.5)	(0.3)	(\$32.75)
- Interest on In-year Transactions (excl.int.)	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	\$0.07
TOTAL REVENUE	1.7	1.8	2.7	2.9	3.2	3.4	3.7	4.5	4.8	5.3	5.7	6.2	\$97.64
CLOSING CASH BALANCE	(29.7)	(29.1)	(27.6)	(25.9)	(24.0)	(21.8)	(19.5)	(16.4)	(12.9)	(9.0)	(4.7)	0.0	

2021 Adjusted Charge Per Capita	\$171
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Allocation of Capital Program	
Residential Sector	53.0%
Non-Residential Sector	47.0%
Rates for 2021	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



TOWNSHIP OF PERTH EAST
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
WATER SERVICES
NON-RESIDENTIAL DEVELOPMENT CHARGE

WATER SERVICES

OPENING CASH BALANCE FROM APPLICABLE RESERVES	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
OPENING CASH BALANCE (\$000)	\$0.00	(\$9.95)	(\$4.46)	\$1.46	(\$36.84)	(\$32.17)	(\$27.10)	(\$26.10)	(\$24.99)	(\$23.76)	(\$22.42)	(\$20.96)	(\$20.04)	(\$19.03)
2021-2030 NON-RESIDENTIAL FUNDING REQUIREMENTS														
Water Services : Non Inflated	\$17.19	\$0.79	\$0.79	\$41.91	\$0.79	\$0.79	\$0.79	\$0.79	\$0.79	\$0.79	\$0.79	\$0.79	\$0.79	\$0.79
Water Services : Inflated	\$17.19	\$0.80	\$0.82	\$44.48	\$0.85	\$0.87	\$0.89	\$0.91	\$0.92	\$0.94	\$0.96	\$0.98	\$1.00	\$1.02
NON-RESIDENTIAL GROWTH														
- Sq. Metres in New Buildings	2,741	2,411	2,411	2,460	2,509	2,509	1,082	1,082	1,082	1,082	1,082	886	886	886
REVENUE - current (\$000)														
- Dev. Charge Receipts	\$7.5	\$6.7	\$6.9	\$7.2	\$7.4	\$7.6	\$3.3	\$3.4	\$3.5	\$3.5	\$3.6	\$3.0	\$3.1	\$3.1
- Interest on Opening Balance	0.0	(0.5)	(0.2)	0.1	(2.0)	(1.8)	(1.5)	(1.4)	(1.4)	(1.3)	(1.2)	(1.2)	(1.1)	(1.0)
- Interest on In-year Transactions (excl.int.)	(0.3)	0.1	0.1	(1.0)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL REVENUE	7.2	6.3	6.7	6.2	5.5	5.9	1.9	2.0	2.1	2.3	2.4	1.9	2.0	2.1
CLOSING CASH BALANCE	(9.9)	(4.5)	1.5	(36.8)	(32.2)	(27.1)	(26.1)	(25.0)	(23.8)	(22.4)	(21.0)	(20.0)	(19.0)	(17.9)

OPENING CASH BALANCE FROM APPLICABLE RESERVES	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	TOTAL
OPENING CASH BALANCE (\$000)	(\$17.92)	(\$16.70)	(\$15.38)	(\$14.69)	(\$13.93)	(\$13.10)	(\$12.19)	(\$11.20)	(\$9.29)	(\$7.23)	(\$5.00)	(\$2.59)	
2021-2030 NON-RESIDENTIAL FUNDING REQUIREMENTS													
Water Services : Non Inflated	\$0.79	\$0.79	\$0.79	\$0.79	\$0.79	\$0.79	\$0.79	\$0.79	\$0.79	\$0.79	\$0.79	\$0.79	\$78.02
Water Services : Inflated	\$1.04	\$1.06	\$1.08	\$1.10	\$1.13	\$1.15	\$1.17	\$1.20	\$1.22	\$1.24	\$1.27	\$1.29	\$86.59
NON-RESIDENTIAL GROWTH													
- Sq. Metres in New Buildings	886	886	689	689	689	689	689	886	886	886	886	886	32,753
REVENUE - current (\$000)													
- Dev. Charge Receipts	\$3.2	\$3.3	\$2.6	\$2.6	\$2.7	\$2.7	\$2.8	\$3.7	\$3.8	\$3.8	\$3.9	\$4.0	\$109.00
- Interest on Opening Balance	(1.0)	(0.9)	(0.8)	(0.8)	(0.8)	(0.7)	(0.7)	(0.6)	(0.5)	(0.4)	(0.3)	(0.1)	(\$22.34)
- Interest on In-year Transactions (excl.int.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(\$0.08)
TOTAL REVENUE	2.3	2.4	1.8	1.9	2.0	2.1	2.2	3.1	3.3	3.5	3.7	3.9	\$86.59
CLOSING CASH BALANCE	(16.7)	(15.4)	(14.7)	(13.9)	(13.1)	(12.2)	(11.2)	(9.3)	(7.2)	(5.0)	(2.6)	0.0	

2021 Adjusted Charge Per Square Metre	\$2.74
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Allocation of Capital Program	
Residential Sector	53.0%
Non-Residential Sector	47.0%
Rates for 2021	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX D.2

MILVERTON WASTEWATER SERVICES

MILVERTON WASTEWATER SERVICES

The capital program for Wastewater Services was assembled by the Township's engineering staff and is designed to serve the anticipated population and employment growth in Milverton between 2021 and 2046.

Table 1 summarizes the capital program and calculation of the unadjusted residential and non-residential development charges. The 2021-2046 Wastewater capital program totals \$974,468 and includes infrastructure planned to serve development in the Milverton area. The development-related costs included in the capital program are not to be entirely recovered through DCs. \$43,617 has been identified in grants and other contributions and have therefore been excluded from the development charges calculation. This share represents the shared funding source for the study between water and wastewater services.

The remaining \$930,851 is identified as the net development-related share eligible for funding through development charges over the 2021-2046 planning period.

The DC eligible share has been allocated 53 per cent to new residential development and 47 per cent to non-residential development based on shares of population in new units and employment growth in new space to 2046. The residential share of the capital program totals \$493,351 and, when divided by the forecast growth in population in new units (613), an unadjusted charge of \$804.69 per capita results.

The non-residential share, \$437,500 is applied against the forecast increase in square metres of non-residential floor space (32,753), yielding an unadjusted charge of \$13.36 per square metre.

The residential and non-residential cash flow analysis is shown on Table 2. The analysis takes into consideration expenditure timing and DC revenue projections. After cash flow considerations, the residential and non-residential charges increase to \$1,030 per capita and \$16.52 per square metre, respectively.

MILVERTON WASTEWATER SERVICES SUMMARY

2021-2046		Unadjusted		Adjusted	
Development-Related Capital Program		Development Charge		Development Charge	
Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m
\$974,468	\$930,851	\$805	\$13.36	\$1,030	\$16.52

APPENDIX D.2
TABLE 1

TOWNSHIP OF PERTH EAST
DEVELOPMENT-RELATED CAPITAL PROGRAM
WASTEWATER SERVICES

Service	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Cost	Total	DC Eligible Costs			
					Replacement & BTE Share	DC Eligible Costs	Available DC Reserves	2021-2046	Post 2046	
2.0 WASTEWATER SERVICES										
2.1 WASTEWATER SERVICES										
2.1.1 Millstreet Sewage Pumping Station	2022	\$ 800,000	\$ -	\$ 800,000	\$ -	\$ 800,000	\$ -	\$ 800,000	\$ -	
2.1.2 Master Plan	various	\$ 87,234	\$ 43,617	\$ 43,617	\$ -	\$ 43,617	\$ -	\$ 43,617	\$ -	
2.1.3 Inflow & Infiltration System	various	\$ 87,234	\$ -	\$ 87,234	\$ -	\$ 87,234	\$ -	\$ 87,234	\$ -	
		\$ 974,468	\$ 43,617	\$ 930,851	\$ -	\$ 930,851	\$ -	\$ 930,851	\$ -	
TOTAL WASTEWATER SERVICES		\$ 974,468	\$ 43,617	\$ 930,851	\$ -	\$ 930,851	\$ -	\$ 930,851	\$ -	

Residential Development Charge Calculation			
Residential Share of 2021-2046 DC Eligible Costs	53%	\$	493,351
Growth in Population in New Units			613
Unadjusted Development Charge Per Capita (\$)			\$804.69
Non-Residential Development Charge Calculation			
Non-Residential Share of 2021-2046 DC Eligible Costs	47%	\$	437,500
Growth in Square Meters			32,753
Unadjusted Development Charge Per Sq.M (\$)			\$13.36

Reserve Fund Balance	\$0
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APPENDIX D.2
TABLE 2 - PAGE 1

TOWNSHIP OF PERTH EAST
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
WASTEWATER SERVICES
RESIDENTIAL DEVELOPMENT CHARGE

WASTEWATER SERVICES

OPENING CASH BALANCE FROM APPLICABLE RESERVES	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
OPENING CASH BALANCE (\$000)	0.0	80.9	(327.5)	(311.7)	(294.2)	(274.7)	(253.3)	(249.6)	(245.2)	(240.0)	(233.9)	(226.9)	(224.1)	(220.7)
2021-2030 RESIDENTIAL FUNDING REQUIREMENTS														
Wastewater Services : Non Inflated	\$2.67	\$426.67	\$2.67	\$2.67	\$2.67	\$2.67	\$2.67	\$2.67	\$2.67	\$2.67	\$2.67	\$2.67	\$2.67	\$2.67
Wastewater Services : Inflated	\$2.67	\$435.20	\$2.78	\$2.83	\$2.89	\$2.94	\$3.00	\$3.06	\$3.13	\$3.19	\$3.25	\$3.32	\$3.38	\$3.45
POPULATION GROWTH														
- Population in New Units	80	33	34	34	34	34	17	18	18	18	18	14	14	15
REVENUE - current (\$000)														
- Dev. Charge Receipts	82.1	35.1	36.0	36.9	37.9	38.9	20.3	20.9	21.5	22.1	22.8	18.4	18.9	19.4
- Interest on Opening Balance	0.0	2.8	(18.0)	(17.1)	(16.2)	(15.1)	(13.9)	(13.7)	(13.5)	(13.2)	(12.9)	(12.5)	(12.3)	(12.1)
- Interest on In-year Transactions (excl.int.)	1.4	(11.0)	0.6	0.6	0.6	0.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
TOTAL REVENUE	83.5	26.9	18.5	20.4	22.3	24.4	6.6	7.5	8.3	9.3	10.3	6.1	6.8	7.5
CLOSING CASH BALANCE	80.9	(327.5)	(311.7)	(294.2)	(274.7)	(253.3)	(249.6)	(245.2)	(240.0)	(233.9)	(226.9)	(224.1)	(220.7)	(216.6)

OPENING CASH BALANCE FROM APPLICABLE RESERVES	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	TOTAL
OPENING CASH BALANCE (\$000)	(216.6)	(211.9)	(206.4)	(195.3)	(182.8)	(168.9)	(153.3)	(136.0)	(114.0)	(89.7)	(62.7)	(32.9)	
2021-2030 RESIDENTIAL FUNDING REQUIREMENTS													
Wastewater Services : Non Inflated	\$2.67	\$2.67	\$2.67	\$2.67	\$2.67	\$2.67	\$2.67	\$2.67	\$2.67	\$2.67	\$2.67	\$2.67	\$493.35
Wastewater Services : Inflated	\$3.52	\$3.59	\$3.66	\$3.73	\$3.81	\$3.89	\$3.96	\$4.04	\$4.12	\$4.21	\$4.29	\$4.38	\$522.29
POPULATION GROWTH													
- Population in New Units	15	15	18	18	19	19	19	21	21	22	22	23	613
REVENUE - current (\$000)													
- Dev. Charge Receipts	19.9	20.4	25.7	26.5	27.4	28.3	29.3	33.0	34.2	35.6	37.0	38.5	\$786.81
- Interest on Opening Balance	(11.9)	(11.7)	(11.3)	(10.7)	(10.1)	(9.3)	(8.4)	(7.5)	(6.3)	(4.9)	(3.4)	(1.8)	(\$265.14)
- Interest on In-year Transactions (excl.int.)	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	\$0.63
TOTAL REVENUE	8.3	9.1	14.7	16.2	17.8	19.5	21.3	26.0	28.5	31.2	34.1	37.2	\$522.29
CLOSING CASH BALANCE	(211.9)	(206.4)	(195.3)	(182.8)	(168.9)	(153.3)	(136.0)	(114.0)	(89.7)	(62.7)	(32.9)	(0.0)	

2021 Adjusted Charge Per Capita	\$1,030
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Allocation of Capital Program	
Residential Sector	53.0%
Non-Residential Sector	47.0%
Rates for 2021	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



TOWNSHIP OF PERTH EAST
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
WASTEWATER SERVICES
NON-RESIDENTIAL DEVELOPMENT CHARGE

WASTEWATER SERVICES

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
OPENING CASH BALANCE FROM APPLICABLE RESERVES														
OPENING CASH BALANCE (\$000)	\$0.00	\$43.65	(\$309.63)	(\$287.01)	(\$261.48)	(\$232.82)	(\$201.73)	(\$195.05)	(\$187.64)	(\$179.47)	(\$170.48)	(\$160.61)	(\$153.94)	(\$146.58)
2021-2030 NON-RESIDENTIAL FUNDING REQUIREMENTS														
Wastewater Services : Non Inflated	\$2.37	\$378.37	\$2.37	\$2.37	\$2.37	\$2.37	\$2.37	\$2.37	\$2.37	\$2.37	\$2.37	\$2.37	\$2.37	\$2.37
Wastewater Services : Inflated	\$2.37	\$385.93	\$2.46	\$2.51	\$2.56	\$2.61	\$2.66	\$2.72	\$2.77	\$2.83	\$2.88	\$2.94	\$3.00	\$3.06
NON-RESIDENTIAL GROWTH														
- Sq. Metres in New Buildings	2,741	2,411	2,411	2,460	2,509	2,509	1,082	1,082	1,082	1,082	1,082	886	886	886
REVENUE - current (\$000)														
- Dev. Charge Receipts	\$45.3	\$40.6	\$41.4	\$43.1	\$44.9	\$45.8	\$20.1	\$20.5	\$20.9	\$21.4	\$21.8	\$18.2	\$18.6	\$18.9
- Interest on Opening Balance	0.0	1.5	(17.0)	(15.8)	(14.4)	(12.8)	(11.1)	(10.7)	(10.3)	(9.9)	(9.4)	(8.8)	(8.5)	(8.1)
- Interest on In-year Transactions (excl.int.)	0.8	(9.5)	0.7	0.7	0.7	0.8	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
TOTAL REVENUE	46.0	32.6	25.1	28.0	31.2	33.7	9.3	10.1	10.9	11.8	12.7	9.6	10.4	11.1
CLOSING CASH BALANCE	43.7	(309.6)	(287.0)	(261.5)	(232.8)	(201.7)	(195.0)	(187.6)	(179.5)	(170.5)	(160.6)	(153.9)	(146.6)	(138.5)

	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	TOTAL
OPENING CASH BALANCE FROM APPLICABLE RESERVES													
OPENING CASH BALANCE (\$000)	(\$138.50)	(\$129.66)	(\$120.00)	(\$114.01)	(\$107.44)	(\$100.25)	(\$92.41)	(\$83.87)	(\$69.57)	(\$54.11)	(\$37.41)	(\$19.40)	
2021-2030 NON-RESIDENTIAL FUNDING REQUIREMENTS													
Wastewater Services : Non Inflated	\$2.37	\$2.37	\$2.37	\$2.37	\$2.37	\$2.37	\$2.37	\$2.37	\$2.37	\$2.37	\$2.37	\$2.37	\$437.50
Wastewater Services : Inflated	\$3.12	\$3.18	\$3.25	\$3.31	\$3.38	\$3.45	\$3.51	\$3.59	\$3.66	\$3.73	\$3.80	\$3.88	\$463.16
NON-RESIDENTIAL GROWTH													
- Sq. Metres in New Buildings	886	886	689	689	689	689	689	886	886	886	886	886	32,753
REVENUE - current (\$000)													
- Dev. Charge Receipts	\$19.3	\$19.7	\$15.6	\$15.9	\$16.2	\$16.6	\$16.9	\$22.2	\$22.6	\$23.1	\$23.5	\$24.0	\$657.12
- Interest on Opening Balance	(7.6)	(7.1)	(6.6)	(6.3)	(5.9)	(5.5)	(5.1)	(4.6)	(3.8)	(3.0)	(2.1)	(1.1)	(\$193.89)
- Interest on In-year Transactions (excl.int.)	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	(\$0.06)
TOTAL REVENUE	12.0	12.8	9.2	9.9	10.6	11.3	12.1	17.9	19.1	20.4	21.8	23.3	\$463.16
CLOSING CASH BALANCE	(129.7)	(120.0)	(114.0)	(107.4)	(100.3)	(92.4)	(83.9)	(69.6)	(54.1)	(37.4)	(19.4)	0.0	

2021 Adjusted Charge Per Square Metre	\$16.52
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Allocation of Capital Program	
Residential Sector	53.0%
Non-Residential Sector	47.0%
Rates for 2021	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX D.3

SHAKESPEARE WATER SERVICES

SHAKESPEARE WATER SERVICES

The following section sets out the 2021-2046 development-related capital forecast and calculation of the area-specific development charge for Water Services in the Shakespeare area.

The details and timing of the 2021-2046 development-related Water capital program are shown in Table 1. The gross costs included in the program total \$19,149 which includes a Master Plan and new vehicle. Of this total, \$7,660 is being funded from other DCs. The remaining \$11,489 is identified as the net development-related share eligible for funding through development charges over the planning period from 2021 to 2046.

The DC eligible share of \$11,489 has been allocated 53 per cent to new residential development and 47 per cent to non-residential development based on shares of population in new units and employment growth in new space within Shakespeare to 2046.

The residential share of the capital program totals \$6,089 and, when divided by the forecast growth in population in new units (90), results in an unadjusted charge of \$67.87 per capita.

The non-residential share, approximately \$5,400, is applied against the forecast increase in square metres of non-residential floor space (4,793). This results in an unadjusted charge of \$1.13 per square metre.

The residential and non-residential cash flow analysis is shown in Table 2. After cash flow considerations, the residential and non-residential charge increase to \$76 per capita \$1.23 per square metre, respectively.

SHAKESPEARE WATER SERVICES SUMMARY						
2021-2046		Unadjusted		Adjusted		
Development-Related Capital Program		Development Charge		Development Charge		
Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m	
\$19,149	\$11,489	\$68	\$1.13	\$76	\$1.23	

APPENDIX D.3
TABLE 1

TOWNSHIP OF PERTH EAST
DEVELOPMENT-RELATED CAPITAL PROGRAM
WATER SERVICES
ASDC - SENSITIVITY TEST

Service	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Cost Replacement & BTE Share	Total DC Eligible Costs	DC Eligible Costs		
							Available DC Reserves	2021-2046	Post 2046
3.0 WATER SERVICES									
3.1 WATER SERVICES									
3.1.1 Master Plan	various	\$ 12,766	\$ 6,383	\$ 6,383	\$ -	\$ 6,383	\$ -	\$ 6,383	\$ -
3.1.2 Pickup Truck	2021	\$ 6,383	\$ 1,277	\$ 5,106	\$ -	\$ 5,106	\$ -	\$ 5,106	\$ -
		\$ 19,149	\$ 7,660	\$ 11,489	\$ -	\$ 11,489	\$ -	\$ 11,489	\$ -
TOTAL WATER SERVICES		\$ 19,149	\$ 7,660	\$ 11,489	\$ -	\$ 11,489	\$ -	\$ 11,489	\$ -

Residential Development Charge Calculation		
Residential Share of 2021-2046 DC Eligible Costs	53%	\$6,089
Growth in Population in New Units		90
Unadjusted Development Charge Per Capita (\$)		\$67.87
Non-Residential Development Charge Calculation		
Non-Residential Share of 2021-2046 DC Eligible Costs	47%	\$ 5,400
Growth in Square Meters		4,793
Unadjusted Development Charge Per Sq.M (\$)		\$1.13

Reserve Fund Balance	\$0
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APPENDIX D.3
TABLE 2 - PAGE 1

TOWNSHIP OF PERTH EAST
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
WATER SERVICES
RESIDENTIAL DEVELOPMENT CHARGE

WATER SERVICES

OPENING CASH BALANCE FROM APPLICABLE RESERVES	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
OPENING CASH BALANCE (\$000)	0.0	(2.0)	(1.9)	(1.7)	(1.5)	(1.3)	(1.1)	(1.1)	(1.1)	(1.1)	(1.0)	(1.0)	(1.0)	(1.0)
2021-2030 RESIDENTIAL FUNDING REQUIREMENTS														
Water Services : Non Inflated	\$2.84	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13
Water Services : Inflated	\$2.84	\$0.13	\$0.14	\$0.14	\$0.14	\$0.14	\$0.15	\$0.15	\$0.15	\$0.16	\$0.16	\$0.16	\$0.17	\$0.17
POPULATION GROWTH														
- Population in New Units	12	5	5	5	5	5	3	3	3	3	3	2	2	2
REVENUE - current (\$000)														
- Dev. Charge Receipts	0.9	0.4	0.4	0.4	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
- Interest on Opening Balance	0.0	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
- Interest on In-year Transactions (excl.int.)	(0.1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL REVENUE	0.8	0.3	0.3	0.3	0.3	0.4	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2
CLOSING CASH BALANCE	(2.0)	(1.9)	(1.7)	(1.5)	(1.3)	(1.1)	(1.1)	(1.1)	(1.1)	(1.0)	(1.0)	(1.0)	(1.0)	(1.1)

OPENING CASH BALANCE FROM APPLICABLE RESERVES	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	TOTAL
OPENING CASH BALANCE (\$000)	(1.1)	(1.1)	(1.1)	(1.0)	(1.0)	(0.9)	(0.9)	(0.8)	(0.7)	(0.5)	(0.4)	(0.2)	
2021-2030 RESIDENTIAL FUNDING REQUIREMENTS													
Water Services : Non Inflated	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$6.09
Water Services : Inflated	\$0.17	\$0.18	\$0.18	\$0.18	\$0.19	\$0.19	\$0.19	\$0.20	\$0.20	\$0.21	\$0.21	\$0.21	\$7.09
POPULATION GROWTH													
- Population in New Units	2	2	3	3	3	3	3	3	3	3	3	3	90
REVENUE - current (\$000)													
- Dev. Charge Receipts	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	\$8.54
- Interest on Opening Balance	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(\$1.46)
- Interest on In-year Transactions (excl.int.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0.01
TOTAL REVENUE	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4	\$7.09
CLOSING CASH BALANCE	(1.1)	(1.1)	(1.0)	(1.0)	(0.9)	(0.9)	(0.8)	(0.7)	(0.5)	(0.4)	(0.2)	(0.0)	

2021 Adjusted Charge Per Capita	\$76
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Allocation of Capital Program	
Residential Sector	53.0%
Non-Residential Sector	47.0%
Rates for 2021	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX D.3
TABLE 2 - PAGE 2

TOWNSHIP OF PERTH EAST
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
WATER SERVICES
NON-RESIDENTIAL DEVELOPMENT CHARGE

WATER SERVICES

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
OPENING CASH BALANCE FROM APPLICABLE RESERVES														
OPENING CASH BALANCE (\$000)	\$0.00	(\$2.08)	(\$1.86)	(\$1.63)	(\$1.37)	(\$1.07)	(\$0.75)	(\$0.70)	(\$0.65)	(\$0.59)	(\$0.53)	(\$0.46)	(\$0.43)	(\$0.40)
2021-2030 NON-RESIDENTIAL FUNDING REQUIREMENTS														
Water Services : Non Inflated	\$2.52	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12
Water Services : Inflated	\$2.52	\$0.12	\$0.12	\$0.12	\$0.12	\$0.13	\$0.13	\$0.13	\$0.14	\$0.14	\$0.14	\$0.14	\$0.15	\$0.15
NON-RESIDENTIAL GROWTH														
- Sq. Metres in New Buildings	401	353	353	360	367	367	158	158	158	158	158	130	130	130
REVENUE - current (\$000)														
- Dev. Charge Receipts	\$0.5	\$0.4	\$0.5	\$0.5	\$0.5	\$0.5	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2
- Interest on Opening Balance	0.0	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
- Interest on In-year Transactions (excl.int.)	(0.1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL REVENUE	0.4	0.3	0.4	0.4	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
CLOSING CASH BALANCE	(2.1)	(1.9)	(1.6)	(1.4)	(1.1)	(0.8)	(0.7)	(0.7)	(0.6)	(0.5)	(0.5)	(0.4)	(0.4)	(0.4)

	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	TOTAL
OPENING CASH BALANCE FROM APPLICABLE RESERVES													
OPENING CASH BALANCE (\$000)		(\$0.36)	(\$0.32)	(\$0.28)	(\$0.28)	(\$0.29)	(\$0.29)	(\$0.30)	(\$0.30)	(\$0.25)	(\$0.19)	(\$0.13)	(\$0.07)
2021-2030 NON-RESIDENTIAL FUNDING REQUIREMENTS													
Water Services : Non Inflated		\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$5.40
Water Services : Inflated		\$0.15	\$0.16	\$0.16	\$0.16	\$0.16	\$0.17	\$0.17	\$0.17	\$0.18	\$0.18	\$0.19	\$6.29
NON-RESIDENTIAL GROWTH													
- Sq. Metres in New Buildings		130	130	101	101	101	101	101	130	130	130	130	4,793
REVENUE - current (\$000)													
- Dev. Charge Receipts		\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.3	\$0.3	\$7.15
- Interest on Opening Balance		(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(\$0.86)
- Interest on In-year Transactions (excl.int.)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(\$0.01)
TOTAL REVENUE		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	\$6.29
CLOSING CASH BALANCE		(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.2)	(0.2)	(0.1)	(0.1)	(0.0)

2021 Adjusted Charge Per Square Metre	\$1.23
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Allocation of Capital Program	
Residential Sector	53.0%
Non-Residential Sector	47.0%
Rates for 2021	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX D.4

SHAKESPEARE WASTEWATER SERVICES

SHAKESPEARE WASTEWATER SERVICES

The development-related capital program for wastewater servicing was provided by the Township’s engineering staff and totals \$25,532 in capital costs. The details, timing, and cost breakdown of these wastewater projects are shown in Table 1.

Of the total, \$6,383 is being recovered from other sources and therefore been excluded from the development charge calculation. As shown in Table 1, the development-related share has been allocated 53 per cent, or \$10,149 to new residential development and 47 per cent, or \$9,000 to new non-residential development.

The residential share is divided by the anticipated growth in population in new units between 2021 and 2046 in the Shakespeare area (90), which yields an unadjusted development charge of \$113.12 per capita. The non-residential share (\$9,000) is divided by the 4,793 square metres in forecasted new non-residential space, resulting in an unadjusted DC of \$1.88 per square metre.

In Table 2, the residential and non-residential cash flow analysis is shown. After cash flow analysis, the residential calculated charge decreases to \$110 per capita and the adjusted non-residential development charge decreases to \$1.79 per square metre.

SHAKESPEARE WASTEWATER SERVICES SUMMARY						
2021-2046		Unadjusted		Adjusted		
Development-Related Capital Program		Development Charge		Development Charge		
Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m	
\$25,532	\$19,149	\$113	\$1.88	\$110	\$1.79	

APPENDIX D.4
TABLE 1

TOWNSHIP OF PERTH EAST
DEVELOPMENT-RELATED CAPITAL PROGRAM
WASTEWATER SERVICES

Service	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Cost Replacement & BTE Share	Total DC Eligible Costs	DC Eligible Costs		
							Available DC Reserves	2021-2046	Post 2046
4.0 WASTEWATER SERVICES									
4.1 WASTEWATER SERVICES									
4.1.1 Master Plan	various	\$ 12,766	\$ 6,383	\$ 6,383	\$ -	\$ 6,383	\$ -	\$ 6,383	\$ -
4.1.2 Inflow & Infiltration System	various	\$ 12,766	\$ -	\$ 12,766	\$ -	\$ 12,766	\$ -	\$ 12,766	\$ -
		\$ 25,532	\$ 6,383	\$ 19,149	\$ -	\$ 19,149	\$ -	\$ 19,149	\$ -
TOTAL WASTEWATER SERVICES		\$ 25,532	\$ 6,383	\$ 19,149	\$ -	\$ 19,149	\$ -	\$ 19,149	\$ -

Residential Development Charge Calculation			
Residential Share of 2021-2046 DC Eligible Costs	53%		\$10,149
Growth in Population in New Units			90
Unadjusted Development Charge Per Capita (\$)			\$113.12
Non-Residential Development Charge Calculation			
Non-Residential Share of 2021-2046 DC Eligible Costs	47%	\$	9,000
Growth in Square Meters			4,793
Unadjusted Development Charge Per Sq.M (\$)			\$1.88

Reserve Fund Balance	\$0
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APPENDIX D.4
TABLE 2 - PAGE 1

TOWNSHIP OF PERTH EAST
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
WASTEWATER SERVICES
RESIDENTIAL DEVELOPMENT CHARGE

WASTEWATER SERVICES

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
OPENING CASH BALANCE FROM APPLICABLE RESERVES														
OPENING CASH BALANCE (\$000)	0.0	0.9	1.1	1.3	1.5	1.7	2.0	1.9	1.8	1.8	1.7	1.6	1.5	1.3
2021-2030 RESIDENTIAL FUNDING REQUIREMENTS														
Wastewater Services : Non Inflated	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39
Wastewater Services : Inflated	\$0.39	\$0.40	\$0.41	\$0.41	\$0.42	\$0.43	\$0.44	\$0.45	\$0.46	\$0.47	\$0.48	\$0.49	\$0.50	\$0.50
POPULATION GROWTH														
- Population in New Units	12	5	5	5	5	5	3	3	3	3	3	2	2	2
REVENUE - current (\$000)														
- Dev. Charge Receipts	1.3	0.5	0.6	0.6	0.6	0.6	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3
- Interest on Opening Balance	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
- Interest on In-year Transactions (excl.int.)	0.0	0.0	0.0	0.0	0.0	0.0	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
TOTAL REVENUE	1.3	0.6	0.6	0.6	0.6	0.7	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3
CLOSING CASH BALANCE	0.9	1.1	1.3	1.5	1.7	2.0	1.9	1.8	1.8	1.7	1.6	1.5	1.3	1.2

	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	TOTAL
OPENING CASH BALANCE FROM APPLICABLE RESERVES													
OPENING CASH BALANCE (\$000)	1.2	1.0	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.1	0.0	
2021-2030 RESIDENTIAL FUNDING REQUIREMENTS													
Wastewater Services : Non Inflated	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$10.15
Wastewater Services : Inflated	\$0.52	\$0.53	\$0.54	\$0.55	\$0.56	\$0.57	\$0.58	\$0.59	\$0.60	\$0.62	\$0.63	\$0.64	\$13.14
POPULATION GROWTH													
- Population in New Units	2	2	3	3	3	3	3	3	3	3	3	3	90
REVENUE - current (\$000)													
- Dev. Charge Receipts	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.6	\$12.27
- Interest on Opening Balance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$0.92
- Interest on In-year Transactions (excl.int.)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(\$0.04)
TOTAL REVENUE	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.6	\$13.14
CLOSING CASH BALANCE	1.0	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.1	0.0	(0.0)	

2021 Adjusted Charge Per Capita	\$110
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Allocation of Capital Program	
Residential Sector	53.0%
Non-Residential Sector	47.0%
Rates for 2021	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APENDIX D.4
TABLE 2 - PAGE 2

TOWNSHIP OF PERTH EAST
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
WASTEWATER SERVICES
NON-RESIDENTIAL DEVELOPMENT CHARGE

WASTEWATER SERVICES

OPENING CASH BALANCE FROM APPLICABLE RESERVES	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
OPENING CASH BALANCE (\$000)	\$0.00	\$0.38	\$0.69	\$1.02	\$1.38	\$1.77	\$2.18	\$2.19	\$2.19	\$2.19	\$2.19	\$2.19	\$2.12	\$2.05
2021-2030 NON-RESIDENTIAL FUNDING REQUIREMENTS														
Wastewater Services : Non Inflated	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35
Wastewater Services : Inflated	\$0.35	\$0.35	\$0.36	\$0.37	\$0.37	\$0.38	\$0.39	\$0.40	\$0.41	\$0.41	\$0.42	\$0.43	\$0.44	\$0.45
NON-RESIDENTIAL GROWTH														
- Sq. Metres in New Buildings	401	353	353	360	367	367	158	158	158	158	158	130	130	130
REVENUE - current (\$000)														
- Dev. Charge Receipts	\$0.7	\$0.6	\$0.7	\$0.7	\$0.7	\$0.7	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3
- Interest on Opening Balance	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
- Interest on In-year Transactions (excl.int.)	0.0	0.0	0.0	0.0	0.0	0.0	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
TOTAL REVENUE	0.7	0.7	0.7	0.7	0.8	0.8	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
CLOSING CASH BALANCE	0.4	0.7	1.0	1.4	1.8	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	2.0

OPENING CASH BALANCE FROM APPLICABLE RESERVES	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	TOTAL
OPENING CASH BALANCE (\$000)	\$1.97	\$1.89	\$1.79	\$1.62	\$1.44	\$1.25	\$1.05	\$0.83	\$0.68	\$0.53	\$0.36	\$0.19	
2021-2030 NON-RESIDENTIAL FUNDING REQUIREMENTS													
Wastewater Services : Non Inflated	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$9.00
Wastewater Services : Inflated	\$0.46	\$0.47	\$0.48	\$0.48	\$0.49	\$0.50	\$0.51	\$0.52	\$0.54	\$0.55	\$0.56	\$0.57	\$11.66
NON-RESIDENTIAL GROWTH													
- Sq. Metres in New Buildings	130	130	101	101	101	101	101	130	130	130	130	130	4,793
REVENUE - current (\$000)													
- Dev. Charge Receipts	\$0.3	\$0.3	\$0.2	\$0.3	\$0.3	\$0.3	\$0.3	\$0.4	\$0.4	\$0.4	\$0.4	\$0.4	\$10.44
- Interest on Opening Balance	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	\$1.27
- Interest on In-year Transactions (excl.int.)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(\$0.05)
TOTAL REVENUE	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	\$11.66
CLOSING CASH BALANCE	1.9	1.8	1.6	1.4	1.3	1.0	0.8	0.7	0.5	0.4	0.2	0.0	

2021 Adjusted Charge Per Square Metre	\$1.79
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Allocation of Capital Program	
Residential Sector	53.0%
Non-Residential Sector	47.0%
Rates for 2021	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX E

COST OF GROWTH ANALYSIS

COST OF GROWTH ANALYSIS

A. ASSET MANAGEMENT PLAN

The DCA requires that municipalities complete an Asset Management Plan before passing a development charges by-law. A key function of the Asset Management Plan, as required by the legislation, is to demonstrate that all assets funded under the development charges by-law are financially sustainable over their full life cycle.

i. Asset Types

A summary of the future municipal-owned assets and estimated useful life assumptions for eligible DC services considered as part of the study are outlined in Table 1 and Table 2. Although all capital assets considered in the study have been identified, not all assets necessitate future replacement or ongoing maintenance activities. Some projects do not relate to the emplacement of a tangible capital asset– some examples include the acquisition of land or the undertaking of development-related studies. These projects/costs do not necessarily require future replacement or ongoing maintenance. Such projects are identified as “not infrastructure” in the table.

It should be noted that the capital cost estimates prepared for each of the projects identified in this section include grouped costs of various individual elements, which, as a stand-alone item, may have its own useful life (ex. New buildings include: HVAC, structural elements, roof, etc.). Accordingly, the average useful life assumptions noted below are applicable to all project components.

TABLE 1 – SUMMARY OF MUNICIPAL ASSETS CONSIDERED GENERAL SERVICES	
Fire Services	
▪ Furniture & Equipment	10 years
▪ Vehicles	20 years
Library Services	
▪ Collection Material Purchases	10 years
Parks & Recreation	
▪ Various infrastructure	20 years
Development-Related Studies	
▪ Development-Related Studies	Not infrastructure

TABLE 2 – SUMMARY OF MUNICIPAL ASSETS CONSIDERED ENGINEERED SERVICES	
Services Related to a Highway: Public Works	
▪ Fleet	10-15 years
Services Related to a Highway: Roads & Related	
▪ Road/Intersection Improvements	25 years
Water Services	
▪ Well	50 years
▪ Vehicles	10 years
Wastewater Services	
▪ Pumping Stations	50 years
▪ Inflow & Infiltration Systems	Not infrastructure

ii. Annual Provision

When assets require rehabilitation or are due for replacement, the source of funds is limited to reserves or contributions from operating. Capital expenditures to carry out the rehabilitation and replacement of aging infrastructure are not growth-related and are therefore not eligible for funding through development charge revenues or other developer contributions.

Based on the useful life assumptions and the capital cost of acquiring and/or replacing each asset, a provision for infrastructure replacement has been calculated for both the general and engineered services. Provisions for infrastructure replacement are initially calculated for each asset based on their useful life and the anticipated cost of replacement. The aggregate of all individual provisions form the required annual capital provision. In calculating the annual provisions, a number of assumptions are made to account for inflation (2.0 per cent) and interest (3.5 per cent).

Consistent with the requirements of the DCA, assets that are proposed to be funded under the development charges by-law have been included in the analysis. As a result, the total calculated annual provision for development charge related infrastructure has been netted down to consider the replacement of existing infrastructure or benefit-to-existing development. However, for reference, the annual replacement provisions associated with the non-development charge funded costs, including costs related to the benefit-to-existing and post-period benefit have also been calculated.

Tables 3 and 4 provides the calculated annual asset management contribution for both the gross capital expenditures and the share related to the 2021-2030 DC recoverable portion for general services and 2021-2046 for engineered services. The year 2031 has been included for general services to calculate the annual contribution for the 2021-2030 period as the expenditures in 2030 will not trigger asset management contributions until 2032. Similarly, the year 2047 has been included for engineered services to calculate the annual contributions for the 2021-2046 period.

As shown in Tables 3 and 4, by 2031, the Township will need to fund an additional \$30,200 in order to properly fund the full life cycle costs of the new assets related to general services and \$74,800 for new assets related to engineered services supported under the development charges by-law.

TABLE 3

**TOWNSHIP OF PERTH EAST
CALCULATED ANNUAL PROVISION BY 2031**

Service	2021 - 2030 Capital Program		Calculated AMP Annual Provision by 2031	
	DC Recoverable	Non-DC Funded*	DC Related	Non-DC Related
Fire Services	\$ 334,000	\$ 695,000	\$ 18,700	\$ 40,400
Library Services	\$ 20,000	\$ -	\$ 1,900	\$ -
Parks & Recreation	\$ 281,100	\$ 912,900	\$ 9,600	\$ 28,900
Development-Related Studies	\$ 110,000	\$ -	\$ -	\$ -
TOTAL	\$ 745,100	\$ 1,607,900	\$ 30,200	\$ 69,300

* Includes grants, subsidies, replacement costs, and costs that will be recovered in future development charges studies (e.g. other-development related)

TABLE 4

**TOWNSHIP OF PERTH EAST
CALCULATED ANNUAL PROVISION BY 2047**

Service	2021 - 2046 Capital Program		Calculated AMP Annual Provision by 2047	
	DC Recoverable	Non-DC Funded*	DC Related	Non-DC Related
Services Related To A Highway: Public Works	\$ 291,500	\$ 48,500	\$ 26,500	\$ 4,900
Services Related To A Highway: Roads & Related	\$ 631,800	\$ 1,580,800	\$ 26,200	\$ 65,700
Water Services	\$ 177,500	\$ 322,500	\$ 5,900	\$ 6,500
Wastewater Services	\$ 950,000	\$ 50,000	\$ 16,200	\$ -
TOTAL	\$ 2,050,800	\$ 2,001,800	\$ 74,800	\$ 77,100

* Includes grants, subsidies, replacement costs, and costs that will be recovered in future development charges studies (e.g. other-development related)

iii. Future Revenue Growth

The calculated annual funding provision should be considered within the context of the Township’s projected growth. The Township is projected to increase by approximately 157 households over the next 10 years to 2030 and by 317 over the next 26 years to 2046.

Additionally, the Township of Perth East will also add roughly 394 employees by 2030 which will result in approximately 23,622 square metres of additional non-residential space and 666 new employees by 2046 which will result in approximately 39,942 square metres of new non-residential space.

This growth will have the effect of increasing the overall assessment base and additional user fee and charges revenues to offset the capital asset provisions required to replace the infrastructure proposed to be funded under the development charges by-law. The collection of these funds is intended to be allocated to the Township's reserves for the future replacement of these assets.

B. LONG-TERM CAPITAL AND OPERATING IMPACTS

As shown in Table 5, by 2030 and 2046, the Township's net operating costs for are estimated to increase by \$134,000 and \$365,000 respectively for property tax supported services.

APPENDIX E

TABLE 5

TOWNSHIP OF PERTH EAST
ESTIMATED NET OPERATING COST OF THE PROPOSED
DEVELOPMENT-RELATED CAPITAL PROGRAM

Service Area	Net Cost (in constant \$2021)	Estimated Operating Costs 2030	Estimated Operating Costs 2046
Fire Services Fleet & Equipment	\$0.10 per \$1.00 added	\$100.90	
Library Services Collection Materials	\$0.15 per \$1.00 added	\$3.00	
Parks & Recreation Park Development	\$0.05 per \$1.00 added	\$30.50	
Services Related To A Highway: Public Works Vehicles and Fleet	\$0.70 per \$1.00 added		\$238.00
Services Related To A Highway: Roads & Related Roads Construction	\$400 per household		\$126.65
TOTAL ESTIMATED OPERATING COSTS (\$000)		\$134	\$365

Table 6 summarizes the components of the development-related capital forecast that will require funding from non-DC sources (e.g. property tax or utility rates).

- In total, \$907,000 will need to be financed from non-DC sources (likely property taxes) over the 2021-2030 period for general services;
- Over the longer-term for engineering related tax supported services, a further \$1.35 million has been identified which requires funding from non-DC sources; and
- Lastly, over the longer-term for utility rate supported services, \$262,500 has been identified as the share required from non-dc sources.

In addition, \$96,900 in interim DC financing related to post-period shares of projects may be required. However, because DC By-laws must be revisited at least every five years, it is difficult to determine the quantum of interim financing that may be necessary.

Council is made aware of these factors so that they understand the operating and capital costs that will not be covered by DCs as it adopts the development-related capital forecast set out in the study.

C. THE PROGRAM IS DEEMED FINANCIALLY SUSTAINABLE

In summary, the asset management plan and long-term capital and operating analysis included in this appendix demonstrates that the Township can afford to invest and operate the identified general and engineered services infrastructure over the ten-year and long-term planning period.

Importantly, the Township's annual budget review allows staff to continue to monitor and implement mitigating measures should the program become less sustainable.

**APPENDIX E
TABLE 6**

**TOWNSHIP OF PERTH EAST
SUMMARY OF DEVELOPMENT CHARGE ELIGIBLE & INELIGIBLE COSTS**

Service	Development-Related Capital Forecast 2021-2030 & 2021-2046				Total DC Eligible Costs for Recovery (\$000)
	Net Municipal Cost (\$000)	Replacement & Benefit to Existing (\$000)	Available DC Reserves (\$000)	Other Dev-Related (\$000)	
Fire Services	\$1,009.0	\$675.0	\$0.0	\$0.0	\$334.0
Library Services	\$20.0	\$0.0	\$0.0	\$0.0	\$20.0
Parks & Recreation	\$610.0	\$232.0	\$0.0	\$96.9	\$281.1
Development-Related Studies	\$110.0	\$0.0	\$0.0	\$0.0	\$110.0
SUBTOTAL TAX SUPPORTED SERVICES - 10 YEARS	\$1,749.0	\$907.0	\$0.0	\$96.9	\$745.1
Services Related To A Highway: Public Works	\$340.0	\$48.5	\$0.0	\$0.0	\$291.5
Services Related To A Highway: Roads & Related	\$1,937.6	\$1,305.8	\$0.0	\$0.0	\$631.8
SUBTOTAL TAX SUPPORTED SERVICES - 26 YEARS	\$2,277.6	\$1,354.3	\$0.0	\$0.0	\$923.3
Water Services	\$440.0	\$262.5	\$0.0	\$0.0	\$177.5
Wastewater Services	\$950.0	\$0.0	\$0.0	\$0.0	\$950.0
SUBTOTAL RATE SUPPORTED SERVICES - 26 YEARS	\$1,390.0	\$262.5	\$0.0	\$0.0	\$1,127.5
TOTAL ALL SERVICES	\$5,416.6	\$2,523.8	\$0.0	\$96.9	\$2,795.9

APPENDIX F

LOCAL SERVICE POLICY

LOCAL SERVICE POLICY

The following guidelines set out in general terms the size and nature of engineered infrastructure that is included in the Township of Perth East 2021 Development Charges Study. For a project to be eligible to be funded completely or in part by development charges, the following will apply:

1. The project will be identified in the most current Township of Perth East Development Charges Study.
2. If any infrastructure does not add any additional capacity over and above the capacity requirement for that development, these projects are assumed to be the sole responsibility of the developer.
3. Infrastructure that provides servicing or capacity for more than one development is not necessarily fully or partially funded from development charges. If a project is considered fully or partially local in nature, the Township will require the benefiting land owners to fund the works directly.

The following policy guidelines are general principles by which staff will be guided in considering development applications. However, each application will be considered on its own merits having regard to, among other factors, the nature, type and location of the development in any existing development and proposed development in its surrounding area these policy guidelines, the location and type of services required and their relationship to the proposed development and to existing and proposed development in the area, and subsection 59(2) of the *Development Charges Act, 1997*.

These local service policy guidelines are subject to review and amendment by the Township which may be independent of an amendment or update to the Township's development charge by-laws.

1. Collector Roads

- 1.1. Collector roads internal to development – Direct developer responsibility under s.59 of the DCA (as a local service).
- 1.2. Roads (collector and arterial) external to development – Include in DC calculation to the extent permitted under s.5(1) of the DCA (dependent on local circumstances).

1.3. Stream crossing and rail crossing road works, excluding underground utilities but including all other works within lands to be dedicated to the Municipality or rail corridors – Include in DC calculation to the extent permitted under s.5(1) of the DCA (dependent on local circumstances).

2. Traffic Signals

2.1. Traffic signalization internal to development – Direct developer responsibility under s.59 of the DCA.

2.2. Traffic signalization external to development – Include in DC calculation to the extent permitted under s.5(1) of the DCA.

3. Intersection Improvements

3.1. New roads (collector and arterial) and road (collector and arterial) improvements – Include as part of road costing noted in item 1, to limits of ROW.

3.2. Intersections improvements within specific developments and all works necessary to connect to entrances (private and specific subdivision) to the roadway – Direct development responsibility under s.59 of DCA (as a local service).

3.3. Intersections with County roads and provincial highways – Include in DC calculation to the extent that they are Municipal responsibility.

3.4. Intersection improvements on other roads due to development growth increasing traffic – Include in DC calculation.

4. Streetlights

4.1. Streetlights on external roads – Include in area municipal DC (linked to collector road funding source in item 1).

4.2. Streetlights within specific developments – Direct developer responsibility under s.59 of DCA (as a local service).

5. Sidewalks

5.1. Sidewalks on MTO and County roads – Include in area municipal DC or, in exceptional circumstances, may be local improvement or direct developer responsibility through local service provisions (s.59 of DCA).

- 5.2. Sidewalks on area municipal roads – Linked to collector road funding source in item 1.
- 5.3. Other sidewalks external to development (which are a local service within the area to which the plan relates) – Direct developer responsibility as a local service provision (under s.59 of DCA).

6. Bike Routes/Bike Lanes/Bike Paths/Multi-Use Trails/Naturalized Walkways

- 6.1. Bike routes and bike lanes, within road allowance, external to development – Include in DC road costs (County and area municipal), consistent with the service standard provisions of the DCA, s.5(1).
- 6.2. Bike paths/multi-use trails/naturalized walkways external to development – Include in area municipal DCs consistent with the service standard provisions of the DCA, s.5(1).
- 6.3. Bike lanes, within road allowance, internal to development – Direct developer responsibility under s.59 of the DCA (as a local service).
- 6.4. Bike paths/multi-use trails/naturalized walkways internal to development – Direct developer responsibility under s.59 of the DCA (as a local service).
- 6.5. Trail bridges/underpasses and associated works – Include in area municipal DCs consistent with the service standard provisions of the DCA, s.5(1).

7. Noise Abatement Measures

- 7.1. Internal to Development – Direct developer responsibility through local service provisions (s.59 of DCA).

8. Traffic Control Systems

- 8.1. Include in DC calculation.

9. Land Acquisition for Road Allowances

- 9.1. Land acquisition for arterial roads – Dedication under the Planning Act subdivision provisions (s.51) through development lands; in areas with limited or no development, include in County or area municipal DC (to the extent eligible).

- 9.2. Land acquisition for collector roads – Dedication under the Planning Act subdivision provision (s.51) through development lands (up to 27 metre right-of-way); in areas with limited or no development, include in area municipal DC (to the extent eligible).
- 9.3. Land acquisition for grade separations (beyond normal dedication requirements) – Include in the DC to the extent eligible.

10. Land Acquisition for Easements

- 10.1. Easement costs external to subdivisions shall be included in DC calculation.

11. Storm Water Management

- 11.1. Quality and quantity works – Direct developer responsibility through local service provisions (s.59 of DCA).
- 11.2. Oversizing of stormwater management works for development external to developments will be subject to best efforts clauses by area municipality.

12. Water

- 12.1. Pumping stations and works associated with Zone boundaries to be included within the DC (area municipal and County).
- 12.2. Watermains external to subdivisions included in the DC.
- 12.3. Marginal costs of waterworks within the subdivision included in DC above 250 mm nominal diameter.
- 12.4. Connections to trunk mains and pumping stations to service specific area – Direct developer responsibility.

13. Sanitary Sewer

- 13.1. Pumping stations shall be included in the DC.
- 13.2. Sanitary sewers external to subdivisions included in the DC.
- 13.3. Connections to trunk mains and pumping stations to service specific areas, to be direct developer responsibility.

13.4. Marginal costs of sanitary sewer works within the subdivision, which benefits upstream developers, included in DC above 375 mm nominal diameter and depth of 5 metres or greater.

APPENDIX G

DRAFT DEVELOPMENT CHARGES BY-LAW

(UNDER SEPARATE COVER)