

VERSION FOR PUBLIC CONSULTATION

PREPARED BY HEMSON FOR THE TOWNSHIP OF RUSSELL

DEVELOPMENT CHARGES BACKGROUND STUDY

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CONTENTS

EXECUTIVE SUMMARY	1
1. INTRODUCTION	4
2. A TOWNSHIP-WIDE APPROACH IS PROPOSED	6
A. A Township-wide Development Charge is Proposed for All Services	6
B. Key Steps in Determining Development Charges for Future Development-Related Projects	7
3. DEVELOPMENT FORECAST	12
A. Residential Forecast	12
B. Non-Residential Forecast	12
4. SUMMARY OF HISTORICAL CAPITAL SERVICE LEVELS	14
5. THE DEVELOPMENT-RELATED CAPITAL FORECAST	17
A. A Development-Related Capital Forecast is Provided for Council's Approval	17
B. The Development-Related Capital Forecast for General Services	17
C. The Development-Related Capital Forecast for Engineered Services	20
6. CALCULATED DEVELOPMENT CHARGES	22
A. Unadjusted Development Charges Calculation	22
7. COMPARISON OF CALCULATED AND CURRENT DEVELOPMENT CHARGES	30
8. COST OF GROWTH ANALYSIS	33
A. Asset Management Plan	33
B. Long-Term Capital and Operating Costs	34
C. The Program is Deemed to be Financially Sustainable	34
9. OTHER ISSUES AND CONSIDERATIONS	36

LISTS OF APPENDICES

A.	DEVELOPMENT FORECAST	38
B.	GENERAL SERVICES TECHNICAL APPENDIX	50
B.1	Library Services	55
B.2	Parks & Recreation	62
B.3	Day Care	76
B.4	Fire Department	83
B.5	Police Services	93
B.6	By-Law Enforcement	101
B.7	Development Related Studies	111
C.	SERVICES RELATED TO A HIGHWAY TECHNICAL APPENDIX	117
C.1	Public Works	119
C.2	Roads and Related	129
D.	WATER AND WASTEWATER SERVICES TECHNICAL APPENDIX	138
D.1	Water Services	141
D.2	Wastewater Services	147
E.	RESERVE FUNDS	154
F.	COST OF GROWTH	157
G.	DRAFT 2021 DEVELOPMENT CHARGES BY-LAW (AVAILABLE UNDER SEPARATE COVER)	165

EXECUTIVE SUMMARY

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. This 2021 Township of Russell Development Charges Background Study is presented as part of a process to establish a development charges by-law that complies with this legislation.

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

i. Legislative Context

The Township of Russell 2021 Development Charges Background Study is presented as part of the process to lead to the approval of a new DC by-law in compliance with the *DCA*. The study is prepared in accordance with the *DCA* and associated regulations, including amendments that came into force on January 1, 2020 and September 17, 2020 and through Bill 108, the *More Homes, More Choice Act* and Bill 197 the *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 the final adjustment to the calculated rate 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 tourism facilities, parkland acquisition, etc.;

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

iv. The 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 2022-2031 planning period. Details on the development forecast are provided in Appendix A.

Township-wide Development Forecast	2021 Estimate	10-Year Planning Period 2022 - 2031	
		Growth	Total at 2031
Residential			
Total Occupied Dwellings	7,257	2,430	9,687
Total Census Population	20,320	6,610	26,930
Non-Residential			
Employment	4,233	946	5,179
Non-Residential Building Space (sq.m.)		85,151	

C. CALCULATED DEVELOPMENT CHARGES

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

	Charge By Unit Type					Non-Residential Charge (\$/sq.m)
	Single & Semi-Detached	Apartments - 2 Bedrooms +	Apartments - Bachelor & 1	Rows & Other Multiples	Special Care/Sp. Needs	
TOTAL UNSERVICED CHARGE	\$11,887	\$6,855	\$4,953	\$7,767	\$3,962	\$14.95
TOTAL SERVICED CHARGE	\$23,129	\$13,338	\$9,637	\$15,112	\$7,709	\$59.29

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 F. By 2031, the Township’s annual net operating costs arising from the development-related infrastructure are estimated at about \$1.75 million.

About \$18.04 million of development-related project costs will need to be funded from non-development charges sources over the next 10 years. In addition, \$31.73 in interim financing may be required for projects related to both general and engineered services that provide benefit post-2031.

E. ASSET MANAGEMENT PLAN

A key purpose of the Asset Management Plan is to demonstrate that all assets proposed to be funded under the development charges by-law are financially sustainable over their full life cycle. The DC recoverable annual asset management contributions for the 2022-2031 planning period has been calculated. The year 2032 has been included to calculate the annual contribution for the 2022-2031 period as the expenditures in 2031 will not trigger asset management contributions until 2032.

By 2032, the Township will need to fund an additional \$1.38 million per annum to properly fund the full life cycle costs of all assets supported under the by-law.

F. TOWNSHIP’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 associated regulation, *Ontario Regulation 82/98 (O. Reg. 82/98)* allow municipalities to recover development-related capital costs from new development. The Township of Russell 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 Russell will increase the demand for all services. The Township wishes to implement development charges to fund capital projects related to growth in Russell, so that development continues 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 this study sets out the information and analysis upon which the calculated development charges are based.

2. A TOWNSHIP-WIDE APPROACH IS PROPOSED

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 specifically for the Township of Russell. 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. A TOWNSHIP-WIDE DEVELOPMENT CHARGE IS PROPOSED FOR ALL SERVICES

The Township of Russell provides a wide range of services to the community it serves 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 municipality 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 Russell: community centres, fire stations, arterial roads, parks and so on. As new development occurs, new facilities will need to be added so 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 Township-wide DC calculation:

- Library Service;
- Parks and Recreation;
- Day Care;
- Fire Protection Services;
- Police Services;
- By-law Enforcement;
- Development-Related Studies;

- Services Related to a Highway: Public Works; and
- Services Related to a Highway: Roads and Related;

The following services are also Township-wide but relate only to serviced development:

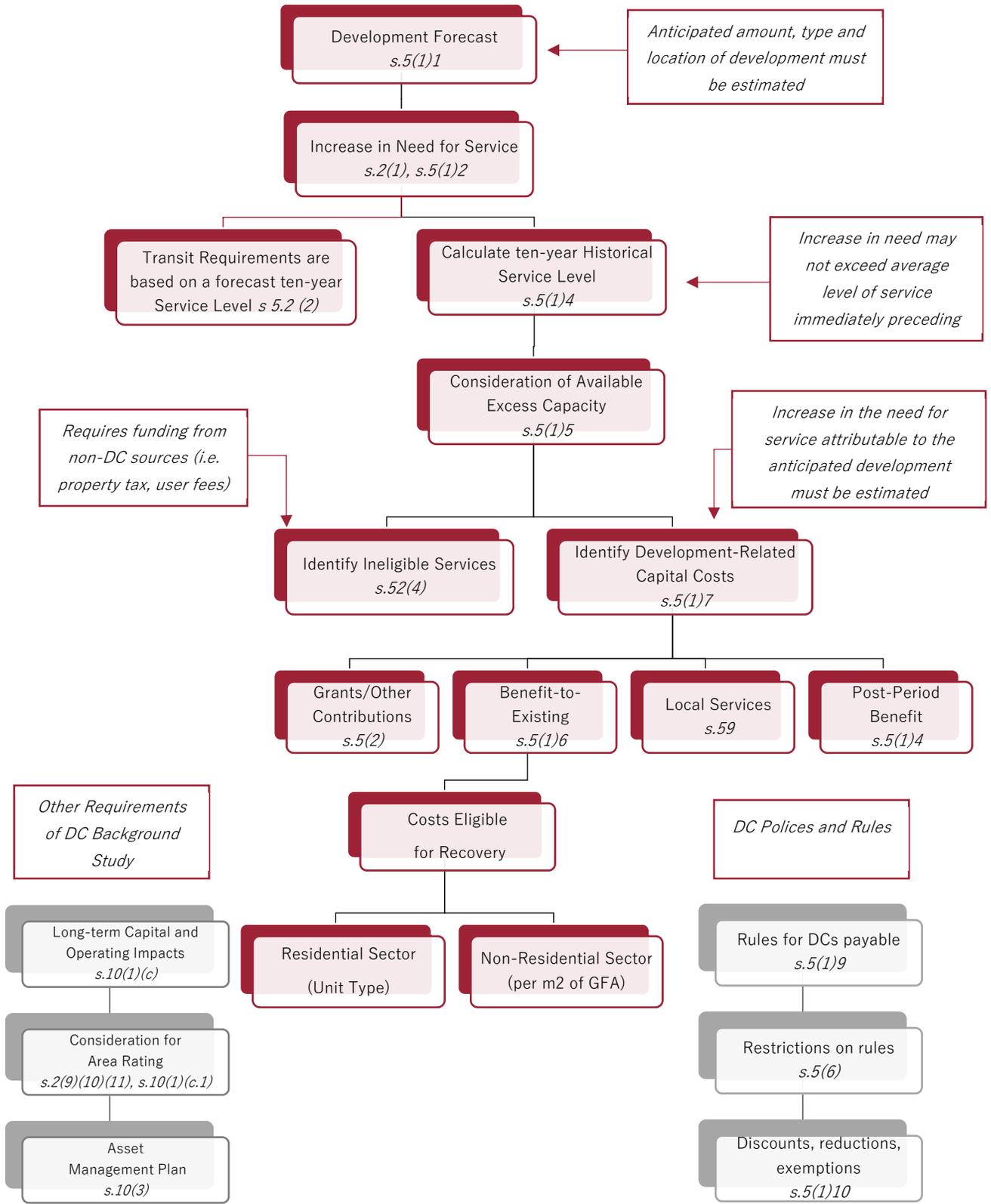
- Water Services; and
- Wastewater Services.

These services form a reasonable basis upon which to plan and administer the Township-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.

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 2022-2031 for all general and engineered services.

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, 2022 to 2031. 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.

Serviced residential forecasts for population in new units and non-residential GFA are also included as part of the calculation of Water and Wastewater Service rates. Details on the forecast are contained in Appendix D.

ii. Service Categories and Historical Service Levels

The *DCA* provides 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 that 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 2012–2021.

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 that 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 are the funding responsibility of 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 Township-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 Township-wide services. Interest earnings or borrowing costs are therefore accounted for in the calculation as allowed under the *DCA*.

vi. 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 and for serviced development provided in Appendix D.

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-year planning period, from 2022 to 2031. As noted in Section 2, for DC calculation purposes the 10-year planning period is applicable to all services considered in this study.

The Township's Census population is expected to increase by 6,610 people over the next 10 years, reaching 26,930 by 2031. An additional 2,430 occupied dwelling units are forecast to be built between 2022 and 2031.

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 946 employees to 2031, which is anticipated to be accommodated in 85,151 square metres of new non-residential building space.

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

TABLE 1
RUSSELL TOWNSHIP
SUMMARY OF RESIDENTIAL AND NON-RESIDENTIAL
DEVELOPMENT FORECAST

Township-wide Development Forecast	2021 Estimate	10-Year Planning Period 2022 - 2031	
		Growth	Total at 2031
Residential			
Total Occupied Dwellings	7,257	2,430	9,687
Total Census Population	20,320	6,610	26,930
Non-Residential			
Employment	4,233	946	5,179
Non-Residential Building Space (sq.m.)		85,151	

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 (library, fire, parks and recreation, etc.) the legislative requirement is met by documenting historical service levels for the preceding 10 years, in this case, for the period from 2012 to 2021. Typically, service levels for non-engineered services are measured 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 Township. 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 as of 2021.

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 mechanism by which 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. Appendices B and C provides the detailed historical inventory data upon which the calculation of service levels for the general services is based.

TABLE 2

RUSSELL TOWNSHIP
 SUMMARY OF AVERAGE HISTORICAL SERVICE LEVELS 2012 - 2021

Service	2012 - 2021 Service Level Indicator
1.0 LIBRARY SERVICES Buildings Land Materials Furniture And Equipment	\$271.79 per capita \$177.61 per capita \$9.32 per capita \$69.93 per capita \$14.93 per capita
2.0 PARKS & RECREATION Indoor Recreation Park Facilities	\$2,049.10 per capita \$1,417.88 per capita \$631.22 per capita
3.0 DAY CARE Buildings Land Furniture & Equipment	\$88.88 per capita \$80.62 per capita \$5.76 per capita \$2.50 per capita
4.0 FIRE PROTECTION SERVICES Buildings Land Furniture & Equipment At Station Vehicles	\$583.93 per pop & empl \$257.11 per pop & empl \$20.38 per pop & empl \$41.15 per pop & empl \$265.29 per pop & empl
5.0 POLICE SERVICES Equipment And Gear	\$5.97 per pop & empl \$5.97 per pop & empl
6.0 BY-LAW ENFORCEMENT Buildings Land Furniture & Equipment Vehicles	\$50.33 per pop & empl \$28.37 per pop & empl \$1.09 per pop & empl \$14.16 per pop & empl \$6.71 per pop & empl

TABLE 2

RUSSELL TOWNSHIP
 SUMMARY OF AVERAGE HISTORICAL SERVICE LEVELS 2012 - 2021

Service	2012 - 2021 Service Level Indicator
SERVICES RELATED TO A HIGHWAY	
1.0 PUBLIC WORKS	
Buildings	\$445.41 per pop & empl \$201.72 per pop & empl
Land	\$67.73 per pop & empl
Furniture And Equipment	\$1.70 per pop & empl
Fleet	\$174.26 per pop & empl
2.0 ROADS & RELATED	
Roads	\$6,601.86 per pop & empl \$2,810.66 per pop & empl
Bridges & Culverts	\$3,303.35 per pop & empl
Traffic Signals & Streetlights	\$137.96 per pop & empl
Sidewalks	\$349.89 per pop & empl

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 2, *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 3 and detailed in Appendix A, municipal 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 services, the capital plan covers the 10-year period from 2022 to 2031.

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 Russell. 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 3.

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 \$65.13 million. No alternative funding sources have been identified for any of the services considered. Therefore, the net municipal cost of the capital program remains unchanged. Of the \$65.13 million 10-year net municipal capital costs for general services, \$54.85 million (84 per cent) is related to the Parks and Recreation capital program. The forecast includes new park facilities such as a baseball diamond, soccer field, trail and park expansions, additional indoor recreation facilities, fleet, and park studies.

The next largest portion of the total net cost is \$6.92 million (11 per cent) related to the Library Service development-related capital program. Included in the program is a new branch building, the Russell Library expansion, and additional materials and equipment.

The Police Services program includes \$1.23 million (2 per cent) in net costs, which contains a provision for additional capital equipment.

The Fire Department program includes \$906,900 in net capital costs (1 per cent of the program), that consists of various vehicles and related equipment, the training room expansion, studies, and additional firefighter equipment.

The following three services form less than 1 per cent each of the net municipal cost: Day Care services, Development-Related Studies and By-law Enforcement. The Day Care capital program includes a provision for additional day care space (net cost of \$532,900). The 10-year capital forecast for Development-Related Studies totals \$470,000. The program includes various development-related studies, such as DC studies, official plans, zoning by-laws and others. Lastly, the By-law Enforcement program of \$225,600 includes a provision for additional office space, vehicles and equipment.

The capital forecast incorporates those projects identified to be related to development anticipated in the next 10 years. It is not implied that all of these costs are to be recovered from new development by way of DCs (see Section 6 for the method and determination of net capital costs attributable to development). Portions of this capital forecast may relate to providing servicing for development which has occurred prior to 2022 (for which DC reserve fund balances exist), for replacement of existing capital facilities or for development anticipated to occur beyond the 2022–2031 planning period.

TABLE 3

**RUSSELL TOWNSHIP
SUMMARY OF DEVELOPMENT-RELATED CAPITAL PROGRAM
FOR GENERAL SERVICES 2022 - 2031
(in \$000)**

Service	Gross Cost	Grants/ Subsidies	Municipal Cost
1.0 LIBRARY SERVICES	\$6,917.1	\$0.0	\$6,917.1
1.1 Buildings, Land and Furnishings	\$5,950.0	\$0.0	\$5,950.0
1.2 Materials and Equipment	\$967.1	\$0.0	\$967.1
2.0 PARKS & RECREATION	\$54,849.0	\$0.0	\$54,849.0
2.1 Indoor Recreation Facilities	\$51,100.0	\$0.0	\$51,100.0
2.2 Park Facilities & Trails	\$3,599.0	\$0.0	\$3,599.0
2.3 Fleet & Equipment	\$100.0	\$0.0	\$100.0
2.4 Studies	\$50.0	\$0.0	\$50.0
3.0 DAY CARE	\$532.9	\$0.0	\$532.9
3.1 Buildings, Land & Furnishings	\$532.9	\$0.0	\$532.9
4.0 FIRE PROTECTION SERVICES	\$906.9	\$0.0	\$906.9
4.1 Buildings, Land & Furnishings	\$150.0	\$0.0	\$150.0
4.2 Vehicles	\$650.0	\$0.0	\$650.0
4.3 Equipment & Studies	\$80.0	\$0.0	\$80.0
4.4 Firefighters	\$26.9	\$0.0	\$26.9
5.0 POLICE SERVICES	\$1,230.2	\$0.0	\$1,230.2
5.1 Buildings, Land and Furnishings	\$1,230.2	\$0.0	\$1,230.2
6.0 BY-LAW ENFORCEMENT	\$225.6	\$0.0	\$225.6
6.1 Buildings, Land and Furnishings	\$112.0	\$0.0	\$112.0
6.2 Vehicles and Equipment	\$113.6	\$0.0	\$113.6
7.0 DEVELOPMENT RELATED STUDIES	\$470.0	\$0.0	\$470.0
7.1 Development Related Studies	\$470.0	\$0.0	\$470.0
TOTAL - GENERAL SERVICES	\$65,131.7	\$0.0	\$65,131.7

C. THE DEVELOPMENT-RELATED CAPITAL FORECAST FOR ENGINEERED SERVICES

Table 4 provides the development-related capital costs for the engineered services of Services Related to a Highway of Public Works and Roads & Related, Water and Wastewater. The capital program totals \$46.70 million and provides servicing for anticipated development over the planning period from 2022 to 2031. Further details on the capital plans for each individual service are available in Appendices C and D.

Grants, subsidies and other funding sources have been identified for the capital projects related to Roads and Related totalling \$5.66 million. The \$20,000 in each Water and Wastewater services relates to shares of a cost shared between the two service areas. The remaining \$41.04 million is the net municipal cost.

Of the net municipal cost, 36 per cent, or \$14.69 million is associated with Wastewater Services. The capital program provides for the Embrun and Russell system upgrades, the on-going recovery of past expenditures and various wastewater related studies.

The next largest share of the engineered services capital program relates to Water Services. At \$13.28 million, or 32 per cent, the 10-year capital program includes a new vehicle, the above ground reservoir expansion, studies, and the recovery of past expenditures.

An additional 24 per cent, or \$9.93 million is associated with Roads and Related infrastructure. The capital program provides for the Township's roads and related infrastructure, intersections, sidewalks, and various studies.

The net development-related capital program for Public Works totals \$3.15 million (8 per cent) provides for a snow dump facility and a provision for a building expansion of 3,000 square feet. Also included in the program is the addition of snow plow/removal equipment and machinery rentals.

TABLE 4

**RUSSELL TOWNSHIP
SUMMARY OF DEVELOPMENT-RELATED CAPITAL PROGRAM
FOR ENGINEERED SERVICES 2022 - 2031
(in \$000)**

Service	Gross Cost	Grants / Subsidies	Net Municipal Cost
SERVICES RELATED TO A HIGHWAY			
1.0 SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS	\$3,145.0	\$0.0	\$3,145.0
1.1 Buildings	\$2,355.0	\$0.0	\$2,355.0
1.2 Fleet & Equipment	\$790.0	\$0.0	\$790.0
2.0 SERVICES RELATED TO A HIGHWAY: ROADS & RELATED	\$15,549.7	\$5,621.7	\$9,928.0
2.1 Roads and Related Infrastructure	\$3,244.7	\$0.0	\$3,244.7
2.2 Intersections and Sidewalks	\$11,810.0	\$5,561.7	\$6,248.3
2.3 Studies & Others	\$495.0	\$60.0	\$435.0
ENGINEERING: WATERWORKS AND SANITARY SEWAGE			
1.0 WATER SERVICES	\$13,297.9	\$20.0	\$13,277.9
1.1 Water Services	\$580.0	\$20.0	\$560.0
1.2 Recovery of Past Expenditures (Principal Payments Only) (1)	\$12,567.9	\$0.0	\$12,567.9
1.3 Studies	\$150.0	\$0.0	\$150.0
2.0 WASTEWATER SERVICES*	\$14,710.0	\$20.0	\$14,690.0
2.1 Embrun Wastewater Sewers	\$4,080.0	\$0.0	\$4,080.0
2.2 Russell Wastewater Sewers	\$1,630.0	\$0.0	\$1,630.0
2.3 Recovery of Past Expenditures (Principal Payments Only) (1)	\$8,900.0	\$0.0	\$8,900.0
2.4 Studies and Other	\$100.0	\$20.0	\$80.0
TOTAL - 10-YEAR PROGRAM	\$46,702.6	\$5,661.7	\$41,040.9

(1) Interest payments are included in the cashflow calculations of the rates.

* Note: \$2.5 million outside of the 10 year planning horizon included in the net cost.

6. CALCULATED DEVELOPMENT CHARGES

This section summarizes the calculation of DCs for each service category and the resulting total charges by sector. For all municipal 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 takes interest earnings and borrowing costs into account 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 municipal-wide DCs does not include any provision for exemptions required under the *DCA*, such as the exemption from the payment of DCs for industrial buildings. 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 5 and 6 for general and engineered services respectively. Further details of the calculations for each individual service category are available in Appendices B, C and D.

i. General Services

A summary of the “unadjusted” residential and non-residential DCs for general services is presented in Table 5.

The net capital forecast for the general services totals \$65.13 million and incorporates those projects identified to be related to the 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 5, \$12.87 million relates to replacement of existing capital facilities or for shares of projects that provide benefit to the existing community. These portions of capital costs will have to be funded from non-DC revenue sources, largely property taxes. The Township’s existing DC reserve fund balances of \$7.22 million is accounted for and identified as the prior growth share and is netted off the DC eligible cost.

Lastly, a share of \$27.69 million is attributable to development beyond 2031. This development-related share has been removed from the calculation though may be recovered under future DC studies or other growth-related funding mechanisms (i.e. community benefit charges should the Township adopt a CBC by-law).

The total costs eligible for recovery through DCs for general services is \$17.35 million. This amount is allocated between the residential and non-residential sectors to derive the unadjusted DCs. Library, Parks and Recreation, and Day Care 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. The allocation to the residential sector for these services is calculated at 87 per cent with 13 per cent to the non-residential sector.

Approximately \$17.16 million of the general services 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 (6,610), an unadjusted charge of \$2,596.28 per capita results. The non-residential share totals \$192,300, which yields an unadjusted charge of \$2.26 per square metre when divided by the 10-year increase in non-residential building space (85,151).

TABLE 5

RUSSELL TOWNSHIP
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES
10-YEAR GENERAL CAPITAL PROGRAM

10 Year Growth in Population in New Units	6,610
10 Year Growth in Square Metres	85,151

Service	Development-Related Capital Program (2022 - 2031)					Residential				Non-Residential	
	Net Municipal Cost	Replacement & Benefit to Existing	Prior Growth	Other Dev. Related*	Total DC Eligible Costs for Recovery	Share		Share			
	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	%	(\$000)	%	(\$000)	(\$000)	
1.0 LIBRARY SERVICES	\$6,917.1	\$1,050.0	\$623.2	\$3,447.3	\$1,796.6	100%	\$1,796.6	0%	\$0.00		
Unadjusted Residential Rate							\$271.80				
Unadjusted Non-Residential Rate									\$0.00		
2.0 PARKS & RECREATION	\$54,849.0	\$11,691.6	\$6,504.1	\$23,108.2	\$13,545.1	100%	\$13,545.1	0%	\$0.00		
Unadjusted Residential Rate							\$2,049.18				
Unadjusted Non-Residential Rate									\$0.00		
3.0 DAY CARE	\$532.9	\$0.0	\$0.0	\$0.0	\$532.9	100%	\$532.9	0%	\$0.00		
Unadjusted Residential Rate							\$80.62				
Unadjusted Non-Residential Rate									\$0.00		
4.0 FIRE PROTECTION SERVICES	\$906.9	\$0.0	\$18.6	\$0.0	\$888.3	87%	\$772.8	13%	\$115.48		
Unadjusted Residential Rate							\$116.92				
Unadjusted Non-Residential Rate									\$1.36		
5.0 POLICE SERVICES	\$1,230.2	\$0.0	\$53.8	\$1,131.3	\$45.1	87%	\$39.2	13%	\$5.86		
Unadjusted Residential Rate							\$5.94				
Unadjusted Non-Residential Rate									\$0.07		
6.0 BY-LAW ENFORCEMENT	\$225.6	\$39.0	\$6.8	\$0.0	\$179.8	87%	\$156.5	13%	\$23.38		
Unadjusted Residential Rate							\$23.67				
Unadjusted Non-Residential Rate									\$0.27		
7.0 DEVELOPMENT RELATED STUDIES	\$470.0	\$90.0	\$14.1	\$0.0	\$365.9	87%	\$318.3	13%	\$47.56		
Unadjusted Residential Rate							\$48.15				
Unadjusted Non-Residential Rate									\$0.56		
TOTAL 10-YEAR GENERAL SERVICES	\$65,131.7	\$12,870.5	\$7,220.7	\$27,686.8	\$17,353.7		\$17,161.4		\$192.3		
Unadjusted Development Charge Per Capita							\$2,596.28				
Unadjusted Development Charge Per Sq.M									\$2.26		

ii. Engineered Services

Table 6 displays the calculation of the DC rates for the engineered services of Services Related to a Highway: Public Works & Roads & Related, Water, and Wastewater Services. The development-related engineering infrastructure will be used to service development in Russell between 2022 and 2031.

Not all of the total \$41.04 million net municipal cost of all engineered services development-related projects is to be recovered from new development by way of DCs. Table 6 shows that \$5.17 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 amount has been netted off the chargeable capital costs. Prior growth shares funded through the Township's DC reserve fund balance of \$1.98 million is also netted off the net municipal cost.

Post-period shares have been calculated at \$4.05 and represent the shares of projects that will provide benefit to development beyond the planning period under review. These shares have also been removed from the DC calculation. The remaining \$29.84 million is related to development in the 2022 to 2031 planning period and has been included in the DC calculation.

Like the general services, the capital program eligible for recovery through DCs is allocated to the residential and non-residential sectors based on future shares of population in new units and employment growth over the planning period. The allocation to the residential sector for Public Works and Roads & Related is calculated at 87 per cent with 13 per cent to the non-residential sector. Water and Wastewater Services are levied on serviced development only and therefore, the costs associated with these services are allocated 89 per cent to residential and 11 per cent to non-residential.

As a result, \$26.40 million of the 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, a charge of \$4,091.07 per capita is the result.

The non-residential share totals \$3.44 million and, when this amount is divided by the 10-year forecast of non-residential space growth for each service a charge of \$47.81 per square metre results.

Table 6 also shows the breakdown of costs and resulting unadjusted DCs per capita and per square metre for the serviced development in the Township.

TABLE 6

RUSSELL TOWNSHIP
 SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES
 CAPITAL PROGRAM FOR SERVICES RELATED TO A HIGHWAY AND ENGINEERING SERVICES

Township-wide	
10 Year Growth in Population in New Units	6,610
Employment Growth	946
10 Year Growth in Square Meters	85,151
Serviced	
10 Year Growth in Population in New Units	6,400
Employment Growth	767
10 Year Growth in Square Meters	67,524

Service	Development-Related Capital Program (2022 - 2031)					Residential Share		Non-Residential Share	
	Net Municipal Cost	Replacement & Benefit to Existing	Prior Growth	Post-Period Benefit	Total DC Eligible Costs for Recovery	%	(\$000)	%	(\$000)
	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)				
SERVICES RELATED TO A HIGHWAY									
1.0 SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS	\$3,145.0	\$1,376.4	\$225.4	\$0.0	\$1,543.2	87%	\$1,342.6	13%	\$200.61
Unadjusted Development Charge Per Capita							\$203.11		
Unadjusted Development Charge Per Sq.M									\$2.36
2.0 SERVICES RELATED TO A HIGHWAY: ROADS & RELATED	\$9,928.0	\$1,675.9	\$1,752.9	\$106.8	\$6,392.5	87%	\$5,561.5	13%	\$831.03
Unadjusted Development Charge Per Capita							\$841.37		
Unadjusted Development Charge Per Sq.M									\$9.76
ENGINEERING SERVICES									
1.0 WATER SERVICES	\$13,277.9	\$2,119.9	\$0.0	\$1,440.0	\$9,718.0	89%	\$8,649.0	11%	\$1,068.98
Unadjusted Development Charge Per Capita							\$1,351.41		
Unadjusted Development Charge Per Sq.M									\$15.83
2.0 WASTEWATER SERVICES	\$14,690.0	\$0.0	\$0.0	\$2,500.0	\$12,190.0	89%	\$10,849.1	11%	\$1,340.91
Unadjusted Development Charge Per Capita							\$1,695.18		
Unadjusted Development Charge Per Sq.M									\$19.86
TOTAL 10-YEAR PROGRAM	\$41,040.9	\$5,172.1	\$1,978.3	\$4,046.8	\$29,843.7		\$26,402.2		\$3,441.5
Unadjusted Development Charge Per Capita							\$4,091.07		
Unadjusted Development Charge Per Sq.M									\$47.81

iii. **Adjusted Residential and Non-Residential Development Charges**

Final adjustments to the “unadjusted” DC rates are made through a cash flow analysis for all services. 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 7 summarizes the results of the cash flow adjustments for the residential DC rates. The adjusted serviced residential charge increases from \$6,687.35 to \$7,709.78 per capita after cash flow analysis.

Table 7 summarizes the calculated rates by residential unit. The serviced residential charge, which includes the unserviced charge, water and wastewater services range from \$23,129 for a single and semi-detached unit to \$7,709 per unit for a special care or special needs unit.

The non-residential DC experiences an increase after cash flow considerations of \$9.23, from \$50.06 to \$59.29 per square metre for serviced non-residential development. These charges are displayed in Table 8.

TABLE 7

RUSSELL TOWNSHIP
CITY-WIDE DEVELOPMENT CHARGES
RESIDENTIAL DEVELOPMENT CHARGES

Service	Unadjusted Charge Per Capita	Adjusted Charge After Cashflow Per Capita	Charge By Unit Type				
			Single & Semi- Detached	Apartments - 2 Bedrooms +	Apartments - Bachelor & 1 Bdrm.	Rows & Other Multiples	Special Care/Sp. Needs Dwl. Units
Library Services	\$271.80	\$312.07	\$936	\$540	\$390	\$612	\$312
Parks & Recreation	\$2,049.18	\$2,252.16	\$6,756	\$3,896	\$2,815	\$4,414	\$2,252
Day Care	\$80.62	\$80.27	\$241	\$139	\$100	\$157	\$80
Fire Protection Services	\$116.92	\$114.89	\$345	\$199	\$144	\$225	\$115
Police Services	\$5.94	\$5.38	\$16	\$9	\$7	\$11	\$5
By-Law Enforcement	\$23.67	\$24.76	\$74	\$43	\$31	\$49	\$25
Development Related Studies	\$48.15	\$52.30	\$157	\$90	\$65	\$103	\$52
Services Related to a Highway							
Services Related To A Highway: Public Works	\$203.11	\$219.95	\$660	\$381	\$275	\$431	\$220
Services Related To A Highway: Roads & Related	\$841.37	\$900.66	\$2,702	\$1,558	\$1,126	\$1,765	\$901
TOTAL RURAL RESIDENTIAL CHARGE	\$3,640.77	\$3,962.45	\$11,887	\$6,855	\$4,953	\$7,767	\$3,962
Rural Charge	\$3,640.77	\$3,962.45	\$11,887	\$6,855	\$4,953	\$7,767	\$3,962
Water Services	\$1,351.41	\$1,959.97	\$5,880	\$3,391	\$2,450	\$3,842	\$1,960
Wastewater Services	\$1,695.18	\$1,787.36	\$5,362	\$3,092	\$2,234	\$3,503	\$1,787
TOTAL URBAN RESIDENTIAL CHARGE BY UNIT TYPE	\$6,687.35	\$7,709.78	\$23,129	\$13,338	\$9,637	\$15,112	\$7,709
(1) Based on Persons Per Unit of:			3.00	1.73	1.25	1.96	1.00

TABLE 8

RUSSELL TOWNSHIP
 CITY-WIDE DEVELOPMENT CHARGES
 NON-RESIDENTIAL DEVELOPMENT CHARGES

Service	Unadjusted Charge (\$/sq.m)	Non-Residential Charge (\$/sq.m)
Library	\$0.00	\$0.00
Recreation & Parks	\$0.00	\$0.00
Day Care	\$0.00	\$0.00
Fire Protection Services	\$1.36	\$1.32
Police Services	\$0.07	\$0.06
By-Law Enforcement	\$0.27	\$0.28
Development Related Studies	\$0.56	\$0.59
Services Related to a Highway		
Services Related To A Highway: Public Works	\$2.36	\$2.49
Services Related To A Highway: Roads & Related	\$9.76	\$10.21
TOTAL UNSERVICED NON-RESIDENTIAL CHARGE PER SQ M	\$14.37	\$14.95
Rural Charge	\$14.37	\$14.95
Water Services	\$15.83	\$22.67
Wastewater Services	\$19.86	\$21.67
TOTAL SERVICED NON-RESIDENTIAL CHARGE PER SQ M	\$50.06	\$59.29

7. COMPARISON OF CALCULATED AND CURRENT DEVELOPMENT CHARGES

Tables 9 and 10 present a comparison of the newly calculated residential and non-residential DCs with currently imposed development charge rates.

Table 9 shows that the calculated residential DC for a serviced single- or semi-detached unit is \$4,680 greater (25 per cent) than the Township's current residential charge of \$18,449. The increase results from additional capital needs to meet service levels in the Township for various services.

The comparison of calculated non-residential DCs with current rates is shown on Table 10. The calculated non-residential charge of \$59.29 is \$7.41 higher (14 per cent) than the Township's current charge of \$51.88. Included for illustrative purposes is the serviced non-residential charge per square foot.

TABLE 9

RUSSELL TOWNSHIP
 COMPARISON OF CURRENT AND CALCULATED
 RESIDENTIAL DEVELOPMENT CHARGES

Service	Current	Calculated	Difference in Charge	
	Residential Charge / SDU	Residential Charge / SDU		
Library	\$536	\$936	\$400	75%
Recreation & Parks	\$4,616	\$6,756	\$2,140	46%
Day Care	\$0	\$241	\$241	N/A
Fire Protection Services	\$769	\$345	(\$424)	(55%)
Police Services	\$39	\$16	(\$23)	(59%)
By-Law Enforcement	\$15	\$74	\$59	393%
Development Related Studies	\$139	\$157	\$18	13%
Services Related to a Highway				
Services Related To A Highway: Public Works*	\$0	\$660	\$660	N/A
Services Related To A Highway: Roads & Related	\$2,654	\$2,702	\$48	2%
TOTAL UNSERVICED RESIDENTIAL CHARGE	\$8,768	\$11,887	\$3,119	36%
Water Services	\$5,041	\$5,880	\$839	17%
Wastewater Services	\$4,640	\$5,362	\$722	16%
TOTAL SERVICED RESIDENTIAL CHARGE	\$18,449	\$23,129	\$4,680	25%

* Public works charge part of Roads and Related.

TABLE 10

RUSSELL TOWNSHIP
 COMPARISON OF CURRENT AND CALCULATED
 NON-RESIDENTIAL DEVELOPMENT CHARGES

Service	Current	Calculated	Difference in Charge	
	Non-Residential Charge / Sq.m	Non-Residential Charge / Sq.m		
Library	\$0.32	\$0.00	(\$0.32)	(100%)
Recreation & Parks	\$3.23	\$0.00	(\$3.23)	(100%)
Day Care	\$0.00	\$0.00	\$0.00	N/A
Fire Protection Services	\$2.37	\$1.32	(\$1.05)	(44%)
Police Services	\$0.11	\$0.06	(\$0.05)	(44%)
By-Law Enforcement	\$0.00	\$0.28	\$0.28	N/A
Development Related Studies	\$0.43	\$0.59	\$0.16	37%
Services Related to a Highway				
Services Related To A Highway: Public Works*	\$0.00	\$2.49	\$2.49	N/A
Services Related To A Highway: Roads & Related	\$8.18	\$10.21	\$2.03	25%
TOTAL UNSERVICED NON-RESIDENTIAL CHARGE PER SQ M	\$14.64	\$14.95	\$0.31	2%
Water Services	\$19.48	\$22.67	\$3.19	16%
Wastewater Services	\$17.76	\$21.67	\$3.91	22%
TOTAL SERVICED NON-RES. CHARGE PER SQ M	\$51.88	\$59.29	\$7.41	14%
TOTAL SERVICED NON-RES. CHARGE PER SQ.FT	\$4.82	\$5.51	\$0.69	14%

* Public works charge part of Roads and Related.

8. 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 F.

A. ASSET MANAGEMENT PLAN

Table 11 provides the calculated annual asset management contribution for the gross capital expenditures and the share related to the 2022-2031 DC recoverable portion. The year 2032 has been included to calculate the annual contribution for the 2022-2031 period as the expenditures in 2031 will not trigger asset management contributions until 2032. As shown in Table 11, by 2032, the Township should fund an additional \$1.38 million per annum in order to fund the full life cycle costs of the new assets related to the Township-wide 10-year services supported under the development charges by-law.

Table 11 Calculated Annual AMP Provisions				
Services	2022-2031 Capital Program		Annual AMP Provision by 2032	
	DC-Eligible	Non DC-Eligible	DC-Related	Non DC-Related
LIBRARY SERVICES	\$2,420,000	\$4,497,000	\$50,200	\$135,600
PARKS & RECREATION	\$20,049,000	\$34,800,000	\$546,200	\$751,500
DAY CARE	\$533,000	\$0	\$10,600	\$0
FIRE PROTECTION SERVICES	\$907,000	\$0	\$77,500	\$0
POLICE SERVICES	\$99,000	\$1,131,000	\$0	\$0
BY-LAW ENFORCEMENT	\$187,000	\$39,000	\$9,800	\$4,000
DEVELOPMENT RELATED STUDIES	\$380,000	\$90,000	\$0	\$0
SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS	\$1,769,000	\$1,376,000	\$75,000	\$27,300
SERVICES RELATED TO A HIGHWAY: ROADS & RELATED	\$7,404,000	\$8,145,000	\$485,000	\$446,000
WATER SERVICES	\$3,580,000	\$9,718,000	\$16,000	\$2,000
WASTEWATER SERVICES	\$2,520,000	\$12,190,000	\$111,000	\$2,000
TOTAL	\$39,848,000	\$71,986,000	\$1,381,300	\$1,368,400

Note: DC Eligible funding includes 10-year period funding from DCs and DC Reserve Funding

B. LONG-TERM CAPITAL AND OPERATING COSTS

Appendix F summarizes the estimated increase in net operating costs that the Township will experience for additions associated with the planned capital forecast. Table 12 summarizes the estimated increase in net operating costs that the Township will experience for additions associated with the planned capital program.

By 2031, the Township's net operating costs are estimated to increase by \$1.75 million.

Appendix F also summarizes the components of the development related capital program that will require funding from non-development charge sources. Of the \$106.17 million in the 2022-2031 net capital program cost, about \$18.04 million will need to be financed from non-development charge sources over the next 10 years. This is entirely related to shares of projects related to capital replacement and for non-development shares of projects that provide benefit to the existing (BTE) community.

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.

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 F demonstrates that the Township can afford to invest and operate the identified general and engineered services infrastructure over the 10-year planning period to 2031.

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

TABLE 12

**RUSSELL TOWNSHIP
SUMMARY OF LONG TERM CAPITAL AND
OPERATING COST IMPACTS FOR TAX SUPPORTED SERVICES
(in thousands of constant dollars)**

2031	
Net Operating Impacts (1)	
Library Services	\$510.0
Parks & Recreation	\$431.6
Day Care	\$5.3
Fire Protection Services	\$80.0
Police Services	\$42.5
By-Law Enforcement	\$15.7
Development Related Studies	\$0.0
Services Related To A Highway: Public Works	\$176.9
Services Related To A Highway: Roads & Related	\$486.0
Water Services	\$0.0
Wastewater Services	\$0.0
NET OPERATING IMPACTS	\$1,748.0

Total	
Long-term Capital Impact (1)	
Total Net Cost	\$106,172.7
Net Cost From Development Charges	\$47,197.4
Prior Growth Share from DC Reserve Balances (2)	\$9,199.0
Portion for Post-2031 Development (3)	\$31,733.6
Funding From Non-DC Sources	
Replacement	\$18,042.7
FUNDING FROM NON-DC SOURCES	\$18,042.7

(1) See Appendix F.

(2) Existing development charge reserve fund balances collected from growth prior to 2021 are applied to fund initial projects in development-related capital forecast.

(3) Post 2031 development-related net capital costs may be eligible for development charge funding in future DC by-laws.

9. OTHER ISSUES AND CONSIDERATIONS

A. DEVELOPMENT CHARGES ADMINISTRATION

No significant changes are recommended to the Township's current policies and practices regarding DC administration. In this regard:

- It is recommended that practices regarding collection of DCs and by-law administration continue to the extent possible.
- 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.

B. CONSIDERATION FOR AREA RATING

In accordance with the *DCA*, Council must give consideration to the use of area rating, also known as area-specific development charges, as part of the DC Background Study.

Based on discussions with staff, and the analysis of the delivery of services, it is proposed that the Township continue to calculate and collect DCs on a uniform, Township-wide basis. The rationale for maintaining a uniform Township-wide approach is based primarily on the fact that 10-year historical service levels can be calculated on a Township-wide basis to ensure the emplacement of a service or infrastructure in one particular area of the Township does not exceed the service level of that specific community. As well, Township-wide DCs ensure a consistent approach to financing the cost of development-related projects, from both a DC and non-DC revenue source perspective. Finally, an attempt to impose area-specific DCs to a DC regime which has imposed municipal-wide DCs for a long length of time would cause equity issues during transitions. Please note, Water and

Wastewater Services are calculated (and applicable) to development occurring where services are available.

C. LOCAL SERVICE POLICY

The Township administers a series of local service guidelines and principles considering if the project will be completely, or in part, funded from development charges.

Local services means those services or facilities which are under the jurisdiction of the municipality and are related to a plan of subdivision or within the area to which the plan relates, required as a condition of approval under s. 51 of the Planning Act, or as a condition of approval under *s. 53 of the Planning Act*.

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 Russell. The forecast results are presented in the following tables:

Historical Development

Table 1	Historical Population, Occupied Household & 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 Households Growth by Unit Type
Table 6	Forecast Population Growth in New Households by Unit Type
Table 7	Non-Residential Space Forecast

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 ten-year development time horizon, from 2022 to 2031, has been used to calculate the development charges for all development charge-eligible services.

B. HISTORICAL DEVELOPMENT IN THE TOWNSHIP

Historical growth figures presented here are based on Statistics Canada Census data, Canada Mortgage Housing Corporation (CMHC) housing market information, and Township building permit and development application data. 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 2012 to 2021 is used for calculating historical service levels. Since 2016 was the last year of the Census, figures from 2017 to 2021 are estimated.

Historical data indicate that the Township's population increased by 5,073 over the last decade, from 15,247 in 2011 to 20,320 in 2021. Total occupied dwellings increased from 5,280 to 7,257 over the same period (see Table 1). The difference between the rates of population and occupied dwelling unit growth is the result of a decline in the average number of persons residing in existing housing units.

Historical employment figures are also shown in Table 1 and are based on Statistics Canada place of work data. Place of work data records where people work rather than the place of residence. It includes all employment with a regular or no fixed work place of work. However, work-at-home employment is excluded from the figures as, for development charge purposes, this type of employment is considered not to require building floorspace for its activities.

The Township's employment has increased over the historical ten-year period—by about 1,650 jobs (see Table 1). The Township's activity rate (the ratio of employment to population) is about 21 per cent in 2021.

Details on housing growth in the Township are provided in Table 2. This information is sourced from the Township's building permit information. The dominant type of new housing in Russell constructed since 2011 has been single-detached homes. The table also indicates year-to-date 2021 building permit activity. The overall housing mix in the Township since 2006 is set out in Table 2.

Table 3 provides details on historical occupancy patterns in the Township. The overall average occupancy level in Russell for all units is 2.67 persons per housing unit (PPU). Occupancy levels for recently constructed units, between 2006 and 2016, are 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.

C. FORECAST METHOD AND RESULTS

This section describes the method used to establish the ten-year development charges forecast for the planning period 2022 to 2031.

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.

- The *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 20,320 in 2021 to 26,930 in 2031. The ten-year population growth (6,610 persons) represents a 33 per cent increase over the existing base.

The number of occupied housing units is forecast to increase from 7,257 in 2021 to 9,687 in 2031. This reflects an average annual increase of 243 occupied dwelling units per year or a 33 per cent increase in occupied dwelling units over the time horizon to 2031.

A breakdown of anticipated housing by unit type in the Township is shown in Table 5. As shown in Table 5, the long-term type of new housing forecasted in the Township is to be composed largely of single and semi-detached units (77 per cent), followed by rows (14 per cent) and apartments (9 per cent) over the ten-year period.

Population growth in the new units is estimated by initially applying the following PPUs to the housing unit forecast: 3.00 for single and semi-detached units; 1.96 for rows; and 1.55 for apartments. The PPU assumption used for single and semi detached units is based on the units constructed between 2006 and 2016 as seen in Table 3. The PPU for the remaining unit types are based on historical trends as limited data on new construction

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

exists. The forecast of population expected to reside in these new housing units over the 2022 to 2031 period is 6,610 additional persons. This population growth by unit type is shown in Table 6.

ii. Non-Residential Forecast

Table 7 shows that place of work employment is forecast to grow by 968 total jobs over the ten-year forecast period to 2031. This growth from 4,233 employees in 2021 to 5,179 in 2031 represents a 22 per cent increase.

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 ten-year period from 2022 to 2031 for all services. This forecast is shown in Table 7.

An assumed floor space per worker (FSW) is applied to the employment forecast numbers by category in order to project growth in new non-residential space in the Township. The FSW assumption used is 88 square metres per employee.

The overall growth in new non-residential building space across the Township of Russell between 2022 and 2031 is 85,151 square metres.

A subsequent analysis for serviced and unserved employment has been completed for the calculation of Water and Wastewater rates. Details on the forecast can be found in Appendix D.1 and D.2.

APPENDIX A - TABLE 1

RUSSELL TOWNSHIP
HISTORICAL POPULATION, OCCUPIED HOUSEHOLDS & EMPLOYMENT SUMMARY

Mid-Year	Census Population	Growth	Occupied Households	Household Growth	PPU	Employment by Place of Work	Growth	Activity Rate
2006	13,883		4,730		2.94	2,463		17.7%
2007	14,146	263	4,835	105	2.93	2,486	23	17.6%
2008	14,414	268	4,943	108	2.92	2,510	24	17.4%
2009	14,687	273	5,053	110	2.91	2,534	24	17.3%
2010	14,965	278	5,165	112	2.90	2,558	24	17.1%
2011	15,247	282	5,280	115	2.89	2,582	24	16.9%
2012	15,493	246	5,394	114	2.87	2,735	153	17.7%
2013	15,743	250	5,510	116	2.86	2,897	162	18.4%
2014	15,998	255	5,629	119	2.84	3,068	171	19.2%
2015	16,257	259	5,750	121	2.83	3,249	181	20.0%
2016	16,520	263	5,873	123	2.81	3,441	192	20.8%
2017	17,003	483	6,051	472	2.81	3,542	101	20.8%
2018	17,622	618	6,271	335	2.81	3,671	129	20.8%
2019	18,538	916	6,597	326	2.81	3,861	191	20.8%
2020	19,605	1,068	6,977	380	2.81	4,084	222	20.8%
2021	20,320	714	7,257	280	2.80	4,233	149	20.8%
Growth 2012 - 2021		5,073		2,386			1,650	

Source: Statistics Canada, Census of Canada

APPENDIX A - TABLE 2

RUSSELL TOWNSHIP
HISTORICAL ANNUAL BUILDING PERMITS

Year	Building Permits - Units				BPs - Shares By Unit Type			
	Singles & Semis	Rows	Apts.	Total	Singles & Semis	Rows	Apts.	Total
2011	56	0	1	57	98%	0%	2%	100%
2012	82	0	1	83	99%	0%	1%	100%
2013	120	0	1	121	99%	0%	1%	100%
2014	112	0	5	117	96%	0%	4%	100%
2015	148	15	33	196	76%	8%	17%	100%
2016	136	24	0	160	85%	15%	0%	100%
2017	140	22	56	218	64%	10%	26%	100%
2018	179	29	7	215	83%	13%	3%	100%
2019	307	128	37	472	65%	27%	8%	100%
2020	268	46	21	335	80%	14%	6%	100%
2021	167	19	29	215	78%	9%	13%	100%
Growth 2011 - 2020	1,548	264	162	1,974	78%	13%	8%	100%
<i>5 Year Avg.</i>	<i>206</i>	<i>50</i>	<i>24</i>	<i>280</i>				

Source: Township of Russell Building Permit data.

APPENDIX A - TABLE 3
RUSSELL TOWNSHIP
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
<i>Singles and Semis</i>													
Household Population	1,085	255	400	1,845	3,960	1,315	620	1,910	1,865	1,455	11,390	3,320	14,710
Households	435	105	185	675	1,365	445	230	590	560	545	4,030	1,105	5,135
Household Size	2.49	2.43	2.16	2.73	2.90	2.96	2.70	3.24	3.33	2.67	2.83	3.00	2.86
<i>Rows</i>													
Household Population	0	0	0	0	85	50	0	0	0	0	135	0	135
Households	0	0	10	10	35	15	10	15	15	0	95	15	110
Household Size	0.00	0.00	0.00	0.00	2.43	3.33	0.00	0.00	0.00	0.00	1.42	0.00	1.23
<i>Apartments (1 Bedroom & Bachelor)</i>													
Household Population	30	0	0	0	50	0	20	0	0	25	100	25	125
Households	25	10	15	15	35	0	15	0	10	35	115	45	160
Household Size	1.20	0.00	0.00	0.00	1.43	0.00	1.33	0.00	0.00	0.71	0.87	0.56	0.78
<i>Apartments (excl. Duplexes)</i>													
Household Population	60	0	90	45	130	65	75	95	85	175	560	260	820
Households	40	20	50	40	90	45	60	60	45	120	405	165	570
Household Size	1.50	0.00	1.80	1.13	1.44	0.00	0.00	1.58	1.89	0.00	1.38	1.58	1.44
<i>Duplexes</i>													
Household Population	0	0	0	0	55	45	0	0	60	0	100	60	160
Households	10	10	10	10	20	15	0	0	20	15	75	35	110
Household Size	0.00	0.00	0.00	0.00	2.75	3.00	0.00	0.00	3.00	0.00	1.33	0.00	1.45
<i>All Units</i>													
Household Population	1,145	255	490	1,890	4,230	1,475	695	2,005	2,010	1,630	12,185	3,640	15,825
Households	485	135	255	735	1,510	520	300	665	640	680	4,605	1,320	5,925
Household Size	2.36	1.89	1.92	2.57	2.80	2.84	2.32	3.02	3.14	2.40	2.65	2.76	2.67

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

APPENDIX A - TABLE 4

RUSSELL TOWNSHIP
POPULATION, HOUSEHOLD & EMPLOYMENT FORECAST SUMMARY

Mid-Year	Census Population	Census Pop'n Growth	Occupied Households	Total Household Growth	Household Size	Employment by POW	Employment by POW Growth	Activity Rate
2021	20,320	714	7,257	280	2.80	4,233	149	21%
2022	21,090	770	7,532	275	2.80	4,372	139	21%
2023	21,860	770	7,807	275	2.80	4,510	138	21%
2024	22,630	770	8,082	275	2.80	4,646	136	21%
2025	23,400	770	8,357	275	2.80	4,781	135	20%
2026	24,014	614	8,607	250	2.79	4,870	89	20%
2027	24,655	642	8,837	230	2.79	4,963	93	20%
2028	25,255	600	9,052	215	2.79	5,046	83	20%
2029	25,855	600	9,267	215	2.79	5,101	55	20%
2030	26,441	586	9,477	210	2.79	5,151	49	19%
2031	26,930	489	9,687	210	2.78	5,179	28	19%
2022-2031		6,610		2,430			946	

Source: Hemson Consulting Ltd., 2021

APPENDIX A - TABLE 5

RUSSELL TOWNSHIP
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	220	37	23	280	78%	13%	8%	100%
2022	216	37	23	275	78%	13%	8%	100%
2023	216	37	23	275	78%	13%	8%	100%
2024	216	37	23	275	78%	13%	8%	100%
2025	216	37	23	275	78%	13%	8%	100%
2026	188	38	25	250	75%	15%	10%	100%
2027	173	35	23	230	75%	15%	10%	100%
2028	161	32	22	215	75%	15%	10%	100%
2029	161	32	22	215	75%	15%	10%	100%
2030	158	32	21	210	75%	15%	10%	100%
2031	158	32	21	210	75%	15%	10%	100%
2022-2031	1,860	347	223	2,430	77%	14%	9%	100%

Source: Hemson Consulting Ltd., 2021

APPENDIX A - TABLE 6

RUSSELL TOWNSHIP
FORECAST POPULATION GROWTH IN NEW HOUSEHOLDS BY UNIT TYPE*

Mid-Year	Singles & Semis	Rows & Other Multiples	Apartments	Total Population in New Households	Total Served Pop. In New HH.
2022	647	72	35	754	733
2023	647	72	35	754	733
2024	647	72	35	754	733
2025	647	72	35	754	733
2026	563	74	39	676	655
2027	518	68	36	622	601
2028	484	63	33	580	559
2029	484	63	33	580	559
2030	473	62	33	568	547
2031	473	62	33	568	547
2022-2031	5,583	680	347	6,610	6,400

*Based on PPU's

3.00

1.96

1.55

Source: Hemson Consulting Ltd., 2021

APPENDIX A - TABLE 7

RUSSELL TOWNSHIP
NON-RESIDENTIAL SPACE FORECAST

Average Sq.M. Per Employee

88.0 m² per employee

Mid-Year	Place of Work Employment	Annual Growth	Growth in Space (m ²)	Serviced Growth in Space (m ²)
2022	4,372	139	12,259	9,721
2023	4,510	138	12,123	9,614
2024	4,646	136	11,988	9,506
2025	4,781	135	11,852	9,399
2026	4,870	89	7,868	6,239
2027	4,963	93	8,198	6,501
2028	5,046	83	7,293	5,783
2029	5,101	55	4,859	3,853
2030	5,151	49	4,356	3,454
2031	5,179	49	4,356	3,454
2022-2031		968	85,151	67,524

Source: Hemson Consulting Ltd., 2021

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 general services provided by the Township of Russell. Seven services have been analysed as part of this Development Charges (DC) Background Study:

- Appendix B.1 Library Services
- Appendix B.2 Parks and Recreation
- Appendix B.3 Day Care
- Appendix B.4 Fire Protection Services
- Appendix B.5 Police Services
- Appendix B.6 By-law Enforcement
- Appendix B.7 Development-Related Studies

Each 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 a municipality 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 2012-2021.

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 development-related capital facilities that are to be funded by new growth reflect not only the quantity (number and size), but also the quality (replacement value or cost) of service provided by the Township in the past. Both the quantitative and qualitative aspects of service levels used in the current analysis are based on information provided by municipal staff in consultation with Hemson

Consulting Ltd. 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 funding envelope is defined as the ten-year 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 future planning period. The resulting figure is the value of capital infrastructure that would have to be constructed for that particular service so that the ten-year historical service level is maintained.

For services with only a residential impact (Library, Day Care, Parks and Recreation), a service level measure of net population has been utilized. For the remaining services where a residential and non-residential charge has been calculated, a service level measure of net population + employment has been used.

There is also a requirement in the *DCA* to consider “excess capacity” within the Township’s existing infrastructure that may be available to partially meet future servicing requirements. If Council has expressed its intent before or at the time the capacity was created to recover the cost of providing the capacity from new development, it is considered “committed excess capacity” under the *DCA*, and the associated capital cost is eligible for recovery. The requirement to consider uncommitted excess capacity has been addressed through the use of “net” population and employment in the determination of maximum allowable funding envelopes.

TABLE 2 2022-2031 DEVELOPMENT-RELATED CAPITAL PROGRAM AND CALCULATION OF THE “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, staff in collaboration with the consultants, have created a development-related capital forecast that sets out the projects required to service anticipated development for the ten-year period from 2022 to 2031.

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 “replacement” shares and benefit to existing shares.

A replacement share represents the portion of a capital project that will benefit the existing community. It could for example, represent a portion of a new facility that will, at least in part, replace a facility that is demolished, redeployed or will otherwise not be available to serve its former function. The replacement 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 replacement will require funding from non-development charge sources, typically property taxes or user fees.

The capital program less any replacement shares or benefit to existing yields the development-related costs. However, not all of the net development-related capital program may be recoverable from development charges in the period from 2022 to 2031. For some services, reserve fund balances may be available to fund a share of the program. In addition, a portion of the capital program may service development occurring beyond 2031. This portion of the capital program is deemed “pre-built” service capacity and is considered as committed excess capacity to be recovered under future development charges, or a service level increase.

The remaining portion of the net capital program represents the development-related cost that may be included in the DC calculation. In all cases, as required, this amount is equal to or less than the maximum allowable capital amount as calculated at the end of Table 1. The result is the discounted development-related net capital costs eligible for recovery against growth over the forecast period from 2022 to 2031.

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 to allocate the development-related net capital cost between the residential and non-residential sectors. For all general services with the exception of Library Services, Day Care, and Parks and Recreation, the development-related costs have been apportioned as 87 per cent residential and 13 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 ten-year forecast period.

The development-related costs associated with Library, Day Care, and Parks and Recreation, have been allocated 100 per cent to the residential sector as the need for these services is driven by residential development.

The residential share of the 2022–2031 DC eligible costs 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 costs are 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 so 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 reflecting borrowing and earnings necessary to support the net development-related funding requirement, assumptions are used for the inflation rate and interest rate. An inflation rate of 2.0 per cent is used for the funding requirements, an interest rate of 5.5 per cent is used 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

LIBRARY SERVICES

APPENDIX B.1 – LIBRARY SERVICES

The Township provides library services out of two branches – the Russell Branch and the Embrun Branch. The library offers an array of collection materials and delivers various community services including outreach services, kids and adult book clubs, senior services, homework and research assistance, and free computer access.

TABLE 1 HISTORICAL SERVICE LEVELS

Table 1 displays the ten-year historical inventory for buildings and land for Library Services provided by the Township. The two branches total 8,880 square feet and are valued at \$3.05 million. The library buildings occupy 0.64 hectares of Township land, which is worth approximately \$160,000 in 2021. Finally, collection materials and databases along with furniture and equipment add an additional \$1.64 million to the total value of the inventory.

The 2021 combined replacement value of the inventory of capital assets for Library Services is \$4.85 million, resulting in a ten-year historical average service level of \$271.79 per capita. This historical service level, multiplied by the ten-year net population growth (6,610), results in a maximum allowable funding envelope of \$1.80 million.

TABLE 2 2022 – 2031 DEVELOPMENT-RELATED CAPITAL PROGRAM & CALCULATION OF THE “UNADJUSTED” DEVELOPMENT CHARGES

The development-related capital program for Library Service totals \$6.92 million and provides for a new branch, the expansion of space at the Russell Branch, collection materials, furniture and equipment for the new branch and Russell Branch expansion. It is assumed that the construction of the new branch would result in the decommissioning of space associated with the existing Embrun branch. Therefore, a benefit-to-existing share is identified and set equal to the space of the branch being decommissioned at approximately \$1.05 million. No grants, subsidies and other recoveries are assumed.

The Township has \$623,200 in DC reserves to offset a portion of the DC eligible capital costs. The share of eligible costs exceeding the maximum permissible funding envelope, \$3.45 million, is determined to be development related, but not funded through this DC Study. The cost may benefit development beyond 2031 and will be eligible for funding under subsequent development charge studies or other growth-related funding mechanisms such

as Community Benefit Charges should a CBC by-law be adopted. The remaining share of \$1.80 million is eligible for recovery through development charges in the 2022 to 2031 period.

The development-related net capital cost is allocated entirely to residential development and, when divided by the ten-year growth in population in new dwelling units (6,610), a charge of \$271.80 per capita results.

TABLE 3 CASH FLOW ANALYSIS

After cash flow considerations, the residential calculated charge increases to \$312.07 per capita. This is a reflection of the timing of the capital program and development charges revenues.

The following table summarizes the calculation of the Library Services development charge.

LIBRARY SERVICES SUMMARY						
10-year Hist.	2022 - 2031		Unadjusted		Adjusted	
Service Level per capita	Development-Related Capital Program		Development Charge		Development Charge	
	Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m
\$271.79	\$6,917,100	\$1,796,603	\$271.80	\$0.00	\$312.07	\$0.00

APPENDIX B.1
TABLE 1

RUSSELL TOWNSHIP
INVENTORY OF CAPITAL ASSETS
LIBRARY SERVICES

BUILDINGS Branch Name	# of Square Feet										UNIT COST (\$/sq.ft.)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Russell Branch	5,680	5,680	5,680	5,680	5,680	5,680	5,680	5,680	5,680	5,680	\$350
Embrun Branch	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	\$350
Storage Space	200	200	200	200	200	200	200	200	200	200	\$60
Total (sq.ft.)	8,880										
Total (\$000)	\$3,050.0										

LAND Branch Name	# of Hectares										UNIT COST (\$/ha)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Russell Branch	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	\$250,000
Embrun Branch	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	\$250,000
Storage Space	-	-	-	-	-	-	-	-	-	-	\$250,000
Total (ha)	0.64										
Total (\$000)	\$160.0										

MATERIALS Type of Collection	# of Collection Materials										UNIT COST (\$/item)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Collections Materials	45,822	40,388	42,918	42,918	43,734	44,758	45,233	47,716	49,745	51,945	\$26
Database Subscriptions	13	18	18	18	18	20	21	21	21	21	\$670
Total (#)	45,835	40,406	42,936	42,936	43,752	44,778	45,254	47,737	49,766	51,966	
Total (\$000)	\$1,211.5	\$1,072.2	\$1,138.7	\$1,138.7	\$1,160.1	\$1,188.3	\$1,201.4	\$1,266.6	\$1,319.9	\$1,377.6	

FURNITURE AND EQUIPMENT Branch Name	Total Value of Furniture and Equipment (\$)									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Russell and Embrun Branch	\$245,452	\$250,361	\$255,729	\$255,529	\$255,418	\$259,191	\$261,208	\$260,827	\$261,159	\$263,659
Total (\$000)	\$245.5	\$250.4	\$255.7	\$255.5	\$255.4	\$259.2	\$261.2	\$260.8	\$261.2	\$263.7



**APPENDIX B.1
TABLE 1**

**RUSSELL TOWNSHIP
CALCULATION OF SERVICE LEVELS
LIBRARY SERVICES**

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Historic Population	15,493	15,743	15,998	16,257	16,520	17,003	17,622	18,538	19,605	20,320

INVENTORY SUMMARY (\$000)

Buildings	\$3,050.0	\$3,050.0	\$3,050.0	\$3,050.0	\$3,050.0	\$3,050.0	\$3,050.0	\$3,050.0	\$3,050.0	\$3,050.0
Land	\$160.0	\$160.0	\$160.0	\$160.0	\$160.0	\$160.0	\$160.0	\$160.0	\$160.0	\$160.0
Materials	\$1,211.5	\$1,072.2	\$1,138.7	\$1,138.7	\$1,160.1	\$1,188.3	\$1,201.4	\$1,266.6	\$1,319.9	\$1,377.6
Furniture And Equipment	\$245.5	\$250.4	\$255.7	\$255.5	\$255.4	\$259.2	\$261.2	\$260.8	\$261.2	\$263.7
Total (\$000)	\$4,667.0	\$4,532.6	\$4,604.4	\$4,604.2	\$4,625.5	\$4,657.5	\$4,672.6	\$4,737.4	\$4,791.0	\$4,851.3

SERVICE LEVEL (\$/capita)

**Average
Service
Level**

Buildings	\$196.86	\$193.74	\$190.65	\$187.61	\$184.62	\$179.38	\$173.08	\$164.53	\$155.57	\$150.10	\$177.61
Land	\$10.33	\$10.16	\$10.00	\$9.84	\$9.69	\$9.41	\$9.08	\$8.63	\$8.16	\$7.87	\$9.32
Materials	\$78.20	\$68.11	\$71.17	\$70.04	\$70.22	\$69.89	\$68.18	\$68.33	\$67.32	\$67.80	\$69.93
Furniture And Equipment	\$15.84	\$15.90	\$15.99	\$15.72	\$15.46	\$15.24	\$14.82	\$14.07	\$13.32	\$12.98	\$14.93
Total (\$/capita)	\$301.23	\$287.91	\$287.81	\$283.21	\$279.99	\$273.92	\$265.17	\$255.56	\$244.37	\$238.75	\$271.79

**RUSSELL TOWNSHIP
CALCULATION OF MAXIMUM ALLOWABLE
LIBRARY SERVICES**

10-Year Funding Envelope Calculation	
10 Year Average Service Level 2012 - 2021	\$271.79
Net Population Growth 2022 - 2031	6,610
Maximum Allowable Funding Envelope	\$1,796,603



APPENDIX B.1
TABLE 2

RUSSELL TOWNSHIP
DEVELOPMENT-RELATED CAPITAL PROGRAM
LIBRARY SERVICES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/ Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Development Related Costs		
					BTE (%)	Replacement & BTE Shares		Available DC Reserves	2022-2031	Other Dev. Related*
1.0 LIBRARY SERVICES										
1.1 Buildings, Land and Furnishings										
1.1.1 New Branch Building (Estimated 15,000 sq.ft)	2022	\$ 5,250,000	\$ -	\$ 5,250,000	20%	\$ 1,050,000	\$ 4,200,000	\$ 577,001	\$ 1,796,603	\$ 1,826,396
1.1.2 Branch Expansion (Estimated 2,000 sq.ft)	2027	\$ 700,000	\$ -	\$ 700,000	0%	\$ -	\$ 700,000	\$ -	\$ -	\$ 700,000
Subtotal Buildings, Land and Furnishings		\$ 5,950,000	\$ -	\$ 5,950,000		\$ 1,050,000	\$ 4,900,000	\$ 577,001	\$ 1,796,603	\$ 2,526,396
1.2 Materials and Equipment										
1.2.1 Collection Materials	Various	\$ 462,300	\$ -	\$ 462,300	0%	\$ -	\$ 462,300	\$ 46,230	\$ -	\$ 416,070
1.2.2 Furniture & Equipment (New Branch)	2023	\$ 445,400	\$ -	\$ 445,400	0%	\$ -	\$ 445,400	\$ -	\$ -	\$ 445,400
1.2.3 Furniture & Equipment (Russell Expansion)	2028	\$ 59,400	\$ -	\$ 59,400	0%	\$ -	\$ 59,400	\$ -	\$ -	\$ 59,400
Subtotal Materials and Equipment		\$ 967,100	\$ -	\$ 967,100		\$ -	\$ 967,100	\$ 46,230	\$ -	\$ 920,870
TOTAL LIBRARY SERVICES		\$ 6,917,100	\$ -	\$ 6,917,100		\$ 1,050,000	\$ 5,867,100	\$ 623,231	\$ 1,796,603	\$ 3,447,266

*Development related costs to be considered for funding from other tools and/or future DC Studies.

Residential Development Charge Calculation		
Residential Share of 2022 - 2031 DC Eligible Costs	100%	\$1,796,603
10-Year Growth in Population in New Units		6,610
Unadjusted Development Charge Per Capita		\$271.80
Non-Residential Development Charge Calculation		
Non-Residential Share of 2022 - 2031 DC Eligible Costs	0%	\$0
10-Year Growth in Square Metres		85,151
Unadjusted Development Charge Per Square Metre		\$0.00

2022 - 2031 Net Funding Envelope	\$1,796,603
December 31, 2021 Reserve Funds	\$623,231



**APPENDIX B.1
TABLE 3**

**RUSSELL TOWNSHIP
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
LIBRARY SERVICES
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)**

LIBRARY SERVICES	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$623.2	(\$1,556.8)	(\$1,403.0)	(\$1,236.0)	(\$1,054.9)	(\$885.7)	(\$721.5)	(\$559.1)	(\$383.7)	(\$199.0)	
2022 - 2031 RESIDENTIAL FUNDING REQUIREMENTS											
- Prior Growth (Funding form DC Reserve Balance)	\$581.6	\$4.6	\$4.6	\$4.6	\$4.6	\$4.6	\$4.6	\$4.6	\$4.6	\$4.6	\$623.2
- Library Services: Non Inflated	\$1,796.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1,796.6
- Library Services: Inflated	\$2,378.2	\$4.7	\$4.8	\$4.9	\$5.0	\$5.1	\$5.2	\$5.3	\$5.4	\$5.5	\$2,424.2
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	754	754	754	754	676	622	580	580	568	568	6,610
REVENUE											
- DC Receipts: Inflated	\$235.3	\$240.0	\$244.8	\$249.7	\$228.3	\$214.3	\$203.8	\$207.9	\$207.7	\$211.8	\$2,243.7
INTEREST											
- Interest on Opening Balance	\$21.8	(\$85.6)	(\$77.2)	(\$68.0)	(\$58.0)	(\$48.7)	(\$39.7)	(\$30.7)	(\$21.1)	(\$10.9)	(\$418.2)
- Interest on In-year Transactions	(\$58.9)	\$4.1	\$4.2	\$4.3	\$3.9	\$3.7	\$3.5	\$3.5	\$3.5	\$3.6	(\$24.6)
TOTAL REVENUE	\$198.2	\$158.5	\$171.8	\$186.0	\$174.2	\$169.3	\$167.6	\$180.7	\$190.1	\$204.5	\$1,801.0
CLOSING CASH BALANCE	(\$1,556.8)	(\$1,403.0)	(\$1,236.0)	(\$1,054.9)	(\$885.7)	(\$721.5)	(\$559.1)	(\$383.7)	(\$199.0)	\$0.0	

2022 Adjusted Charge Per Capita	\$312.07
----------------------------------------	-----------------

Allocation of Capital Program	
Residential Sector	100.0%
Non-Residential Sector	0.0%
Rates for 2022	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX B.2

PARKS AND RECREATION

APPENDIX B.2 – PARKS AND RECREATION

The Township of Russell is responsible for indoor recreation facilities, programs, and parks (including parkland and trails, and park facilities).

TABLE 1 HISTORICAL SERVICE LEVELS

The ten-year historical inventory of capital assets for indoor recreation facilities includes over 148,000 square feet in several facilities with a total value of \$24.07 million. The land associated with these facilities total 13.03 hectares and is valued at \$3.26 million. The Township owns and maintains the furniture and equipment used to provide indoor recreation services. The total replacement value of all indoor recreation furniture and equipment in 2021 is \$1.71 million.

The ten-year historical inventory of capital assets for Russell’s parks includes 36.4 hectares of developed parkland in the Embrun and Russell Communities as well as Marionville and Limoges. The combined value of all developed parkland amounts to \$2.63 million. Additionally, 10.6 kilometres of developed trails add \$371,000 to the value of the inventory.

The Township also owns and maintains a variety of park facilities. The combined value of all park playgrounds and the one splash pad at Yahoo Park, in 2021 is \$970,000. Other Park Facilities such as sports fields, courts, rinks, and pools make up \$6.05 million of the inventory. Park buildings such as pavilions, washrooms, and gazebos amount to \$1.15 million and parks equipment add an additional \$532,500. Lastly, parks fleet adds \$174,000 to the value of the inventory.

The total combined value of capital assets for Parks and Recreation in the Township of Russell amounts to \$40.93 million in 2021. The ten-year historical average service level is \$2,049.10 per capita, and this, multiplied by the ten-year net population growth (6,610), results in a ten-year maximum allowable funding envelope of \$13.55 million.

TABLE 2 2022-2031 DEVELOPMENT-RELATED PROGRAM & CALCULATION OF THE DEVELOPMENT CHARGES

The 2022 - 2031 development-related capital program for indoor recreation totals \$54.85 million and is largely associated with the construction of a new facility, which includes three arenas and an indoor pool. The remainder of the capital program includes the construction

of a storage shed/mini garage, additional sports fields and development of parkland and expansion of the trail network. Also included are additional fleet and equipment and a Parks and Recreation Master Plan.

Of the gross capital costs of \$54.85 million, approximately \$11.69 million has been netted off as a replacement or benefit-to-existing shares, which represents 33 per cent for the cost of the new arena and 50 per cent for the master plan. The BTE assigned to the arena represents that one of the existing rinks would be decommissioned with the construction of the new space. The Township has \$6.50 million in DC reserves to offset a portion of the DC eligible capital costs. The remaining DC costs eligible for recovery post 2031 amount to \$23.11 million. The share may benefit development beyond 2031 and will be eligible for funding under subsequent development charge studies or other growth-related funding mechanisms such as Community Benefit Charges should a CBC by-law be adopted. The 2022-2031 in-period DC eligible cost is \$13.55 million, which is allocated entirely against future residential development in the Township. This results in a development charge of \$2,049.18 per capita.

TABLE 3 CASH FLOW ANALYSIS

After cash flow considerations, the residential calculated charge increases to \$2,252.16 per capita. This is a reflection of the timing of the capital program and development charges revenues.

The following table summarizes the calculation of the Parks and Recreation development charge.

PARKS & RECREATION SUMMARY						
10-year Hist.	2022 - 2031		Unadjusted		Adjusted	
Service Level	Development-Related Capital Program		Development Charge		Development Charge	
per capita	Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m
\$2,049.10	\$54,849,000	\$13,545,084	\$2,049.18	\$0.00	\$2,252.16	\$0.00

**APPENDIX B.2
TABLE 1**

**RUSSELL TOWNSHIP
INVENTORY OF CAPITAL ASSETS
PARKS & RECREATION
INDOOR RECREATION**

BUILDINGS Facility Name	# of Square Feet										UNIT COST (\$/sq. ft.)	
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		
Russell Arena & Frank Kinnaid Hall	30,351	30,351	30,351	30,351	30,351	30,351	30,351	30,351	30,351	30,351	30,351	\$190
Embrun Palais des Sports Arena & Hall	33,765	33,765	33,765	33,765	33,765	33,765	33,765	33,765	33,765	33,765	33,765	\$275
Marionville Community Centre	6,549	6,549	6,549	6,549	6,549	6,549	6,549	6,549	6,549	6,549	6,549	\$100
Russell Sport & Youth Center	2,833	2,833	2,833	2,833	2,833	2,833	2,833	2,833	2,833	2,833	2,833	\$275
Embrun Community Centre	11,505	11,505	11,505	11,505	11,505	11,505	11,505	11,505	11,505	11,505	11,505	\$275
Sports Dome	-	-	-	-	-	-	62,949	62,949	62,949	62,949	62,949	\$70
Sports Dome - Shed	-	-	-	-	-	-	-	288	288	288	288	\$60
Total (sq.ft.)	85,003	85,003	85,003	85,003	85,003	85,003	147,952	148,240	148,240	148,240	148,240	
Total (\$000)	\$19,649.9	\$19,649.9	\$19,649.9	\$19,649.9	\$19,649.9	\$19,649.9	\$24,056.3	\$24,073.6	\$24,073.6	\$24,073.6	\$24,073.6	

LAND Facility Name	# of Hectares										UNIT COST (\$/ha)	
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		
Russell Arena & Frank Kinnaid Hall	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	\$250,000
Embrun Palais des Sports Arena & Hall	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	\$250,000
Marionville Community Centre	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	\$250,000
Russell Sport & Youth Center	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	\$250,000
Embrun Community Centre	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	\$250,000
Sports Dome	-	-	-	-	-	-	9.95	9.95	9.95	9.95	9.95	\$250,000
Total (ha)	3.08	3.08	3.08	3.08	3.08	3.08	13.03	13.03	13.03	13.03	13.03	
Total (\$000)	\$770.0	\$770.0	\$770.0	\$770.0	\$770.0	\$770.0	\$3,257.5	\$3,257.5	\$3,257.5	\$3,257.5	\$3,257.5	



**APPENDIX B.2
TABLE 1**

**RUSSELL TOWNSHIP
INVENTORY OF CAPITAL ASSETS
PARKS & RECREATION
INDOOR RECREATION**

FURNITURE & EQUIPMENT Facility Name	Total Value of Furniture & Equipment (\$)									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Russell Arena & Frank Kinnaird Hall	\$316,300	\$316,300	\$316,300	\$316,300	\$316,300	\$316,300	\$316,300	\$316,300	\$316,300	\$316,300
Embrun Palais des Sports Arena & Hall	\$484,200	\$484,200	\$484,200	\$484,200	\$484,200	\$484,200	\$484,200	\$484,200	\$484,200	\$484,200
Marionville Community Centre	\$60,500	\$60,500	\$60,500	\$60,500	\$60,500	\$60,500	\$60,500	\$60,500	\$60,500	\$60,500
Russell Sport & Youth Center	\$47,000	\$47,000	\$47,000	\$47,000	\$47,000	\$47,000	\$47,000	\$47,000	\$47,000	\$47,000
Embrun Community Centre	\$355,900	\$355,900	\$355,900	\$355,900	\$355,900	\$355,900	\$355,900	\$355,900	\$355,900	\$355,900
Sports Dome - Gym Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$270,000	\$270,000	\$270,000	\$270,000
Sports Dome - Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$179,000	\$179,000	\$179,000	\$179,000
Total (\$000)	\$1,263.9	\$1,263.9	\$1,263.9	\$1,263.9	\$1,263.9	\$1,263.9	\$1,712.9	\$1,712.9	\$1,712.9	\$1,712.9

APPENDIX B.2
TABLE 1

RUSSELL TOWNSHIP
INVENTORY OF CAPITAL ASSETS
PARKS & RECREATION
PARK FACILITIES

PARKS (LAND) Park Name	# of Hectares										UNIT COST (\$/ha)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Embrun Community											
A.G. Bourdeau Park	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	\$75,000
Bourdeau Park	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	\$75,000
Jean Guy Lapionte Park	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	\$75,000
Pico Park	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	\$75,000
Mélanie Park	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	\$75,000
Omer Lamadeleine Park	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	\$75,000
Palais des Sports Park	2.06	2.06	2.06	2.06	2.06	2.06	2.06	2.06	2.06	2.06	\$75,000
Parc Richelieu	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	\$75,000
Camelot Park	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	\$75,000
Russell Community											
Boyd Park	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	\$75,000
Burton Park (agreement with SNCA)	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	\$75,000
Duncanville Park	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	\$75,000
Hanover Woods Park	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	\$75,000
J. Henry Tweed Park (agreement with SNCA)	2.95	2.95	2.95	2.95	2.95	2.95	2.95	2.95	2.95	2.95	\$75,000
MacDougall Park	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	\$75,000
Russell Centennial Pool	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	\$75,000
Russell Agricultural Society Fairgrounds	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	\$75,000
Stanley Park	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	\$75,000
Stiver Park	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	\$75,000
Old Towne West	0.12	0.12	0.16	0.20	0.20	0.20	0.20	0.20	0.20	0.20	\$75,000
Marionville											
Séraphin Marion	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	\$75,000
Limoges											
Nokimis Park (UCPR)	-	-	-	-	15.63	15.63	15.63	15.63	15.63	15.63	\$75,000
Other											
Boat Launch (Legault)	-	-	-	-	1.33	1.33	1.33	1.33	1.33	1.33	\$7,000
De la rive - Boat Launch	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	\$51,200
Total (ha)	19.4	19.4	19.4	19.5	36.4	36.4	36.4	36.4	36.4	36.4	
Total (\$000)	\$1,443.5	\$1,443.5	\$1,446.5	\$1,449.5	\$2,631.1	\$2,631.1	\$2,631.1	\$2,631.1	\$2,631.1	\$2,631.1	

APPENDIX B.2
TABLE 1

RUSSELL TOWNSHIP
INVENTORY OF CAPITAL ASSETS
PARKS & RECREATION
PARK FACILITIES

TRAILS Trail Name	Number of Kilometres (km)										UNIT COST (\$/km)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
New York Central Fitness Trail	7.20	7.20	7.20	7.20	7.20	8.30	8.60	8.60	8.60	8.60	\$35,000
Burton Park (agreement with SNCA)	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	\$35,000
Total (km)	9.2	9.2	9.2	9.2	9.2	10.3	10.6	10.6	10.6	10.6	
Total (\$000)	\$322.0	\$322.0	\$322.0	\$322.0	\$322.0	\$360.5	\$371.0	\$371.0	\$371.0	\$371.0	

PLAYGROUNDS Park Name	# of Facilities										UNIT COST (\$/unit)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Embrun Community											
Bourdeau Park	1	1	1	1	1	1	1	1	1	1	\$25,000
Pico Park	1	1	1	1	1	1	1	1	1	1	\$25,000
Mélanie Park	1	1	1	1	1	1	1	1	1	1	\$25,000
Omer Lamadeleine Park	1	1	1	1	1	1	1	1	1	1	\$25,000
Yahoo Park	1	1	1	1	1	1	1	1	1	1	\$60,000
Yahoo Park - Splashpad	1	1	1	1	1	1	1	1	1	1	\$250,000
Richelieu Park	1	1	1	1	1	1	1	1	1	1	\$60,000
Camelot	1	1	1	1	1	1	1	1	1	1	\$60,000
Russell Community											
Boyd Park	1	1	1	1	1	1	1	1	1	1	\$60,000
Hanover Woods Park	1	1	1	1	1	1	1	1	1	1	\$60,000
Russell Centennial Pool	1	1	1	1	1	1	1	1	1	1	\$25,000
Stanley Park	1	1	1	1	1	1	1	1	1	1	\$25,000
Stiver Park	1	1	1	1	1	1	1	1	1	1	\$60,000
Olde Towne West	1	1	1	1	1	1	1	1	1	1	\$60,000
Jonathan Pitre (Accessible)	-	-	-	-	-	-	-	-	-	1	\$150,000
Total (#)	14	14	14	14	14	14	14	14	14	15	
Total (\$000)	\$820.0	\$820.0	\$820.0	\$820.0	\$820.0	\$820.0	\$820.0	\$820.0	\$820.0	\$970.0	

APPENDIX B.2
TABLE 1

RUSSELL TOWNSHIP
INVENTORY OF CAPITAL ASSETS
PARKS & RECREATION
PARK FACILITIES

OTHER PARK FACILITIES Park Name	# of Units										UNIT COST (\$/unit)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Palais des Sports											
Lit Baseball Park - Joe Belisle	1	1	1	1	1	1	1	1	1	1	\$562,000
Lit Baseball Park - Lafortune	1	1	1	1	1	1	1	1	1	1	\$562,000
Skatepark	1	1	1	1	1	1	1	1	1	1	\$9,400
Tennis court	1	1	1	1	1	1	1	1	1	1	\$90,130
Outdoor Rink	1	1	1	1	1	1	1	1	1	1	\$46,318
Horseshoe Pit	1	1	1	1	1	1	1	1	1	1	\$16,391
Richelieu Park											
Lit Baseball Park	1	1	1	1	1	1	1	1	1	1	\$562,000
Keith Boyd											
Soccer Field (unlit)	1	1	1	1	1	1	1	1	1	1	\$150,000
Hanover Park											
Volleyball Court	1	1	1	1	1	1	1	1	1	1	\$5,000
Basketball Court	1	1	1	1	1	1	1	1	1	1	\$10,000
MacDougall Park											
Dry Stone Bridge	1	1	1	1	1	1	1	1	1	1	\$56,500
Russell Centennial Pool											
Pool	1	1	1	1	1	1	1	1	1	1	\$1,500,000
Russell Baseball Park											
Lit Baseball Park	2	2	2	2	2	2	2	2	2	2	\$562,000
Hockey Rink	1	1	1	1	1	1	1	1	1	1	\$10,000
Skatepark	1	1	1	1	1	1	1	1	1	1	\$129,162
Stanley Park											
Hockey Rink & Basketball Court	1	1	1	1	1	1	1	1	1	1	\$200,000
Séraphin-Marion Park											
Hockey Rink & Tennis court	1	1	1	1	1	1	1	1	1	1	\$200,000
Lit Baseball Field	1	1	1	1	1	1	1	1	1	1	\$562,000
Basketball Court	1	1	1	1	1	1	1	1	1	1	\$10,000
Russell Youth Center											
Tennis Court	1	1	1	1	1	1	1	1	1	1	\$50,000
Dog Park	-	-	1	1	1	1	1	1	1	1	\$140,000
Tennis Court	-	-	-	-	-	-	-	-	-	1	\$50,000
Basketball Court	-	-	-	-	-	-	-	-	-	1	\$10,000
Total (#)	21	21	22	24							
Total (\$000)	\$5,854.9	\$5,854.9	\$5,994.9	\$6,054.90							

APPENDIX B.2
TABLE 1

RUSSELL TOWNSHIP
INVENTORY OF CAPITAL ASSETS
PARKS & RECREATION
PARK FACILITIES

PARK BUILDINGS Description	# of Square Feet										UNIT COST (\$/sq.ft)	
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		
Palais des sports												
Yahoo - Convenience & Washrooms	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
Yahoo - Pavillion	2,058	2,058	2,058	2,058	2,058	2,058	2,058	2,058	2,058	2,058	2,058	\$15
Russell Centennial Pool												
Pool Building - change rooms	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	\$262
Stanley Park												
Gazebo	450	450	450	450	450	450	450	450	450	450	450	\$52
S�raphin-Marion Park												
Hockey Pump Shed	290	290	290	290	290	290	290	290	290	290	290	\$56
Building #1	880	880	880	880	880	880	880	880	880	880	880	\$101
Building #2	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	\$101
Gazebo	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	\$101
Total (sq.ft)	8,436	8,436	8,436	8,436	12,344							
Total (\$000)	\$775.7	\$775.7	\$775.7	\$775.7	\$1,152.5	\$1,152.5	\$1,152.5	\$1,152.5	\$1,152.5	\$1,152.5	\$1,152.50	

APPENDIX B.2

TABLE 1

RUSSELL TOWNSHIP
INVENTORY OF CAPITAL ASSETS
PARKS & RECREATION
PARK FACILITIES

PARKS EQUIPMENT	Total Value of Equipment (\$)									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Ice Resurfacers - Olympia	\$ 150,500	\$ 150,500	\$ 150,500	\$ 150,500	\$ 150,500	\$ 150,500	\$ 150,500	\$ 150,500	\$ 150,500	\$ 150,500
Ice Resurfacers - Zamboni	\$ 140,900	\$ 140,900	\$ 140,900	\$ 140,900	\$ 140,900	\$ 140,900	\$ 140,900	\$ 140,900	\$ 140,900	\$ 140,900
Tractor - John Deere 4200 Series	\$ 79,500	\$ 79,500	\$ 79,500	\$ 79,500	\$ 79,500	\$ 79,500	\$ 79,500	\$ 79,500	\$ 79,500	\$ 79,500
Kubota with Cab	\$ 28,700	\$ 28,700	\$ 28,700	\$ 28,700	\$ 28,700	\$ 28,700	\$ 28,700	\$ 28,700	\$ 28,700	\$ 28,700
Riding Mower - Cub Cadet Zero Turn	\$ 12,300	\$ 12,300	\$ 12,300	\$ 12,300	\$ 12,300	\$ 12,300	\$ 12,300	\$ 12,300	\$ -	\$ -
Mobile Generator - Honda 3000 Watts	\$ 5,400	\$ 5,400	\$ 5,400	\$ 5,400	\$ 5,400	\$ 5,400	\$ 5,400	\$ 5,400	\$ 5,400	\$ 5,400
Floor Scrubber - Hurricane 3000	\$ 21,300	\$ 21,300	\$ 21,300	\$ 21,300	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Floor Scrubber - Hurricane XTT510 (Rus Arena)	\$ -	\$ -	\$ -	\$ -	\$ 7,100	\$ 7,100	\$ 7,100	\$ 7,100	\$ 7,100	\$ 7,100
Floor Scrubber - Hurricane XTT510 (Marioville)	\$ -	\$ -	\$ -	\$ -	\$ 7,100	\$ 7,100	\$ 7,100	\$ 7,100	\$ 7,100	\$ 7,100
Floor Scrubber - Hurricane 450	\$ -	\$ -	\$ -	\$ -	\$ 7,100	\$ 7,100	\$ 7,100	\$ 7,100	\$ 7,100	\$ 7,100
Floor Scrubber - Hurricane XTT500	\$ -	\$ -	\$ -	\$ -	\$ 7,100	\$ 7,100	\$ 7,100	\$ 7,100	\$ 7,100	\$ 7,100
Trailer (J.D.J.)	\$ 8,200	\$ 8,200	\$ 8,200	\$ 8,200	\$ 8,200	\$ 8,200	\$ 8,200	\$ 8,200	\$ 8,200	\$ 8,200
POL-15 Polaris Ranger	\$ -	\$ -	\$ -	\$ 13,200	\$ 13,200	\$ 13,200	\$ 13,200	\$ 13,200	\$ 13,200	\$ 13,200
Tractor - John Deere 3033R (Sports Dome)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 50,224	\$ 50,224
Riding Mower - Cub Cadet	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,835	\$ 7,835
Snow Dog Trail Groomer	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,129	\$ 6,129
Defender HD8G (Side by side)	\$ -	\$ -	\$ -	\$ -	\$ 13,500	\$ 13,500	\$ 13,500	\$ 13,500	\$ 13,500	\$ 13,500
Total (\$000)	\$446.8	\$446.8	\$446.8	\$460.0	\$480.6	\$480.6	\$480.6	\$480.6	\$532.5	\$532.5

APPENDIX B.2
TABLE 1

RUSSELL TOWNSHIP
INVENTORY OF CAPITAL ASSETS
PARKS & RECREATION
PARK FACILITIES

FLEET Description	# of Fleet										UNIT COST (\$/unit)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Ford F150 XLT Pickup (51-05)	1	1	1	1	1	1	-	-	-	-	\$59,000
Dodge Ram 1500 Pickup (52-02)	1	1	1	1	-	-	-	-	-	-	\$33,700
21-16 Dodge Ram	-	-	-	-	-	-	1	1	1	1	\$27,000
28-08 Mitsubishi Fuso	-	-	-	-	-	-	1	1	1	1	\$63,000
56-12 Ford F150	-	-	-	-	-	1	1	1	1	1	\$48,000
2016 Dodge Caravan	-	-	-	-	-	-	-	-	-	1	\$36,000
Total (#)	2	2	2	2	1	2	3	3	3	4	
Total (\$000)	\$92.7	\$92.7	\$92.7	\$92.7	\$59.0	\$107.0	\$138.0	\$138.0	\$138.0	\$174.00	

APPENDIX B.2
TABLE 1

RUSSELL TOWNSHIP
CALCULATION OF SERVICE LEVELS
PARKS AND RECREATION

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Historic Population	15,493	15,743	15,998	16,257	16,520	17,003	17,622	18,538	19,605	20,320

INVENTORY SUMMARY (\$000)

Indoor Recreation	\$21,683.8	\$21,683.8	\$21,683.8	\$21,683.8	\$21,683.8	\$21,683.8	\$29,026.7	\$29,044.0	\$29,044.0	\$29,044.0
Park Facilities	\$9,755.6	\$9,755.6	\$9,898.6	\$9,914.8	\$11,460.1	\$11,546.6	\$11,588.1	\$11,588.1	\$11,640.0	\$11,886.0
Total (\$000)	\$31,439.4	\$31,439.4	\$31,582.4	\$31,598.6	\$33,143.9	\$33,230.4	\$40,614.8	\$40,632.1	\$40,684.0	\$40,930.0

SERVICE LEVEL (\$/capita)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Average Service Level
Indoor Recreation	\$1,399.59	\$1,377.36	\$1,355.41	\$1,333.81	\$1,312.58	\$1,275.27	\$1,647.23	\$1,566.77	\$1,481.43	\$1,429.36	\$1,417.88
Park Facilities	\$629.68	\$619.68	\$618.74	\$609.88	\$693.71	\$679.08	\$657.61	\$625.11	\$593.71	\$584.95	\$631.22
Total (\$/capita)	\$2,029.26	\$1,997.04	\$1,974.15	\$1,943.70	\$2,006.29	\$1,954.35	\$2,304.84	\$2,191.88	\$2,075.15	\$2,014.31	\$2,049.10

RUSSELL TOWNSHIP
CALCULATION OF MAXIMUM ALLOWABLE
PARKS AND RECREATION

10-Year Funding Envelope Calculation	
10 Year Average Service Level 2012 - 2021	\$2,049.10
Net Population 2022 - 2031	6,610
Maximum Allowable Funding Envelope	\$13,545,084

APPENDIX B.2
TABLE 2

RUSSELL TOWNSHIP
DEVELOPMENT-RELATED CAPITAL PROGRAM
PARKS & RECREATION

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Development Related Costs		
					BTE (%)	Replacement & BTE Shares		Available DC Reserves	2022-2031	Other Dev. Related*
2.0 PARKS & RECREATION										
2.1 Indoor Recreation Facilities										
2.1.1 Recreational Complex/Facility - Arena (3)	2023	\$ 35,000,000	\$ -	\$ 35,000,000	33%	\$ 11,666,550	\$ 23,333,450	\$ 5,639,126	\$ 4,860,927	\$ 12,833,398
2.1.2 Recreational Complex/Facility - Pool	2023	\$ 15,000,000	\$ -	\$ 15,000,000	0%	\$ -	\$ 15,000,000	\$ -	\$ 6,750,000	\$ 8,250,000
2.1.3 Storage Shed / Mini Garage (at Baseball Diamond)	2025	\$ 100,000	\$ -	\$ 100,000	0%	\$ -	\$ 100,000	\$ -	\$ -	\$ 100,000
2.1.4 Retrofit of Existing Arena	2027	\$ 1,000,000	\$ -	\$ 1,000,000	0%	\$ -	\$ 1,000,000	\$ -	\$ -	\$ 1,000,000
Subtotal Indoor Recreation Facilities		\$ 51,100,000	\$ -	\$ 51,100,000		\$ 11,666,550	\$ 39,433,450	\$ 5,639,126	\$ 11,610,927	\$ 22,183,398
2.2 Park Facilities & Trails										
2.2.1 Parks Development	2022	\$ 800,000	\$ -	\$ 800,000	0%	\$ -	\$ 800,000	\$ 800,000	\$ -	\$ -
2.2.2 Parks Development	2024	\$ 800,000	\$ -	\$ 800,000	0%	\$ -	\$ 800,000	\$ -	\$ 800,000	\$ -
2.2.3 Snow Hill	2024	\$ 200,000	\$ -	\$ 200,000	0%	\$ -	\$ 200,000	\$ -	\$ 200,000	\$ -
2.2.4 Soccer Field (Lit)	2025	\$ 225,000	\$ -	\$ 225,000	0%	\$ -	\$ 225,000	\$ -	\$ 225,000	\$ -
2.2.5 Baseball Diamonds (2 Lit)	2025	\$ 1,124,000	\$ -	\$ 1,124,000	0%	\$ -	\$ 1,124,000	\$ -	\$ 649,157	\$ 474,843
2.2.6 Bike Trail Expansion	Various	\$ 150,000	\$ -	\$ 150,000	0%	\$ -	\$ 150,000	\$ -	\$ -	\$ 150,000
2.2.7 Richelieu Park Expansion	Various	\$ 300,000	\$ -	\$ 300,000	0%	\$ -	\$ 300,000	\$ -	\$ -	\$ 300,000
Subtotal Park Facilities & Trails		\$ 3,599,000	\$ -	\$ 3,599,000		\$ -	\$ 3,599,000	\$ 800,000	\$ 1,874,157	\$ 924,843
2.3 Fleet & Equipment										
2.3.1 Truck	2022	\$ 40,000	\$ -	\$ 40,000	0%	\$ -	\$ 40,000	\$ 40,000	\$ -	\$ -
2.3.2 Tractor	2025	\$ 60,000	\$ -	\$ 60,000	0%	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
Subtotal Fleet & Equipment		\$ 100,000	\$ -	\$ 100,000		\$ -	\$ 100,000	\$ 40,000	\$ 60,000	\$ -
2.4 Studies										
2.4.1 Parks and Recreation Master Plan	2022	\$ 50,000	\$ -	\$ 50,000	50%	\$ 25,000	\$ 25,000	\$ 25,000	\$ -	\$ -
Subtotal Studies		\$ 50,000	\$ -	\$ 50,000		\$ 25,000	\$ 25,000	\$ 25,000	\$ -	\$ -
TOTAL PARKS & RECREATION		\$ 54,849,000	\$ -	\$ 54,849,000		\$ 11,691,550	\$ 43,157,450	\$ 6,504,126	\$ 13,545,084	\$ 23,108,240

*Development related costs to be considered for funding from other tools and/or future DC Studies.

Residential Development Charge Calculation		
Residential Share of 2022 - 2031 DC Eligible Costs	100%	\$13,545,084
10-Year Growth in Population in New Units		6,610
Unadjusted Development Charge Per Capita		\$2,049.18
Non-Residential Development Charge Calculation		
Non-Residential Share of 2022 - 2031 DC Eligible Costs	0%	\$0
10-Year Growth in Square Metres		85,151
Unadjusted Development Charge Per Square Metre		\$0.00

2022 - 2031 Net Funding Envelope	\$13,545,084
December 31, 2021 Reserve Funds	\$6,504,126

**APPENDIX B.2
TABLE 3**

**RUSSELL TOWNSHIP
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
PARKS & RECREATION
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)**

PARKS & RECREATION	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$6,504.13	\$7,579.48	(\$8,454.44)	(\$8,180.39)	(\$7,805.39)	(\$6,557.89)	(\$5,344.87)	(\$4,142.04)	(\$2,843.13)	(\$1,474.45)	
2022 - 2031 RESIDENTIAL FUNDING REQUIREMENTS											
- Prior Growth (Funding from DC Reserve Balance)	\$865.0	\$5,639.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$6,504.1
- Parks & Recreation: Non Inflated	\$0.0	\$11,610.9	\$1,000.0	\$934.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$13,545.1
- Parks & Recreation: Inflated	\$865.00	\$17,595.1	\$1,040.4	\$991.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$20,491.8
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	754	754	754	754	676	622	580	580	568	568	6,610
REVENUE											
- DC Receipts: Inflated	\$1,698.1	\$1,732.1	\$1,766.7	\$1,802.1	\$1,648.0	\$1,546.6	\$1,471.1	\$1,500.5	\$1,498.8	\$1,528.8	\$16,192.7
INTEREST											
- Interest on Opening Balance	\$227.6	\$265.3	(\$465.0)	(\$449.9)	(\$429.3)	(\$360.7)	(\$294.0)	(\$227.8)	(\$156.4)	(\$81.1)	(\$1,971.2)
- Interest on In-year Transactions	\$14.6	(\$436.2)	\$12.7	\$14.2	\$28.8	\$27.1	\$25.7	\$26.3	\$26.2	\$26.8	(\$233.9)
TOTAL REVENUE	\$1,940.4	\$1,561.1	\$1,314.4	\$1,366.3	\$1,247.5	\$1,213.0	\$1,202.8	\$1,298.9	\$1,368.7	\$1,474.5	\$13,987.7
CLOSING CASH BALANCE	\$7,579.5	(\$8,454.4)	(\$8,180.4)	(\$7,805.4)	(\$6,557.9)	(\$5,344.9)	(\$4,142.0)	(\$2,843.1)	(\$1,474.5)	\$0.0	

2022 Adjusted Charge Per Capita	\$2,252.16
----------------------------------------	-------------------

Allocation of Capital Program	
Residential Sector	100.0%
Non-Residential Sector	0.0%
Rates for 2022	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX B.3

DAY CARE

APPENDIX B.3 – DAY CARE

The Township offers preschool service, before and after school programs to children aged 0 to 12 years old with services offered in French only.

TABLE 1 HISTORICAL SERVICE LEVELS

Table 1 displays the ten-year historical inventory for buildings and land for Day Care services provided by the Township. The two facilities total 5,648 square feet and are valued at \$1.98 million. The Day Care buildings occupy 0.56 hectares of Township land, which is worth approximately \$141,200. Furniture and equipment add an additional \$55,000 to the total value of the inventory.

The 2021 combined replacement value of the inventory of capital assets for day care services is \$2.17 million, resulting in a ten-year historical average service level of \$88.88 per capita. This historical service level, multiplied by the ten-year net population growth (6,610), results in a maximum allowable funding envelope of \$587,500.

TABLE 2 2022 – 2031 DEVELOPMENT-RELATED CAPITAL PROGRAM & CALCULATION OF THE “UNADJUSTED” DEVELOPMENT CHARGES

The development-related capital program for Day Care totals \$532,900 and includes a provision for additional day care space. No benefit-to-existing or replacement share have been identified. No grants, subsidies and other recoveries are assumed.

The Township does not have a DC reserve for Day Care and therefore, the entire \$532,900 will be recovered through development charges in the 2022 to 2031 period.

The development-related net capital cost is allocated entirely to residential development and, when divided by the ten-year growth in population in new dwelling units (6,610), a charge of \$80.62 per capita results.

TABLE 3 CASH FLOW ANALYSIS

After cash flow considerations, the residential calculated charge decreases slightly to \$80.27 per capita. This is a reflection of the timing of the capital program and development charges revenues.

The following table summarizes the calculation of the Day Care development charge.

DAY CARE SUMMARY						
10-year Hist.	2022 - 2031		Unadjusted		Adjusted	
Service Level	Development-Related Capital Program		Development Charge		Development Charge	
per capita	Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m
\$88.88	\$532,900	\$532,900	\$80.62	\$0.00	\$80.27	\$0.00

APPENDIX B.3
TABLE 1

RUSSELL TOWNSHIP
INVENTORY OF CAPITAL ASSETS
DAY CARE

BUILDINGS Facility Name	# of Square Feet										UNIT COST (\$/sq. ft.)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Preschool	-	-	-	-	-	1,421	1,421	1,421	1,421	1,421	\$350
Before & After School	-	-	4,227	4,227	4,227	4,227	4,227	4,227	4,227	4,227	\$350
Total (sq.ft.)	-	-	4,227	4,227	4,227	5,648	5,648	5,648	5,648	5,648	
Total (\$000)	\$0.0	\$0.0	\$1,479.5	\$1,479.5	\$1,479.5	\$1,976.8	\$1,976.8	\$1,976.8	\$1,976.8	\$1,976.8	

LAND Facility Name	# of Hectares										UNIT COST (\$/ha)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Preschool	-	-	-	-	-	0.14	0.14	0.14	0.14	0.14	\$250,000
Before & After School	-	-	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	\$250,000
Total (ha)	-	-	0.42	0.42	0.42	0.56	0.56	0.56	0.56	0.56	
Total (\$000)	\$0.0	\$0.0	\$105.7	\$105.7	\$105.7	\$141.2	\$141.2	\$141.2	\$141.2	\$141.2	

FURNITURE & EQUIPMENT Facility Name	Total Value of Furniture & Equipment (\$)									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total furniture and equipment	\$0	\$0	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
Vehicle - Van	\$0	\$0	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000
Total (\$000)	\$0.0	\$0.0	\$55.0							

**APPENDIX B.3
TABLE 1**

**RUSSELL TOWNSHIP
CALCULATION OF SERVICE LEVELS
DAY CARE**

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Historic Population	15,493	15,743	15,998	16,257	16,520	17,003	17,622	18,538	19,605	20,320

INVENTORY SUMMARY (\$000)

Buildings	\$0.0	\$0.0	\$1,479.5	\$1,479.5	\$1,479.5	\$1,976.8	\$1,976.8	\$1,976.8	\$1,976.8	\$1,976.8
Land	\$0.0	\$0.0	\$105.7	\$105.7	\$105.7	\$141.2	\$141.2	\$141.2	\$141.2	\$141.2
Furniture & Equipment	\$0.0	\$0.0	\$55.0	\$55.0	\$55.0	\$55.0	\$55.0	\$55.0	\$55.0	\$55.0
Total (\$000)	\$0.0	\$0.0	\$1,640.1	\$1,640.1	\$1,640.1	\$2,173.0	\$2,173.0	\$2,173.0	\$2,173.0	\$2,173.0

SERVICE LEVEL (\$/capita)

											Average Service Level
Buildings	\$0.00	\$0.00	\$92.48	\$91.00	\$89.56	\$116.26	\$112.18	\$106.64	\$100.83	\$97.29	\$80.62
Land	\$0.00	\$0.00	\$6.61	\$6.50	\$6.40	\$8.30	\$8.01	\$7.62	\$7.20	\$6.95	\$5.76
Furniture & Equipment	\$0.00	\$0.00	\$3.44	\$3.38	\$3.33	\$3.23	\$3.12	\$2.97	\$2.81	\$2.71	\$2.50
Total (\$/capita)	\$0.00	\$0.00	\$102.52	\$100.89	\$99.28	\$127.80	\$123.32	\$117.22	\$110.84	\$106.94	\$88.88

**RUSSELL TOWNSHIP
CALCULATION OF MAXIMUM ALLOWABLE
DAY CARE**

10-Year Funding Envelope Calculation	
10 Year Average Service Level 2012 - 2021	\$88.88
Net Population Growth 2022 - 2031	6,610
Maximum Allowable Funding Envelope	\$587,520



APPENDIX B.3
TABLE 2

RUSSELL TOWNSHIP
DEVELOPMENT-RELATED CAPITAL PROGRAM
DAY CARE

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Development Related Costs		
					BTE (%)	Replacement & BTE Shares		Available DC Reserves	2022-2031	Other Dev. Related*
3.0 DAY CARE										
3.1 Buildings, Land & Furnishings										
3.1.1 Provision for Addtl Day Care Space	Various	\$ 532,900	\$ -	\$ 532,900	0%	\$ -	\$ 532,900	\$ -	\$ 532,900	\$ -
TOTAL DAY CARE		\$ 532,900	\$ -	\$ 532,900		\$ -	\$ 532,900	\$ -	\$ 532,900	\$ -

*Development related costs to be considered for funding from other tools and/or future DC Studies.

Residential Development Charge Calculation		
Residential Share of 2022 - 2031 DC Eligible Costs	100%	\$532,900
10-Year Growth in Population in New Units		6,610
Unadjusted Development Charge Per Capita		\$80.62
Non-Residential Development Charge Calculation		
Non-Residential Share of 2022 - 2031 DC Eligible Costs	0%	\$0
10-Year Growth in Square Metres		85,151
Unadjusted Development Charge Per Square Metre		\$0.00

2022 - 2031 Net Funding Envelope	\$587,520
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APPENDIX B.3
TABLE 3

RUSSELL TOWNSHIP
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
DAY CARE
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

DAY CARE	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$0.00	\$7.36	\$15.13	\$23.32	\$31.95	\$34.15	\$31.53	\$24.84	\$17.77	\$9.13	
2022 - 2031 RESIDENTIAL FUNDING REQUIREMENTS											
- Day Care: Non Inflated	\$53.3	\$53.3	\$53.3	\$53.3	\$53.3	\$53.3	\$53.3	\$53.3	\$53.3	\$53.3	\$532.9
- Day Care: Inflated	\$53.29	\$54.4	\$55.4	\$56.6	\$57.7	\$58.8	\$60.0	\$61.2	\$62.4	\$63.7	\$583.5
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	754	754	754	754	676	622	580	580	568	568	6,610
REVENUE											
- DC Receipts: Inflated	\$60.5	\$61.7	\$63.0	\$64.2	\$58.7	\$55.1	\$52.4	\$53.5	\$53.4	\$54.5	\$577.2
INTEREST											
- Interest on Opening Balance	\$0.0	\$0.3	\$0.5	\$0.8	\$1.1	\$1.2	\$1.1	\$0.9	\$0.6	\$0.3	\$6.8
- Interest on In-year Transactions	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	(\$0.1)	(\$0.2)	(\$0.2)	(\$0.2)	(\$0.3)	(\$0.5)
TOTAL REVENUE	\$60.7	\$62.1	\$63.6	\$65.2	\$59.9	\$56.2	\$53.3	\$54.1	\$53.8	\$54.6	\$583.5
CLOSING CASH BALANCE	\$7.4	\$15.1	\$23.3	\$32.0	\$34.1	\$31.5	\$24.8	\$17.8	\$9.1	\$0.0	

2022 Adjusted Charge Per Capita	\$80.27
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Allocation of Capital Program	
Residential Sector	100.0%
Non-Residential Sector	0.0%
Rates for 2022	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX B.4

FIRE PROTECTION SERVICES

APPENDIX B.4 – FIRE PROTECTION SERVICES

The Russell Fire Department is responsible for the provision of fire prevention and suppression, inspections, public education, and emergency response services. The department operates out of two stations throughout the Township.

TABLE 1 HISTORICAL SERVICE LEVELS

Table 1 displays the ten-year historical inventory for buildings, land, vehicles, furniture and equipment for the Fire Department. The department operates out of two fire stations, the Russell Fire Station and the New Embrun Fire Station that replaced the previous station in 2014. The buildings total 16,939 square feet and has a replacement value of \$5.51 million. The land associated with all facilities totals 2.18 hectares and is valued at \$422,400. The furniture and equipment included in the inventory, which incorporates personal protective equipment, office equipment, and station equipment at both stations, total \$973,400. Finally, the 2021 Fire Department fleet totals 13 vehicles with a replacement value of \$7.14 million.

The 2021 combined replacement value of the inventory of capital assets for the Fire Department is \$14.04 million, resulting in a ten-year historical average service level of \$583.93 per population and employment. The historical service level, multiplied by the net population and employment growth to 2031 (7,556), results in a maximum allowable funding envelope of \$4.41 million.

TABLE 2 2022 – 2031 DEVELOPMENT-RELATED CAPITAL PROGRAM & CALCULATION OF THE “UNADJUSTED” DEVELOPMENT CHARGES

The 2022 to 2031 development-related capital program includes the training room expansion, vehicles, equipment and studies, and additional firefighters.

In total, the Fire Department capital program amounts to \$906,900. There is no benefit-to-existing, replacement shares, or no post-period shares identified. A portion of the program, \$18,596, will be funded through the Township’s Fire Services DC reserve and are considered as prior growth. This results in \$888,300 being related to development in the 2022–2031 planning period and is eligible for DC recovery.

The development-related net capital cost is allocated 87 per cent to residential development (\$772,800) and 13 per cent (\$115,500) to non-residential development. The residential share of the net development-related capital cost is divided by the growth in population in new dwelling units to 2031 (6,610) to derive an unadjusted charge of \$116.92 per capita. The non-residential share of the net development-related capital cost is divided by the forecast growth in floor space to 2031 (85,151), resulting in an unadjusted charge of \$1.36 per square metre.

TABLE 3 CASH FLOW ANALYSIS

After cash flow consideration, both the residential and non-residential calculated charges decrease to \$114.89 per capita and \$1.32 per square metre, respectively.

The following table summarizes the calculation of the Fire Protection development charge.

FIRE PROTECTION SERVICES SUMMARY						
10-year Hist.	2022 - 2031		Unadjusted		Adjusted	
Service Level per pop & emp	Development-Related Capital Program		Development Charge		Development Charge	
	Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m
\$583.93	\$906,900	\$888,304	\$116.92	\$1.36	\$114.89	\$1.32

APPENDIX B.4
TABLE 1

RUSSELL TOWNSHIP
INVENTORY OF CAPITAL ASSETS
FIRE PROTECTION SERVICES

BUILDINGS Station Name	# of Square Feet										UNIT COST (\$/sq. ft.)	
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		
Russell Fire Station	8,679	8,679	8,679	8,679	8,679	8,679	8,679	8,679	8,679	8,679	8,679	\$325
Old Embrun Fire Station	5,369	5,369	-	-	-	-	-	-	-	-	-	\$325
New Embrun Fire Station	-	-	8,260	8,260	8,260	8,260	8,260	8,260	8,260	8,260	8,260	\$325
Total (sq.ft.)	14,048	14,048	16,939									
Total (\$000)	\$4,565.6	\$4,565.6	\$5,505.2									

LAND Station Name	# of Hectares										UNIT COST (\$/ha)	
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		
Russell Fire Station	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	\$250,000
Old Embrun Fire Station	0.17	0.17	-	-	-	-	-	-	-	-	-	\$47,724
New Embrun Fire Station	-	-	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	\$34,851
Total (ha)	1.78	1.78	2.18									
Total (\$000)	\$410.6	\$410.6	\$422.4									

APPENDIX B.4
TABLE 1

RUSSELL TOWNSHIP
INVENTORY OF CAPITAL ASSETS
FIRE PROTECTION SERVICES

FURNITURE & EQUIPMENT AT STATION Station Name	Total # of Units										UNIT COST (\$/unit)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Russell Fire Station											
Bunker gear	26	26	26	26	27	27	27	27	27	27	\$2,600
Generator for Building	1	1	1	1	1	1	1	1	1	1	\$65,000
Jaws of life	1	1	1	1	1	1	1	1	1	1	\$40,000
Live Fire Training Equipment	-	-	-	-	-	-	-	-	-	1	\$45,000
Thermal Imaging Camera	1	1	1	1	1	1	1	3	3	3	\$4,000
Carbon Air Bottles	35	35	35	35	35	35	35	35	35	35	\$1,290
Breathing Apparatus	10	10	10	12	12	12	12	12	12	12	\$7,995
Breathing Apparatus Mask	26	26	26	26	26	26	26	26	26	26	\$410
Rit-Pak complete with bottle	1	1	1	1	1	1	1	1	1	1	\$5,800
Cascade Fill Station	1	1	1	1	1	1	1	1	1	1	\$60,400
Embrun Fire Station											
Bunker gear	26	26	26	26	26	26	26	26	26	26	\$2,600
Generator for Building	1	1	1	1	1	1	1	1	1	1	\$65,000
Jaws of life	1	1	1	1	1	1	1	2	2	2	\$42,500
Thermal Imaging Camera	1	1	1	1	1	1	1	3	3	3	\$4,000
Carbon Air Bottles	1	1	1	1	49	49	49	49	49	49	\$1,295
Breathing Apparatus	18	18	18	18	18	18	18	18	18	18	\$410
Breathing Apparatus mask	26	26	26	26	26	26	26	26	26	26	\$5,800
RIT-PAK complete with bottle	2	2	2	2	2	2	2	2	2	2	\$5,800
Cascade filter system	1	1	1	1	1	-	-	1	1	1	\$60,400
Total (#)	179	179	179	181	230	229	229	235	236	236	
Total (\$000)	\$789.1	\$789.1	\$789.1	\$805.1	\$869.9	\$809.5	\$809.5	\$928.4	\$973.4	\$973.4	

APPENDIX B.4
TABLE 1

RUSSELL TOWNSHIP
INVENTORY OF CAPITAL ASSETS
FIRE PROTECTION SERVICES

VEHICLES Vehicle Type	# of Vehicles										UNIT COST (\$/vehicle)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Russell Fire Station											
80-95 Pumper	1	1	1	1	1	1	1	1	1	1	\$900,000
82-99 Heavy Rescue	1	1	1	1	1	1	1	1	1	1	\$475,000
83-00 Tanker	1	1	1	1	1	1	1	1	1	-	\$450,000
81-07 Light Rescue	1	1	1	1	1	1	1	1	1	1	\$350,000
80-01 Fire Safety Trailer	1	1	1	1	1	1	1	1	1	1	\$130,000
84-16 Pumper	-	-	-	-	1	1	1	1	1	1	\$650,000
2021 Tanker (replacement of 83-00)	-	-	-	-	-	-	-	-	-	1	\$450,000
Embrun Fire Station											
72-95 Cubic Van	2	1	1	1	1	1	1	1	1	1	\$300,000
73-00 Tanker	1	1	1	1	1	1	1	1	1	1	\$450,000
74-04 Light Rescue	1	1	1	1	1	1	1	1	1	1	\$198,000
98-11 Pumper	1	1	1	1	1	1	1	1	1	1	\$900,000
75-03 Ladder Truck	-	-	-	-	-	1	1	1	1	1	\$1,880,000
New Rescue	-	-	-	-	-	-	-	-	-	1	\$428,000
Argo V89 ATV	-	-	-	-	-	-	1	1	1	1	\$30,000
Total (#)	10	9	9	9	10	11	12	12	12	13	
Total (\$000)	\$4,453.0	\$4,153.0	\$4,153.0	\$4,153.0	\$4,803.0	\$6,683.0	\$6,713.0	\$6,713.0	\$6,713.0	\$7,141.0	

**APPENDIX B.4
TABLE 1**

**RUSSELL TOWNSHIP
INVENTORY OF CAPITAL ASSETS
FIRE PROTECTION SERVICES**

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Historical Population	15,493	15,743	15,998	16,257	16,520	17,003	17,622	18,538	19,605	20,320
Historical Employment	<u>2,735</u>	<u>2,897</u>	<u>3,068</u>	<u>3,249</u>	<u>3,441</u>	<u>3,542</u>	<u>3,671</u>	<u>3,861</u>	<u>4,084</u>	<u>4,233</u>
Total Historical Population & Employment	18,228	18,640	19,066	19,506	19,961	20,545	21,292	22,399	23,689	24,552

INVENTORY SUMMARY (\$000)

Buildings	\$4,565.6	\$4,565.6	\$5,505.2	\$5,505.2	\$5,505.2	\$5,505.2	\$5,505.2	\$5,505.2	\$5,505.2	\$5,505.2
Land	\$410.6	\$410.6	\$422.4	\$422.4	\$422.4	\$422.4	\$422.4	\$422.4	\$422.4	\$422.4
Furniture & Equipment At Station	\$789.1	\$789.1	\$789.1	\$805.1	\$869.9	\$809.5	\$809.5	\$928.4	\$973.4	\$973.4
Vehicles	\$4,453.0	\$4,153.0	\$4,153.0	\$4,153.0	\$4,803.0	\$6,683.0	\$6,713.0	\$6,713.0	\$6,713.0	\$7,141.0
Total (\$000)	\$10,218.3	\$9,918.3	\$10,869.7	\$10,885.7	\$11,600.4	\$13,420.0	\$13,450.0	\$13,568.9	\$13,613.9	\$14,041.9

SERVICE LEVEL (\$/pop & emp)

											Average Service Level
Buildings	\$250.5	\$244.94	\$288.74	\$282.23	\$275.79	\$267.95	\$258.55	\$245.78	\$232.39	\$224.22	\$257.11
Land	\$22.53	\$22.03	\$22.15	\$21.65	\$21.16	\$20.56	\$19.84	\$18.86	\$17.83	\$17.20	\$20.38
Furniture & Equipment At Station	\$43.29	\$42.34	\$41.39	\$41.28	\$43.58	\$39.40	\$38.02	\$41.45	\$41.09	\$39.65	\$41.15
Vehicles	\$244.29	\$222.80	\$217.82	\$212.91	\$240.62	\$325.28	\$315.28	\$299.70	\$283.38	\$290.85	\$265.29
Total (\$/pop & emp)	\$560.59	\$532.10	\$570.11	\$558.07	\$581.15	\$653.20	\$631.69	\$605.78	\$574.69	\$571.92	\$583.93

**RUSSELL TOWNSHIP
CALCULATION OF MAXIMUM ALLOWABLE
FIRE PROTECTION SERVICES**

10-Year Funding Envelope Calculation	
10 Year Average Service Level 2012 - 2021	\$583.93
Net Population & Employment Growth 2022 - 2031	7,556
Maximum Allowable Funding Envelope	\$4,412,367



APPENDIX B.4

TABLE 2

RUSSELL TOWNSHIP
DEVELOPMENT-RELATED CAPITAL PROGRAM
FIRE PROTECTION SERVICES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Development Related Costs		
					BTE (%)	Replacement & BTE Shares		Available DC Reserves	2022-2031	Other Dev. Related*
4.0 FIRE PROTECTION SERVICES										
4.1 Buildings, Land & Furnishings										
4.1.1 Training Room Expansion (approx. 500 sq.ft)	2025	\$ 150,000	\$ -	\$ 150,000	0%	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
Subtotal Buildings, Land & Furnishings		\$ 150,000	\$ -	\$ 150,000		\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
4.2 Vehicles										
4.2.1 Truck	2024	\$ 60,000	\$ -	\$ 60,000	0%	\$ -	\$ 60,000	\$ 18,596	\$ 41,404	\$ -
4.2.2 Additional Vehicle	2025	\$ 40,000	\$ -	\$ 40,000	0%	\$ -	\$ 40,000	\$ -	\$ 40,000	\$ -
4.2.3 Tanker (conditional on the 417 Industrial Park remaining unserved)	2030	\$ 450,000	\$ -	\$ 450,000	0%	\$ -	\$ 450,000	\$ -	\$ 450,000	\$ -
4.2.4 Additional Vehicle (Van)	2025	\$ 50,000	\$ -	\$ 50,000	0%	\$ -	\$ 50,000	\$ -	\$ 50,000	\$ -
4.2.5 Additional Vehicle (Van)	2027	\$ 50,000	\$ -	\$ 50,000	0%	\$ -	\$ 50,000	\$ -	\$ 50,000	\$ -
Subtotal Vehicles		\$ 650,000	\$ -	\$ 650,000		\$ -	\$ 650,000	\$ 18,596	\$ 631,404	\$ -
4.3 Equipment & Studies										
4.3.1 Fire Master Plan Update	2027	\$ 50,000	\$ -	\$ 50,000	0%	\$ -	\$ 50,000	\$ -	\$ 50,000	\$ -
4.3.2 Design Study for Additional Spaces	2028	\$ 30,000	\$ -	\$ 30,000	0%	\$ -	\$ 30,000	\$ -	\$ 30,000	\$ -
Subtotal Equipment & Studies		\$ 80,000	\$ -	\$ 80,000		\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.4 Firefighters										
4.4.1 4 Additional Firefighters	2023	\$ 15,200	\$ -	\$ 15,200	0%	\$ -	\$ 15,200	\$ -	\$ 15,200	\$ -
4.4.2 Outfitting Fire Chief	2024	\$ 4,100	\$ -	\$ 4,100	0%	\$ -	\$ 4,100	\$ -	\$ 4,100	\$ -
4.4.3 Additional Prevention Officer	2025	\$ 3,800	\$ -	\$ 3,800	0%	\$ -	\$ 3,800	\$ -	\$ 3,800	\$ -
4.4.4 Additional Prevention Officer	2027	\$ 3,800	\$ -	\$ 3,800	0%	\$ -	\$ 3,800	\$ -	\$ 3,800	\$ -
Subtotal Firefighters		\$ 26,900	\$ -	\$ 26,900		\$ -	\$ 26,900	\$ -	\$ 26,900	\$ -
TOTAL FIRE PROTECTION SERVICES		\$ 906,900	\$ -	\$ 906,900		\$ -	\$ 906,900	\$ 18,596	\$ 888,304	\$ -

*Development related costs to be considered for funding from other tools and/or future DC Studies.

Residential Development Charge Calculation		
Residential Share of 2022 - 2031 DC Eligible Costs	87%	\$772,824
10-Year Growth in Population in New Units		6,610
Unadjusted Development Charge Per Capita		\$116.92
Non-Residential Development Charge Calculation		
Non-Residential Share of 2022 - 2031 DC Eligible Costs	13%	\$115,480
10-Year Growth in Square Metres		85,151
Unadjusted Development Charge Per Square Metre		\$1.36

2022 - 2031 Net Funding Envelope	\$4,412,367
December 31, 2021 Reserve Funds	\$18,596



APPENDIX B.4
TABLE 3

RUSSELL TOWNSHIP
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
FIRE PROTECTION SERVICES
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

FIRE PROTECTION SERVICES	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$16.2	\$104.9	\$184.7	\$223.9	\$94.9	\$183.8	\$168.8	\$221.2	\$306.8	(\$75.2)	
2022 - 2031 RESIDENTIAL FUNDING REQUIREMENTS											
- Prior Growth (Funding from DC Reserve Balance)	\$0.0	\$0.0	\$16.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$16.2
- Fire Protection Services: Non Inflated	\$0.0	\$13.2	\$39.6	\$212.1	\$0.0	\$90.3	\$26.1	\$0.0	\$391.5	\$0.0	\$772.8
- Fire Protection Services: Inflated	\$0.0	\$13.5	\$58.0	\$225.1	\$0.0	\$99.7	\$29.4	\$0.0	\$458.7	\$0.0	\$884.4
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	754	754	754	754	676	622	580	580	568	568	6,610
REVENUE											
- DC Receipts: Inflated	\$86.6	\$88.4	\$90.1	\$91.9	\$84.1	\$78.9	\$75.0	\$76.5	\$76.5	\$78.0	\$826.1
INTEREST											
- Interest on Opening Balance	\$0.6	\$3.7	\$6.5	\$7.8	\$3.3	\$6.4	\$5.9	\$7.7	\$10.7	(\$4.1)	\$48.5
- Interest on In-year Transactions	\$1.5	\$1.3	\$0.6	(\$3.7)	\$1.5	(\$0.6)	\$0.8	\$1.3	(\$10.5)	\$1.4	(\$6.4)
TOTAL REVENUE	\$88.7	\$93.3	\$97.2	\$96.1	\$88.9	\$84.8	\$81.8	\$85.6	\$76.7	\$75.2	\$868.2
CLOSING CASH BALANCE	\$104.9	\$184.7	\$223.9	\$94.9	\$183.8	\$168.8	\$221.2	\$306.8	(\$75.2)	\$0.0	

2022 Adjusted Charge Per Capita	\$114.89
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Allocation of Capital Program	
Residential Sector	87.0%
Non-Residential Sector	13.0%
Rates for 2022	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX B.4
TABLE 3

RUSSELL TOWNSHIP
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
FIRE PROTECTION SERVICES
NON-RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

FIRE PROTECTION SERVICES	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$2.42	\$18.95	\$34.16	\$43.27	\$27.27	\$39.65	\$37.99	\$45.87	\$54.97	(\$6.62)	
2022 - 2031 NON-RESIDENTIAL FUNDING REQUIREMENTS											
-Prior Growth (Funding form DC Reserve Balance)	\$0.0	\$0.0	\$2.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$2.4
- Fire Protection Services: Non Inflated	\$0.0	\$2.0	\$5.9	\$31.7	\$0.0	\$13.5	\$3.9	\$0.0	\$58.5	\$0.0	\$115.5
- Fire Protection Services: Inflated	\$0.0	\$2.0	\$8.7	\$33.6	\$0.0	\$14.9	\$4.4	\$0.0	\$68.5	\$0.0	\$132.2
NEW NON-RESIDENTIAL DEVELOPMENT											
- Growth in Square Metres	12,259	12,123	11,988	11,852	7,868	8,198	7,293	4,859	4,356	4,356	85,151
REVENUE											
- DC Receipts: Inflated	\$16.2	\$16.3	\$16.4	\$16.6	\$11.2	\$11.9	\$10.8	\$7.4	\$6.7	\$6.9	\$120.5
INTEREST											
- Interest on Opening Balance	\$0.1	\$0.7	\$1.2	\$1.5	\$1.0	\$1.4	\$1.3	\$1.6	\$1.9	(\$0.4)	\$10.3
- Interest on In-year Transactions	\$0.3	\$0.3	\$0.1	(\$0.5)	\$0.2	(\$0.1)	\$0.1	\$0.1	(\$1.7)	\$0.1	(\$1.0)
TOTAL REVENUE	\$16.5	\$17.2	\$17.8	\$17.6	\$12.4	\$13.2	\$12.3	\$9.1	\$7.0	\$6.6	\$129.7
CLOSING CASH BALANCE	\$19.0	\$34.2	\$43.3	\$27.3	\$39.6	\$38.0	\$45.9	\$55.0	(\$6.6)	\$0.0	

2022 Adjusted Charge Per Square Metre	\$1.32
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Allocation of Capital Program	
Residential Sector	87.0%
Non-Residential Sector	13.0%
Rates for 2022	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX B.5

POLICE SERVICES

APPENDIX B.5 – POLICE SERVICES

Police Services in Russell are provided by the Ontario Provincial Police (OPP), as per a service arrangement.

TABLE 1 HISTORICAL SERVICE LEVELS

Table 1 displays the ten-year historical inventory for the capital component of the service agreement, valued at \$123,000. The 2021 replacement value of the inventory of capital assets for Police Services is \$123,000, resulting in a ten-year historical average service level of \$5.97 per population and employment. The historical service level, multiplied by the net population and employment growth to 2031 (7,556), results in a ten-year maximum allowable funding envelope of \$45,111.

TABLE 2 2022 – 2031 DEVELOPMENT-RELATED CAPITAL PROGRAM AND CALCULATION OF THE “UNADJUSTED” DEVELOPMENT CHARGES

The 2022 to 2031 development-related capital program includes additional capital equipment based on the service agreement. In total, the capital program amounts to \$1.23 million. No non-growth shares relating to replacement and benefit to the existing community have been identified.

Given that \$1.13 million is the amount by which the DC eligible costs exceed the maximum allowable funding envelope, this amount is deemed to provide benefit to development beyond 2031. This share may be eligible for funding under subsequent development charge studies. Approximately \$53,800 of the program will be funded by the Police Services DC reserve. The remaining \$45,100 is related to development in the 2022–2031 planning period and is eligible for DC recovery.

The development-related net capital cost is allocated 87 per cent to residential development (\$39,247) and 13 per cent (\$5,864) to non-residential development. The residential share of the net development-related capital cost is divided by the growth in population in new dwelling units (6,610) to derive an unadjusted charge of \$5.94 per capita. The non-residential share of the net development-related capital cost is divided by the forecast growth in floor space (85,151), resulting in an unadjusted charge of \$0.07 per square metre.

TABLE 3 CASH FLOW ANALYSIS

After cash flow consideration, the residential calculated charge decreases slightly to \$5.38 per capita and the non-residential calculated charge also decreases to \$0.06 per square metre. The cash flow accounts for the reserve fund balance for Police Services.

The following table summarizes the calculation of the Police Services development charge.

POLICE SERVICES SUMMARY						
10-year Hist.	2022 - 2031		Unadjusted		Adjusted	
Service Level	Development-Related Capital Program		Development Charge		Development Charge	
per pop & emp	Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m
\$5.97	\$1,230,241	\$45,111	\$5.94	\$0.07	\$5.38	\$0.06

APPENDIX B.5
TABLE 1

RUSSELL TOWNSHIP
INVENTORY OF CAPITAL ASSETS
POLICE SERVICES

EQUIPMENT AND GEAR Description	Total # of Units										UNIT COST (\$/unit)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Police Services Agreement (capital)	1	1	1	1	1	1	1	1	1	1	\$123,024
Total (#)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Total (\$000)	\$123.0	\$123.0	\$123.0	\$123.0	\$123.0	\$123.0	\$123.0	\$123.0	\$123.0	\$123.0	\$123.0

**APPENDIX B.5
TABLE 1**

**RUSSELL TOWNSHIP
CALCULATION OF SERVICE LEVELS
POLICE SERVICES**

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Historical Population	15,493	15,743	15,998	16,257	16,520	17,003	17,622	18,538	19,605	20,320
Historical Employment	<u>2,735</u>	<u>2,897</u>	<u>3,068</u>	<u>3,249</u>	<u>3,441</u>	<u>3,542</u>	<u>3,671</u>	<u>3,861</u>	<u>4,084</u>	<u>4,233</u>
Total Historical Population & Employment	18,228	18,640	19,066	19,506	19,961	20,545	21,292	22,399	23,689	24,552

INVENTORY SUMMARY (\$000)

Equipment And Gear	\$123.0	\$123.0	\$123.0	\$123.0	\$123.0	\$123.0	\$123.0	\$123.0	\$123.0	\$123.0
Total (\$000)	\$123.0									

SERVICE LEVEL (\$/pop & emp)

											Average Service Level
Equipment And Gear	\$6.75	\$6.60	\$6.45	\$6.31	\$6.16	\$5.99	\$5.78	\$5.49	\$5.19	\$5.01	\$5.97
Total (\$/pop & emp)	\$6.75	\$6.60	\$6.45	\$6.31	\$6.16	\$5.99	\$5.78	\$5.49	\$5.19	\$5.01	\$5.97

**RUSSELL TOWNSHIP
CALCULATION OF MAXIMUM ALLOWABLE
POLICE SERVICES**

10-Year Funding Envelope Calculation	
10 Year Average Service Level 2012 - 2021	\$5.97
Net Population & Employment Growth 2022 - 2031	7,556
Maximum Allowable Funding Envelope	\$45,111

APPENDIX B.5
TABLE 2

RUSSELL TOWNSHIP
DEVELOPMENT-RELATED CAPITAL PROGRAM
POLICE SERVICES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Development Related Costs		
					BTE (%)	Replacement & BTE Shares		Available DC Reserves	2022-2031	Other Dev. Related*
5.0 POLICE SERVICES										
5.1 Buildings, Land and Furnishings										
5.1.1 Additional Capital Equipment (based on agreement)	Various	\$ 1,230,241	\$ -	\$ 1,230,241	0%	\$ -	\$ 1,230,241	\$ 53,842	\$ 45,111	\$ 1,131,288
TOTAL POLICE SERVICES		\$ 1,230,241	\$ -	\$ 1,230,241		\$ -	\$ 1,230,241	\$ 53,842	\$ 45,111	\$ 1,131,288

*Development related costs to be considered for funding from other tools and/or future DC Studies.

Residential Development Charge Calculation		
Residential Share of 2022 - 2031 DC Eligible Costs	87%	\$39,247
10-Year Growth in Population in New Units		6,610
Unadjusted Development Charge Per Capita		\$5.94
Non-Residential Development Charge Calculation		
Non-Residential Share of 2022 - 2031 DC Eligible Costs	13%	\$5,864
10-Year Growth in Square Metres		85,151
Unadjusted Development Charge Per Square Metre		\$0.07

2022 - 2031 Net Funding Envelope	\$45,111
December 31, 2021 Reserve Funds	\$53,842

APPENDIX B.5
TABLE 3

RUSSELL TOWNSHIP
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
POLICE SERVICES
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

POLICE SERVICES	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$46.84	\$43.81	\$40.57	\$37.12	\$33.46	\$29.10	\$24.15	\$18.65	\$12.82	\$6.59	
2022 - 2031 RESIDENTIAL FUNDING REQUIREMENTS											
- Prior Growth (Funding form DC Reserve Balance)	\$4.7	\$4.7	\$4.7	\$4.7	\$4.7	\$4.7	\$4.7	\$4.7	\$4.7	\$4.7	\$46.8
- Police Services: Non Inflated	\$3.9	\$3.9	\$3.9	\$3.9	\$3.9	\$3.9	\$3.9	\$3.9	\$3.9	\$3.9	\$39.2
- Police Services: Inflated	\$8.6	\$8.8	\$9.0	\$9.1	\$9.3	\$9.5	\$9.7	\$9.9	\$10.1	\$10.3	\$94.3
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	754	754	754	754	676	622	580	580	568	568	6,610
REVENUE											
- DC Receipts: Inflated	\$4.1	\$4.1	\$4.2	\$4.3	\$3.9	\$3.7	\$3.5	\$3.6	\$3.6	\$3.7	\$38.7
INTEREST											
- Interest on Opening Balance	\$1.6	\$1.5	\$1.4	\$1.3	\$1.2	\$1.0	\$0.8	\$0.7	\$0.4	\$0.2	\$10.3
- Interest on In-year Transactions	(\$0.1)	(\$0.1)	(\$0.1)	(\$0.1)	(\$0.1)	(\$0.2)	(\$0.2)	(\$0.2)	(\$0.2)	(\$0.2)	(\$1.5)
TOTAL REVENUE	\$5.6	\$5.5	\$5.5	\$5.5	\$5.0	\$4.6	\$4.2	\$4.1	\$3.9	\$3.7	\$47.4
CLOSING CASH BALANCE	\$43.8	\$40.6	\$37.1	\$33.5	\$29.1	\$24.2	\$18.6	\$12.8	\$6.6	(\$0.0)	

2022 Adjusted Charge Per Capita	\$5.38
----------------------------------------	---------------

Allocation of Capital Program	
Residential Sector	87.0%
Non-Residential Sector	13.0%
Rates for 2022	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



**APPENDIX B.5
TABLE 3**

**RUSSELL TOWNSHIP
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
POLICE SERVICES
NON-RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)**

POLICE SERVICES	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$7.00	\$6.70	\$6.37	\$6.01	\$5.62	\$4.93	\$4.21	\$3.39	\$2.35	\$1.21	
2022 - 2031 NON-RESIDENTIAL FUNDING REQUIREMENTS											
-Prior Growth (Funding form DC Reserve Balance)	\$0.7	\$0.7	\$0.7	\$0.7	\$0.7	\$0.7	\$0.7	\$0.7	\$0.7	\$0.7	\$7.0
- Police Services: Non Inflated	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$5.9
- Police Services: Inflated	\$1.3	\$1.3	\$1.3	\$1.4	\$1.4	\$1.4	\$1.4	\$1.5	\$1.5	\$1.5	\$14.1
NON-RESIDENTIAL SPACE GROWTH											
- Growth in Square Metres	12,259	12,123	11,988	11,852	7,868	8,198	7,293	4,859	4,356	4,356	85,151
REVENUE											
- DC Receipts: Inflated	\$0.8	\$0.8	\$0.8	\$0.8	\$0.5	\$0.6	\$0.5	\$0.3	\$0.3	\$0.3	\$5.6
INTEREST											
- Interest on Opening Balance	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.1	\$0.1	\$0.1	\$0.0	\$1.7
- Interest on In-year Transactions	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.2)
TOTAL REVENUE	\$1.0	\$1.0	\$1.0	\$1.0	\$0.7	\$0.7	\$0.6	\$0.4	\$0.4	\$0.3	\$7.1
CLOSING CASH BALANCE	\$6.7	\$6.4	\$6.0	\$5.6	\$4.9	\$4.2	\$3.4	\$2.3	\$1.2	(\$0.0)	

2022 Adjusted Charge Per Square Metre	\$0.06
----------------------------------------------	---------------

Allocation of Capital Program	
Residential Sector	87.0%
Non-Residential Sector	13.0%
Rates for 2022	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX B.6

BY-LAW ENFORCEMENT

APPENDIX B.6 – BY-LAW ENFORCEMENT

The Township of Russell provides a variety of services required to enforce existing by-laws.

TABLE 1 HISTORICAL SERVICE LEVELS

Table 1 displays the ten-year historical inventory for buildings, land, vehicles, furniture and equipment for By-law Services. The By-law Enforcement buildings total 3,250 square feet and has a replacement value of \$648,600. The land associated with all facilities totals 0.09 hectares and is valued at \$22,500. The furniture and equipment included in the inventory, total \$308,200 and includes items such as small electronics, radio equipment, traps, and miscellaneous dog pound equipment. Finally, the 2021 By-law Enforcement fleet totals 7 vehicles with a replacement value of \$170,400.

The 2021 combined replacement value of the inventory of capital assets for By-law Enforcement is \$1.15 million, resulting in a ten-year historical average service level of \$50.33 per population and employment. The historical service level, multiplied by the net population and employment growth to 2031 (7,556), results in a maximum allowable funding envelope of \$380,310.

TABLE 2 2022 – 2031 DEVELOPMENT-RELATED CAPITAL PROGRAM & CALCULATION OF THE “UNADJUSTED” DEVELOPMENT CHARGES

The 2022 to 2031 development-related capital program includes a provision for additional office space at the Town Hall and new uniforms, safety equipment, vehicles and signs.

In total, the By-law Enforcement capital program amounts to \$225,600. A benefit-to-existing and replacement shares has been identified for various vehicles and equipment in the program, resulting in \$39,000 being removed from the DC eligible costs. A portion of the program, \$6,768, will be funded through the Township’s By-law Enforcement DC reserve and are considered as prior growth. This results in approximately \$179,800 being related to development in the 2022–2031 planning period and is eligible for DC recovery.

The development-related net capital cost is allocated 87 per cent to residential development (\$156,456) and 13 per cent (\$23,378) to non-residential development. The residential share of the net development-related capital cost is divided by the growth in

population in new dwelling units to 2031 (6,610) to derive an unadjusted charge of \$23.67 per capita. The non-residential share of the net development-related capital cost is divided by the forecast growth in floor space to 2031 (85,151), resulting in an unadjusted charge of \$0.27 per square metre.

TABLE 3 CASH FLOW ANALYSIS

After cash flow consideration, both the residential and non-residential calculated charges increases to \$24.76 per capita and \$0.28 per square metre, respectively.

The following table summarizes the calculation of the By-law Enforcement development charge.

BY-LAW ENFORCEMENT SUMMARY						
10-year Hist.	2022 - 2031		Unadjusted		Adjusted	
Service Level	Development-Related Capital Program		Development Charge		Development Charge	
per pop & emp	Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m
\$50.33	\$225,600	\$179,834	\$23.67	\$0.27	\$24.76	\$0.28

APPENDIX B.6
TABLE 1

RUSSELL TOWNSHIP
INVENTORY OF CAPITAL ASSETS
BY-LAW ENFORCEMENT

BUILDINGS	# of Square Feet										UNIT COST (\$/sq. ft.)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Animal Shelter Space	936	936	936	936	936	936	936	936	936	936	\$112
Office Space (at Town Hall)	1,196	1,196	1,196	1,196	1,196	1,196	1,196	1,196	1,196	1,196	\$350
Garage & Storage - By-law	-	-	-	-	-	-	-	780	780	780	\$112
Garage & Storage - Emergency	338	338	338	338	338	338	338	338	338	338	\$112
Total (sq.ft.)	2,470	2,470	2,470	2,470	2,470	2,470	2,470	3,250	3,250	3,250	
Total (\$000)	\$561.3	\$561.3	\$561.3	\$561.3	\$561.3	\$561.3	\$561.3	\$648.6	\$648.6	\$648.6	

LAND Station Name	# of Hectares										UNIT COST (\$/ha)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Animal Shelter and Garage	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	\$250,000
Total (ha)	0.09										
Total (\$000)	\$22.5										

APPENDIX B.6
TABLE 1

RUSSELL TOWNSHIP
INVENTORY OF CAPITAL ASSETS
BY-LAW ENFORCEMENT

FURNITURE & EQUIPMENT Station Name	Total # of Units										UNIT COST (\$/unit)	
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		
Large Animal Trap	1	1	1	1	1	1	1	1	1	1	1	\$1,200
Medium Animal Trap	1	1	1	1	1	1	1	1	1	1	1	\$1,200
Dog Poles	2	2	2	2	3	3	5	5	5	5	5	\$250
Coleman Industrial Generator	2	2	2	2	-	-	-	-	-	-	-	\$5,600
SDMA Generator	1	1	1	1	1	1	1	1	1	1	1	\$195,450
Ballistic/Puncture Resistant Vest	4	4	4	4	5	5	5	5	5	5	5	\$2,000
Firearms	2	2	2	2	2	2	2	2	2	2	2	\$1,250
Fire Hall Antenna	1	1	1	1	1	1	1	1	1	1	1	\$5,400
Cellular Phones	36	36	36	36	36	36	102	102	102	102	102	\$300
Pagers	3	3	3	3	1	1	1	1	1	1	1	\$600
Radios	4	4	4	4	2	2	2	2	2	2	2	\$1,200
Prot Filing System	1	1	1	1	1	1	1	1	1	1	1	\$21,000
Radar 3C Battery	1	1	1	1	1	1	1	1	1	1	1	\$12,000
Misc. Equipment / dog pound equipment	1	1	1	1	1	1	1	1	1	1	1	\$13,100
Samsung Tablet	-	-	-	-	-	-	2	2	2	2	2	\$500
Mobile computers	-	-	-	-	-	-	-	2	2	2	2	\$1,750
Body Cameras	-	-	-	-	-	-	-	-	5	5	5	\$1,000
Mobile printers	-	-	-	-	-	-	-	-	2	2	2	\$1,000
Total (#)	60	60	60	60	56	56	126	128	135	135		
Total (\$000)	\$289.0	\$289.0	\$289.0	\$289.0	\$276.4	\$276.4	\$297.7	\$301.2	\$308.2	\$308.2		



APPENDIX B.6
TABLE 1

RUSSELL TOWNSHIP
INVENTORY OF CAPITAL ASSETS
BY-LAW ENFORCEMENT

VEHICLES Vehicle Type	# of Vehicles										UNIT COST (\$/vehicle)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
13-11 Pick-Up	1	1	1	1	1	1	1	-	-	-	\$37,000
2011 Ford Ranger Sport	1	1	1	1	-	-	-	-	-	-	\$37,000
2019 Scott Bike	-	-	-	-	-	-	-	1	1	1	\$1,800
2006 Bike (Stevens Police Edition)	2	2	2	2	2	2	2	2	2	2	\$1,800
2005 Rocky Mountain Bike	1	1	1	1	1	1	1	-	-	-	\$1,800
08-13 Pick-Up	1	1	1	1	1	1	-	-	-	-	\$37,000
2015 Dodge Journey (E1415)	-	-	-	-	-	-	-	1	1	1	\$30,000
2016 Dodge Ram (E1616) lights and cap	-	-	-	-	1	1	1	1	1	1	\$45,000
2018 Dodge Ram 1500 Crew Cab (E1718) lights & cap	-	-	-	-	-	-	1	1	1	1	\$45,000
2018 Dodge Ram (E1818) lights and cap	-	-	-	-	-	-	1	1	1	1	\$45,000
Total (#)	6	6	6	6	6	6	7	7	7	7	
Total (\$000)	\$116.4	\$116.4	\$116.4	\$116.4	\$124.4	\$124.4	\$177.4	\$170.4	\$170.4	\$170.4	

APPENDIX B.6
TABLE 1

RUSSELL TOWNSHIP
INVENTORY OF CAPITAL ASSETS
BY-LAW ENFORCEMENT

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Historical Population	15,493	15,743	15,998	16,257	16,520	17,003	17,622	18,538	19,605	20,320
Historical Employment	<u>2,735</u>	<u>2,897</u>	<u>3,068</u>	<u>3,249</u>	<u>3,441</u>	<u>3,542</u>	<u>3,671</u>	<u>3,861</u>	<u>4,084</u>	<u>4,233</u>
Total Historical Population & Employment	18,228	18,640	19,066	19,506	19,961	20,545	21,292	22,399	23,689	24,552

INVENTORY SUMMARY (\$000)

Buildings	\$561.3	\$561.3	\$561.3	\$561.3	\$561.3	\$561.3	\$561.3	\$648.6	\$648.6	\$648.6
Land	\$22.5	\$22.5	\$22.5	\$22.5	\$22.5	\$22.5	\$22.5	\$22.5	\$22.5	\$22.5
Furniture & Equipment	\$289.0	\$289.0	\$289.0	\$289.0	\$276.4	\$276.4	\$297.7	\$301.2	\$308.2	\$308.2
Vehicles	\$116.4	\$116.4	\$116.4	\$116.4	\$124.4	\$124.4	\$177.4	\$170.4	\$170.4	\$170.4
Total (\$000)	\$989.1	\$989.1	\$989.1	\$989.1	\$984.6	\$984.6	\$1,058.9	\$1,142.7	\$1,149.7	\$1,149.7

SERVICE LEVEL (\$/pop & emp)

											Average Service Level
Buildings	\$30.8	\$30.11	\$29.44	\$28.78	\$28.12	\$27.32	\$26.36	\$28.96	\$27.38	\$26.42	\$28.37
Land	\$1.23	\$1.21	\$1.18	\$1.15	\$1.13	\$1.10	\$1.06	\$1.00	\$0.95	\$0.92	\$1.09
Furniture & Equipment	\$15.85	\$15.50	\$15.16	\$14.81	\$13.85	\$13.45	\$13.98	\$13.45	\$13.01	\$12.55	\$14.16
Vehicles	\$6.39	\$6.24	\$6.11	\$5.97	\$6.23	\$6.05	\$8.33	\$7.61	\$7.19	\$6.94	\$6.71
Total (\$/pop & emp)	\$54.26	\$53.07	\$51.88	\$50.71	\$49.33	\$47.92	\$49.73	\$51.02	\$48.53	\$46.83	\$50.33

RUSSELL TOWNSHIP
CALCULATION OF MAXIMUM ALLOWABLE
BY-LAW ENFORCEMENT

10-Year Funding Envelope Calculation	
10 Year Average Service Level 2012 - 2021	\$50.33
Net Population & Employment Growth 2022 - 2031	7,556
Maximum Allowable Funding Envelope	\$380,310



APPENDIX B.6
TABLE 2

RUSSELL TOWNSHIP
DEVELOPMENT-RELATED CAPITAL PROGRAM
BY-LAW ENFORCEMENT

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Development Related Costs		
					BTE (%)	Replacement & BTE Shares		Available DC Reserves	2022-2031	Other Dev. Related*
6.0 BY-LAW ENFORCEMENT										
6.1 Buildings, Land and Furnishings										
6.1.1 Provision for Additional Office Space (1000 sq.ft)	Various	\$ 112,000	\$ -	\$ 112,000	0%	\$ -	\$ 112,000	\$ 6,768	\$ 105,232	\$ -
Subtotal Buildings, Land and Furnishings		\$ 112,000	\$ -	\$ 112,000		\$ -	\$ 112,000	\$ 6,768	\$ 105,232	\$ -
6.2 Vehicles and Equipment										
6.2.1 Additional Vehicle	2022	\$ 50,000	\$ -	\$ 50,000	0%	\$ -	\$ 50,000	\$ -	\$ 50,000	\$ -
6.2.2 Additional Uniform and Safety Equipment for New Staff	2022	\$ 9,000	\$ -	\$ 9,000	0%	\$ -	\$ 9,000	\$ -	\$ 9,000	\$ -
6.2.3 Radar Sign (Control Computer)	2022	\$ 3,000	\$ -	\$ 3,000	76%	\$ 2,294	\$ 706	\$ -	\$ 706	\$ -
6.2.4 Radar Sign (Trailer)	2022	\$ 17,000	\$ -	\$ 17,000	76%	\$ 12,999	\$ 4,001	\$ -	\$ 4,001	\$ -
6.2.5 Animal Traps	2023	\$ 1,800	\$ -	\$ 1,800	0%	\$ -	\$ 1,800	\$ -	\$ 1,800	\$ -
6.2.6 Utility Trailer	2024	\$ 6,000	\$ -	\$ 6,000	76%	\$ 4,588	\$ 1,412	\$ -	\$ 1,412	\$ -
6.2.7 Mobile Sign	2024	\$ 25,000	\$ -	\$ 25,000	76%	\$ 19,117	\$ 5,883	\$ -	\$ 5,883	\$ -
6.2.8 Bike	2025	\$ 1,800	\$ -	\$ 1,800	0%	\$ -	\$ 1,800	\$ -	\$ 1,800	\$ -
Subtotal Vehicles and Equipment		\$ 113,600	\$ -	\$ 113,600		\$ 38,998	\$ 74,602	\$ -	\$ 74,602	\$ -
TOTAL BY-LAW ENFORCEMENT		\$ 225,600	\$ -	\$ 225,600		\$ 38,998	\$ 186,602	\$ 6,768	\$ 179,834	\$ -

*Development related costs to be considered for funding from other tools and/or future DC Studies.

Residential Development Charge Calculation		
Residential Share of 2022 - 2031 DC Eligible Costs	87%	\$156,456
10-Year Growth in Population in New Units		6,610
Unadjusted Development Charge Per Capita		\$23.67
Non-Residential Development Charge Calculation		
Non-Residential Share of 2022 - 2031 DC Eligible Costs	13%	\$23,378
10-Year Growth in Square Metres		85,151
Unadjusted Development Charge Per Square Metre		\$0.27

2022 - 2031 Net Funding Envelope	\$380,310
December 31, 2021 Reserve Funds	\$6,768



APPENDIX B.6
TABLE 3

**RUSSELL TOWNSHIP
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
BY-LAW ENFORCEMENT
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)**

BY-LAW ENFORCEMENT	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$5.9	(\$41.7)	(\$36.3)	(\$35.6)	(\$29.6)	(\$23.5)	(\$18.5)	(\$14.2)	(\$9.6)	(\$5.0)	
2022 - 2031 RESIDENTIAL FUNDING REQUIREMENTS											
- Prior Growth (Funding form DC Reserve Balance)	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$5.9
- By-Law Enforcement: Non Inflated	\$64.6	\$10.7	\$15.5	\$10.7	\$9.2	\$9.2	\$9.2	\$9.2	\$9.2	\$9.2	\$156.5
- By-Law Enforcement: Inflated	\$65.2	\$11.5	\$16.7	\$12.0	\$10.5	\$10.8	\$11.0	\$11.2	\$11.4	\$11.6	\$172.0
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	754	754	754	754	676	622	580	580	568	568	6,610
REVENUE											
- DC Receipts: Inflated	\$18.7	\$19.0	\$19.4	\$19.8	\$18.1	\$17.0	\$16.2	\$16.5	\$16.5	\$16.8	\$178.0
INTEREST											
- Interest on Opening Balance	\$0.2	(\$2.3)	(\$2.0)	(\$2.0)	(\$1.6)	(\$1.3)	(\$1.0)	(\$0.8)	(\$0.5)	(\$0.3)	(\$11.6)
- Interest on In-year Transactions	(\$1.3)	\$0.1	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	(\$0.4)
TOTAL REVENUE	\$17.6	\$16.9	\$17.5	\$18.0	\$16.6	\$15.8	\$15.2	\$15.8	\$16.0	\$16.6	\$166.1
CLOSING CASH BALANCE	(\$41.7)	(\$36.3)	(\$35.6)	(\$29.6)	(\$23.5)	(\$18.5)	(\$14.2)	(\$9.6)	(\$5.0)	\$0.0	

2022 Adjusted Charge Per Capita	\$24.76
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Allocation of Capital Program	
Residential Sector	87.0%
Non-Residential Sector	13.0%
Rates for 2022	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX B.6
TABLE 3

RUSSELL TOWNSHIP
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
BY-LAW ENFORCEMENT
NON-RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

BY-LAW ENFORCEMENT	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$0.88	(\$5.56)	(\$4.08)	(\$3.28)	(\$1.69)	(\$0.95)	(\$0.05)	\$0.62	\$0.54	\$0.28	
2022 - 2031 NON-RESIDENTIAL FUNDING REQUIREMENTS											
- Prior Growth (Funding form DC Reserve Balance)	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.9
- By-Law Enforcement: Non Inflated	\$9.6	\$1.6	\$2.3	\$1.6	\$1.4	\$1.4	\$1.4	\$1.4	\$1.4	\$1.4	\$23.4
- By-Law Enforcement: Inflated	\$9.7	\$1.7	\$2.5	\$1.8	\$1.6	\$1.6	\$1.6	\$1.7	\$1.7	\$1.7	\$25.7
NON-RESIDENTIAL SPACE GROWTH											
- Growth in Square Metres	12,259	12,123	11,988	11,852	7,868	8,198	7,293	4,859	4,356	4,356	85,151
REVENUE											
- DC Receipts: Inflated	\$3.4	\$3.5	\$3.5	\$3.5	\$2.4	\$2.5	\$2.3	\$1.6	\$1.4	\$1.5	\$25.7
INTEREST											
- Interest on Opening Balance	\$0.0	(\$0.3)	(\$0.2)	(\$0.2)	(\$0.1)	(\$0.1)	(\$0.0)	\$0.0	\$0.0	\$0.0	(\$0.8)
- Interest on In-year Transactions	(\$0.2)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	(\$0.1)
TOTAL REVENUE	\$3.3	\$3.2	\$3.3	\$3.4	\$2.3	\$2.5	\$2.3	\$1.6	\$1.4	\$1.5	\$24.8
CLOSING CASH BALANCE	(\$5.6)	(\$4.1)	(\$3.3)	(\$1.7)	(\$1.0)	(\$0.1)	\$0.6	\$0.5	\$0.3	\$0.0	

2022 Adjusted Charge Per Square Metre	\$0.28
----------------------------------------------	---------------

Allocation of Capital Program	
Residential Sector	87.0%
Non-Residential Sector	13.0%
Rates for 2022	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX B.7

DEVELOPMENT-RELATED STUDIES

APPENDIX B.7 – DEVELOPMENT-RELATED STUDIES

Subsection 7 (3) of the *DCA* allows for a development-related studies class in respect of any service in subsection 2 (4). This appendix covers the costs included for recovery of development-related studies.

TABLE 1 2022–2031 DEVELOPMENT-RELATED CAPITAL PROGRAM AND CALCULATION OF THE DEVELOPMENT CHARGES

As shown in Table 1, the 2022–2031 gross cost for development-related studies is \$470,000. The capital program relates to multiple development charges studies, official plans, zoning by-laws, Community Improvement Plans and a provision for additional development-related studies.

As many of these projects are related to growth in the Township of Russell, most studies are entirely attributable to new development. However, “benefit to existing” shares have been considered for certain studies included in the ten-year capital program inclusive of the official plans and zoning by-law studies. This share totals \$90,000 and with \$14,100 in available DC reserves, the 2022-2031 DC eligible cost considered for recovery under this by-law is \$365,900.

This amount is apportioned 87 per cent (\$318,303) to residential development and 13 per cent (\$47,562) to non-residential development. The resulting development charges for Development-Related Studies are \$48.15 per capita and \$0.56 per square metre of new non-residential building space.

TABLE 2 CASH FLOW ANALYSIS

After cash flow consideration, the residential calculated charge increases to \$52.30 and the non-residential calculated charge increases to \$0.59 per square metre.

The following table summarizes the calculation of the Development-Related Studies development charge.

DEVELOPMENT RELATED STUDIES SUMMARY					
2022 - 2031		Unadjusted		Adjusted	
Development-Related Capital Program		Development Charge		Development Charge	
Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m
\$470,000	\$365,865	\$48.15	\$0.56	\$52.30	\$0.59

APPENDIX B.7
TABLE 1

RUSSELL TOWNSHIP
DEVELOPMENT-RELATED CAPITAL PROGRAM
DEVELOPMENT RELATED STUDIES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Development Related Costs		
					BTE (%)	Replacement & BTE Shares		Available DC Reserves	2022-2031	Other Dev. Related*
7.0 DEVELOPMENT RELATED STUDIES										
7.1 Development Related Studies										
7.1.1 Development Charges Study	2022	\$ 50,000	\$ -	\$ 50,000	0%	\$ -	\$ 50,000	\$ 14,135	\$ 35,865	\$ -
7.1.2 Official Plan	2022	\$ 45,000	\$ -	\$ 45,000	50%	\$ 22,500	\$ 22,500	\$ -	\$ 22,500	\$ -
7.1.3 Zoning By-law	2022	\$ 45,000	\$ -	\$ 45,000	50%	\$ 22,500	\$ 22,500	\$ -	\$ 22,500	\$ -
7.1.4 Growth Analysis Report	2022	\$ 30,000	\$ -	\$ 30,000	0%	\$ -	\$ 30,000	\$ -	\$ 30,000	\$ -
7.1.5 Agrologist Report	2022	\$ 25,000	\$ -	\$ 25,000	0%	\$ -	\$ 25,000	\$ -	\$ 25,000	\$ -
7.1.6 Vacant Land Analysis	2022	\$ 20,000	\$ -	\$ 20,000	0%	\$ -	\$ 20,000	\$ -	\$ 20,000	\$ -
7.1.7 CIP (completed, not funded from DCs) - Industrial Park	2022	\$ 25,000	\$ -	\$ 25,000	0%	\$ -	\$ 25,000	\$ -	\$ 25,000	\$ -
7.1.8 CIP - Village Core Update	2022	\$ 25,000	\$ -	\$ 25,000	0%	\$ -	\$ 25,000	\$ -	\$ 25,000	\$ -
7.1.9 Development Charges Study	2027	\$ 50,000	\$ -	\$ 50,000	0%	\$ -	\$ 50,000	\$ -	\$ 50,000	\$ -
7.1.10 Official Plan	2027	\$ 45,000	\$ -	\$ 45,000	50%	\$ 22,500	\$ 22,500	\$ -	\$ 22,500	\$ -
7.1.11 Zoning By-law	2027	\$ 45,000	\$ -	\$ 45,000	50%	\$ 22,500	\$ 22,500	\$ -	\$ 22,500	\$ -
7.1.12 Commercial Needs Study	2023	\$ 25,000	\$ -	\$ 25,000	0%	\$ -	\$ 25,000	\$ -	\$ 25,000	\$ -
7.1.13 Provision for Additional Dev.-Related Studies	Various	\$ 40,000	\$ -	\$ 40,000	0%	\$ -	\$ 40,000	\$ -	\$ 40,000	\$ -
Subtotal Development Related Studies		\$ 470,000	\$ -	\$ 470,000		\$ 90,000	\$ 380,000	\$ 14,135	\$ 365,865	\$ -
TOTAL DEVELOPMENT RELATED STUDIES		\$ 470,000	\$ -	\$ 470,000		\$ 90,000	\$ 380,000	\$ 14,135	\$ 365,865	\$ -

*Development related costs to be considered for funding from other tools and/or future DC Studies.

Residential Development Charge Calculation		
Residential Share of 2022 - 2031 DC Eligible Costs	87%	\$318,303
10-Year Growth in Population in New Units		6,610
Unadjusted Development Charge Per Capita		\$48.15
Non-Residential Development Charge Calculation		
Non-Residential Share of 2022 - 2031 DC Eligible Costs	13%	\$47,562
10-Year Growth in Square Metres		85,151
Unadjusted Development Charge Per Square Metre		\$0.56

December 31, 2021 Reserve Funds	\$14,135
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APPENDIX B.7
TABLE 2

RUSSELL TOWNSHIP
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
DEVELOPMENT RELATED STUDIES
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

DEVELOPMENT RELATED STUDIES	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$12.3	(\$147.0)	(\$140.3)	(\$110.0)	(\$77.2)	(\$46.4)	(\$109.7)	(\$85.0)	(\$58.3)	(\$30.2)	
2022 - 2031 RESIDENTIAL FUNDING REQUIREMENTS											
- Prior Growth (Funding form DC Reserve Balance)	\$12.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$12.3
- Development Related Studies: Non Inflated	\$182.6	\$25.2	\$3.5	\$3.5	\$3.5	\$86.1	\$3.5	\$3.5	\$3.5	\$3.5	\$318.3
- Development Related Studies: Inflated	\$194.9	\$25.7	\$3.6	\$3.7	\$3.8	\$95.1	\$3.9	\$4.0	\$4.1	\$4.2	\$342.9
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	754	754	754	754	676	622	580	580	568	568	6,610
REVENUE											
- DC Receipts: Inflated	\$39.4	\$40.2	\$41.0	\$41.8	\$38.3	\$35.9	\$34.2	\$34.8	\$34.8	\$35.5	\$376.0
INTEREST											
- Interest on Opening Balance	\$0.4	(\$8.1)	(\$7.7)	(\$6.0)	(\$4.2)	(\$2.6)	(\$6.0)	(\$4.7)	(\$3.2)	(\$1.7)	(\$43.8)
- Interest on In-year Transactions	(\$4.3)	\$0.3	\$0.7	\$0.7	\$0.6	(\$1.6)	\$0.5	\$0.5	\$0.5	\$0.5	(\$1.6)
TOTAL REVENUE	\$35.6	\$32.4	\$34.0	\$36.5	\$34.6	\$31.7	\$28.7	\$30.7	\$32.1	\$34.4	\$330.6
CLOSING CASH BALANCE	(\$147.0)	(\$140.3)	(\$110.0)	(\$77.2)	(\$46.4)	(\$109.7)	(\$85.0)	(\$58.3)	(\$30.2)	\$0.0	

2022 Adjusted Charge Per Capita	\$52.30
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Allocation of Capital Program	
Residential Sector	87.0%
Non-Residential Sector	13.0%
Rates for 2022	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX B.7
TABLE 2

RUSSELL TOWNSHIP
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
DEVELOPMENT RELATED STUDIES
NON-RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

DEVELOPMENT RELATED STUDIES	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$1.84	(\$20.55)	(\$18.13)	(\$12.16)	(\$5.80)	(\$1.56)	(\$10.73)	(\$6.96)	(\$4.58)	(\$2.38)	
2022 - 2031 NON-RESIDENTIAL FUNDING REQUIREMENTS											
- Prior Growth (Funding form DC Reserve Balance)	\$1.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1.8
- Development Related Studies: Non Inflated	\$27.3	\$3.8	\$0.5	\$0.5	\$0.5	\$12.9	\$0.5	\$0.5	\$0.5	\$0.5	\$47.6
- Development Related Studies: Inflated	\$29.1	\$3.8	\$0.5	\$0.6	\$0.6	\$14.2	\$0.6	\$0.6	\$0.6	\$0.6	\$51.2
NON-RESIDENTIAL SPACE GROWTH											
- Growth in Square Metres	12,259	12,123	11,988	11,852	7,868	8,198	7,293	4,859	4,356	4,356	85,151
REVENUE											
- DC Receipts: Inflated	\$7.3	\$7.3	\$7.4	\$7.5	\$5.0	\$5.4	\$4.9	\$3.3	\$3.0	\$3.1	\$54.2
INTEREST											
- Interest on Opening Balance	\$0.1	(\$1.1)	(\$1.0)	(\$0.7)	(\$0.3)	(\$0.1)	(\$0.6)	(\$0.4)	(\$0.3)	(\$0.1)	(\$4.5)
- Interest on In-year Transactions	(\$0.6)	\$0.1	\$0.1	\$0.1	\$0.1	(\$0.2)	\$0.1	\$0.0	\$0.0	\$0.0	(\$0.3)
TOTAL REVENUE	\$6.7	\$6.3	\$6.5	\$6.9	\$4.8	\$5.0	\$4.4	\$3.0	\$2.8	\$3.0	\$49.4
CLOSING CASH BALANCE	(\$20.6)	(\$18.1)	(\$12.2)	(\$5.8)	(\$1.6)	(\$10.7)	(\$7.0)	(\$4.6)	(\$2.4)	\$0.0	

2022 Adjusted Charge Per Square Metre	\$0.59
----------------------------------------------	---------------

Allocation of Capital Program	
Residential Sector	87.0%
Non-Residential Sector	13.0%
Rates for 2022	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX C
SERVICES RELATED TO A HIGHWAY
TECHNICAL APPENDIX

SERVICES RELATED TO A HIGHWAY TECHNICAL APPENDIX

This appendix provides the detailed analysis undertaken to establish the development charge rates for the services related to a highway provided in the Township of Russell. Within this service category, two sub-sections have been analysed for the Development Charges (DC) Background Study:

Appendix C.1 Services Related to a Highway: Public Works

Appendix C.2 Services Related to a Highway: Roads and Related

Each sub-section 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 provided under Appendix B.

APPENDIX C.1

SERVICES RELATED TO A HIGHWAY:

PUBLIC WORKS

APPENDIX C.1 – SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS

The Public Works and Operations Department provides Public Works Services to the Township, including transportation and utilities infrastructure, water and road maintenance services. This section deals with the capital infrastructure of Public Works buildings, land, and related furniture and equipment, and municipal fleet. The engineered components of roads, water and wastewater are discussed in Appendices C.2 and D respectively.

TABLE 1 HISTORICAL SERVICE LEVELS

The Township of Russell conducts Public Works mainly from one main site, which includes the municipal garage, offices, and salt shed. All buildings on the site are worth \$4.54 million in 2021. The land occupies a combined 5.58 hectares, which is valued at \$1.40 million. The cumulative value of all furniture and equipment located within the works buildings totals \$35,000. Finally, the fleet and associated equipment includes several vehicles, attachments and pieces of machinery and equipment. These items add an additional \$3.34 million to the value of the inventory.

The total value of the Public Works inventory of capital assets is \$9.31 million. The resulting ten-year historical average service level is \$445.41 per population and employment, and this, multiplied by the growth in population and employment to 2031 (7,556), results in a maximum allowable funding envelope of \$3.36 million.

TABLE 2 2022 – 2031 DEVELOPMENT-RELATED CAPITAL PROGRAM & CALCULATION OF THE “UNADJUSTED” DEVELOPMENT CHARGES

The development-related capital program for Public Works totals \$3.14 million. This accounts for a new snow dump facility and a provision for a building expansion of approximately 3,000 square feet to accommodate new vehicle purchases. The capital program also includes additional fleet and equipment rentals and snow plow/removal equipment.

Of the total program cost, a share of the snow dump facility is considered to be a benefit to existing residents and therefore, \$1.38 million (or 76%) of the \$1,8 million gross project cost

has been removed from the calculation – the BTE share is based on the anticipated population and employment growth over the planning period (to 2031) relative to the existing base. The Public Works DC reserve of about \$225,400 will fund a portion of the snow dump facility. The remaining \$1.54 million will be recovered the 2022 to 2031 planning period.

This development-related cost is allocated 87 per cent (\$1.34 million) against new residential development and 13 per cent (\$200,615) to non-residential development. This yields an unadjusted residential development charge of \$203.11 per capita and \$2.36 per square metre of new non-residential building space.

TABLE 3 CASH FLOW ANALYSIS

After cash flow considerations, the residential development charge increases to \$219.95 per capita. The non-residential development charge increases to \$2.49 per square metre.

The following table summarizes the calculation of the Public Works development charge:

SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS SUMMARY						
10-year Hist.	2022 - 2031		Unadjusted		Adjusted	
Service Level	Development-Related Capital Program		Development Charge		Development Charge	
per pop & emp	Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m
\$445.41	\$3,145,000	\$1,543,191	\$203.11	\$2.36	\$219.95	\$2.49

APPENDIX C.1
TABLE 1

RUSSELL TOWNSHIP
INVENTORY OF CAPITAL ASSETS
SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS

BUILDINGS Facility Name	# of Square Feet										UNIT COST (\$/sq.ft.)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Municipal Garage	11,700	11,700	11,700	11,700	11,700	11,700	14,940	14,940	14,940	14,940	\$185
Salt Shed	2,880	2,880	2,880	2,880	2,880	2,880	2,880	2,880	2,880	2,880	\$75
Garage - Offices (Shared 50/50 with Utilities)*	4,176	4,176	4,176	4,176	4,176	4,176	4,176	4,176	4,176	4,176	\$350
Small Shed	1,292	1,292	1,292	1,292	1,292	1,292	1,292	1,292	1,292	1,292	\$75
Total (#)	20,048	20,048	20,048	20,048	20,048	20,048	23,288	23,288	23,288	23,288	
Total (\$000)	\$3,939.0	\$3,939.0	\$3,939.0	\$3,939.0	\$3,939.0	\$3,939.0	\$4,538.4	\$4,538.4	\$4,538.4	\$4,538.4	

* Only the share related to Public Works Service has been included in the inventory.

LAND Facility Name	# of Hectares										UNIT COST (\$/ha)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Public Works Facilities	5.58	5.58	5.58	5.58	5.58	5.58	5.58	5.58	5.58	5.58	\$250,000
Total (ha)	5.58										
Total (\$000)	\$1,395.0										

FURNITURE AND EQUIPMENT Description	Total Value of Furniture & Equipment (\$)									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Municipal Garage	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
Garage - Offices	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
Total (\$000)	\$35.0	\$35.0	\$35.0	\$35.0	\$35.0	\$35.0	\$35.0	\$35.0	\$35.0	\$35.0

APPENDIX C.1
TABLE 1

RUSSELL TOWNSHIP
INVENTORY OF CAPITAL ASSETS
SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS

FLEET Description	# of Vehicles										UNIT COST (\$/unit)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
INT. 20 S (Single Axle)	-	-	-	-	-	-	-	-	-	-	\$134,300
37-03 Chev. ETV Cube Van	1	1	1	1	-	-	-	-	-	-	\$15,000
FORD L 9000 Tandem combination box & salt control	-	-	-	-	-	-	-	-	-	-	\$162,300
FORD L 9000 Tandem gravel & salt box	-	-	-	-	-	-	-	-	-	-	\$162,300
GMC Sierra pick up	-	-	-	-	-	-	-	-	-	-	\$33,500
50-06 INT. 7600 Tandem combination box & salt control	1	1	1	1	-	-	-	-	-	-	\$284,000
INTL 10S Cube Van	-	-	-	-	-	-	-	-	-	-	\$40,800
Chev Col Pick-up	-	-	-	-	-	-	-	-	-	-	\$33,500
Ford 8240	-	-	-	-	-	-	-	-	-	-	\$50,300
Machinery											
23-20 Caterpillar Grader	-	-	-	-	-	-	-	-	1	1	\$450,000
33-07 McCormik	1	-	-	-	-	-	-	-	-	-	\$75,100
38-03 John Deere 644H - Loader #38	1	1	1	1	1	1	1	1	1	-	\$283,000
23-99 Champion 740A-VHP - Grader #23	1	1	1	1	1	1	1	1	1	-	\$450,000
55-56 Thompson portable steamer	1	1	1	1	1	1	1	1	1	1	\$21,000
29-11 CASE 580 5 M BACKHOE	1	-	-	-	-	-	-	-	-	-	\$138,600
53-11 CASE 721 E LOADER	1	1	1	1	1	1	1	1	1	1	\$187,000
2008 Tractor McCormick MTX 135	-	1	1	1	1	1	-	-	-	-	\$26,000
Tractor Case 1H Puma 150CV	-	-	-	-	-	1	1	1	1	1	\$150,000
Vehicles											
26-15 2015 Ford E450	-	-	-	-	1	1	1	1	1	1	\$55,000
25-16 2016 Dodge Ram	-	-	-	-	1	1	1	1	1	1	\$36,000
32-18 2018 Ford F450 4x4	-	-	-	-	-	-	1	1	1	1	\$75,000
49-18 Chevrolet Silverado	-	-	-	-	-	-	1	1	1	1	\$36,000
36-11 2011 Ford F450	1	-	-	-	1	1	1	1	1	1	\$75,000
28-08 Mitsubishi Fuso Cabover	1	1	1	1	1	1	1	-	-	-	\$63,000
35-09 Freightliner	1	1	1	1	1	1	1	-	-	-	\$200,000
2011 Freightliner M112 (54-11)	1	1	1	1	1	1	1	1	1	-	\$245,000
2012 Ford F150 (56-12)	1	1	1	1	1	-	-	-	-	-	\$29,000
Snow Plows											
29-14.1 Snow Plow	-	1	1	1	1	1	1	1	1	1	\$15,000
35-19 Snow Plow (2020 Western Star)	-	-	-	-	-	-	-	1	1	1	\$300,000
54-20 Snow Plow (2020 Western Star)	-	-	-	-	-	-	-	-	1	1	\$300,000
58-14 Snow Plow	-	1	1	1	1	1	1	1	1	1	\$300,000
55-13 Snow Plow	-	1	1	1	1	1	1	1	1	1	\$300,000
50-06 Snow Plow	-	1	1	1	1	-	-	-	-	-	\$27,000
50-17 Snow Plow (2017 Western Star)	-	-	-	-	-	1	1	1	1	1	\$30,000
36-10 Pick-up Flat Bed (same as #36-11)	-	1	1	1	-	-	-	-	-	-	\$65,000
44-03 SUV	-	1	1	1	1	-	-	-	-	-	\$10,000

APPENDIX C.1
TABLE 1

RUSSELL TOWNSHIP
INVENTORY OF CAPITAL ASSETS
SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS

FLEET Description	# of Vehicles										UNIT COST (\$/unit)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Attachments											
23-99.1 Shoulder Blade	-	1	1	1	1	1	1	1	1	1	\$23,000
33-08.1 Brush	-	1	1	1	1	-	-	-	-	-	\$45,000
33-08.4 Broom	-	1	1	1	-	-	-	-	-	-	\$8,000
36-11.1 Airflow Salt Box	-	1	1	1	-	-	-	-	-	-	\$5,000
53.11.1 Wood Chipper	1	1	-	-	-	-	-	-	-	-	\$60,000
55-55 Chipper	-	1	1	1	1	1	1	1	1	1	\$60,000
57-13 Off-Road Vehicle (same as McCormick)	1	1	1	1	-	-	-	-	-	-	\$117,000
57-13.1 V-Plow	1	1	1	1	1	1	1	1	1	1	\$10,000
57-13.2 Snowblower	1	1	1	1	1	1	1	1	1	1	\$20,000
57-13.3 Sweeper	1	1	1	1	-	-	-	-	-	-	\$8,000
57-13.4 Sander spreader	1	1	1	1	-	-	-	-	-	-	\$5,000
29-14.2 Grader	-	1	1	1	1	1	1	1	1	1	\$30,000
29-14.3 Backhoe Blade	-	1	1	1	1	1	1	1	1	1	\$15,000
59-14 Asphalte Roller	-	1	1	1	1	1	1	1	1	1	\$25,000
33-08.5 Grass mower	-	1	1	1	1	1	1	1	-	-	\$14,000
33-15 Grass mower	-	-	-	-	-	-	-	-	1	1	\$30,000
Sidewalk Machine (contract)	-	-	1	1	-	-	-	-	-	-	\$4,587
John Deere Snowblower	1	1	1	1	-	-	-	-	-	-	\$23,500
Disc Mower	1	-	-	-	-	-	-	-	-	-	\$11,200
26-01 INT. 20 S Tandem combination box & salt control	1	-	-	-	-	-	-	-	-	-	\$192,900
46-99 Belly Dump Trailer - home made	1	1	1	1	1	1	1	1	1	1	\$30,000
Vibration Plate DPU5545	-	-	-	-	-	1	1	1	1	1	\$15,000
Rentals											
ETC30 Holder Tractor	1	1	1	1	1	1	1	1	1	1	\$141,500
ETC31 Holder Tractor	1	1	1	1	1	1	1	1	1	1	\$141,500
EBK29 Case Backhoe	1	1	1	1	1	1	1	1	1	1	\$150,000
ELD27 John Deere Loader	1	1	1	1	1	1	1	1	1	1	\$319,900
Total (#)	27	38	38	38	29	30	31	30	32	29	
Total (\$000)	\$3,296.2	\$3,771.4	\$3,716.0	\$3,716.0	\$3,291.9	\$3,430.9	\$3,515.9	\$3,552.9	\$4,318.9	\$3,340.9	

**APPENDIX C.1
TABLE 1**

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

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Historic Population	15,493	15,743	15,998	16,257	16,520	17,003	17,622	18,538	19,605	20,320
Historic Employment	<u>2,735</u>	<u>2,897</u>	<u>3,068</u>	<u>3,249</u>	<u>3,441</u>	<u>3,542</u>	<u>3,671</u>	<u>3,861</u>	<u>4,084</u>	<u>4,233</u>
Total Historic Population & Employment	18,228	18,640	19,066	19,506	19,961	20,545	21,292	22,399	23,689	24,552

INVENTORY SUMMARY (\$000)

Buildings	\$3,939.0	\$3,939.0	\$3,939.0	\$3,939.0	\$3,939.0	\$3,939.0	\$4,538.4	\$4,538.4	\$4,538.4	\$4,538.4
Land	\$1,395.0	\$1,395.0	\$1,395.0	\$1,395.0	\$1,395.0	\$1,395.0	\$1,395.0	\$1,395.0	\$1,395.0	\$1,395.0
Furniture And Equipment	\$35.0	\$35.0	\$35.0	\$35.0	\$35.0	\$35.0	\$35.0	\$35.0	\$35.0	\$35.0
Fleet	\$3,296.2	\$3,771.4	\$3,716.0	\$3,716.0	\$3,291.9	\$3,430.9	\$3,515.9	\$3,552.9	\$4,318.9	\$3,340.9
Total (\$000)	\$8,665.2	\$9,140.4	\$9,085.0	\$9,085.0	\$8,660.9	\$8,799.9	\$9,484.3	\$9,521.3	\$10,287.3	\$9,309.3

SERVICE LEVEL (\$/pop & emp)

											Average Service Level
Buildings	\$216.10	\$211.32	\$206.60	\$201.94	\$197.33	\$191.72	\$213.15	\$202.62	\$191.58	\$184.85	\$201.72
Land	\$76.53	\$74.84	\$73.17	\$71.52	\$69.89	\$67.90	\$65.52	\$62.28	\$58.89	\$56.82	\$67.73
Furniture And Equipment	\$1.92	\$1.88	\$1.84	\$1.79	\$1.75	\$1.70	\$1.64	\$1.56	\$1.48	\$1.43	\$1.70
Fleet	\$180.83	\$202.33	\$194.90	\$190.50	\$164.92	\$166.99	\$165.13	\$158.62	\$182.31	\$136.07	\$174.26
Total (\$/pop & emp)	\$475.38	\$490.36	\$476.50	\$465.75	\$433.89	\$428.32	\$445.44	\$425.08	\$434.26	\$379.16	\$445.41

**RUSSELL TOWNSHIP
CALCULATION OF MAXIMUM ALLOWABLE
SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS**

10-Year Funding Envelope Calculation	
10 Year Average Service Level 2012 - 2021	\$445.41
Net Population & Employment Growth 2022 - 2031	7,556
Maximum Allowable Funding Envelope	\$3,365,665



APPENDIX C.1
TABLE 2

RUSSELL TOWNSHIP
DEVELOPMENT-RELATED CAPITAL PROGRAM
SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Development Related Costs		
					BTE (%)	Replacement & BTE Shares		Available DC Reserves	2022-2031	Other Dev. Related*
1.0 SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS										
1.1 Buildings										
1.1.1 Snow Dump Facility	2022	\$ 1,800,000	\$ -	\$ 1,800,000	76%	\$ 1,376,394	\$ 423,606	\$ 225,415	\$ 198,191	\$ -
1.1.2 Provision for Building Expansion (3000 sq.ft)	2023	\$ 555,000	\$ -	\$ 555,000	0%	\$ -	\$ 555,000	\$ -	\$ 555,000	\$ -
Subtotal Buildings		\$ 2,355,000	\$ -	\$ 2,355,000		\$ 1,376,394	\$ 978,606	\$ 225,415	\$ 753,191	\$ -
1.2 Fleet & Equipment										
1.2.1 Sidewalk Machine (rental)	Various	\$ 95,000	\$ -	\$ 95,000	0%	\$ -	\$ 95,000	\$ -	\$ 95,000	\$ -
1.2.2 Salt Loader (rental)	Various	\$ 95,000	\$ -	\$ 95,000	0%	\$ -	\$ 95,000	\$ -	\$ 95,000	\$ -
1.2.3 Additionnal Snow Plow / Removal Equipment	2022	\$ 300,000	\$ -	\$ 300,000	0%	\$ -	\$ 300,000	\$ -	\$ 300,000	\$ -
1.2.4 Additionnal Snow Plow / Removal Equipment	2027	\$ 300,000	\$ -	\$ 300,000	0%	\$ -	\$ 300,000	\$ -	\$ 300,000	\$ -
Subtotal Fleet & Equipment		\$ 790,000	\$ -	\$ 790,000		\$ -	\$ 790,000	\$ -	\$ 790,000	\$ -
TOTAL SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS		\$ 3,145,000	\$ -	\$ 3,145,000		\$ 1,376,394	\$ 1,768,606	\$ 225,415	\$ 1,543,191	\$ -

*Development related costs to be considered for funding from other tools and/or future DC Studies.

Residential Development Charge Calculation		
Residential Share of 2022 - 2031 DC Eligible Costs	87%	\$1,342,577
10-Year Growth in Population in New Units		6,610
Unadjusted Development Charge Per Capita		\$203.11
Non-Residential Development Charge Calculation		
Non-Residential Share of 2022 - 2031 DC Eligible Costs	13%	\$200,615
10-Year Growth in Square Metres		85,151
Unadjusted Development Charge Per Square Metre		\$2.36

2022 - 2031 Net Funding Envelope	\$3,365,665
December 31, 2021 Reserve Funds	\$225,415



APPENDIX C.1
TABLE 3

RUSSELL TOWNSHIP
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$196.11	(\$290.45)	(\$655.99)	(\$534.00)	(\$402.15)	(\$278.71)	(\$453.68)	(\$351.39)	(\$240.93)	(\$124.95)	
2022 - 2031 RESIDENTIAL FUNDING REQUIREMENTS											
- Prior Growth (Funding form DC Reserve Balance)	\$196.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$196.1
- Services Related To A Highway: Public Works: Non Inflated	\$450.0	\$499.4	\$16.5	\$16.5	\$16.5	\$277.5	\$16.5	\$16.5	\$16.5	\$16.5	\$1,342.6
- Services Related To A Highway: Public Works: Inflated	\$646.1	\$509.4	\$17.2	\$17.5	\$17.9	\$306.4	\$18.6	\$19.0	\$19.4	\$19.8	\$1,591.2
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	754	754	754	754	676	622	580	580	568	568	6,610
REVENUE											
- DC Receipts: Inflated	\$165.8	\$169.2	\$172.5	\$176.0	\$160.9	\$151.1	\$143.7	\$146.5	\$146.4	\$149.3	\$1,581.4
INTEREST											
- Interest on Opening Balance	\$6.9	(\$16.0)	(\$36.1)	(\$29.4)	(\$22.1)	(\$15.3)	(\$25.0)	(\$19.3)	(\$13.3)	(\$6.9)	(\$176.4)
- Interest on In-year Transactions	(\$13.2)	(\$9.4)	\$2.7	\$2.8	\$2.5	(\$4.3)	\$2.2	\$2.2	\$2.2	\$2.3	(\$9.9)
TOTAL REVENUE	\$159.5	\$143.8	\$139.2	\$149.4	\$141.3	\$131.4	\$120.9	\$129.4	\$135.4	\$144.7	\$1,395.1
CLOSING CASH BALANCE	(\$290.5)	(\$656.0)	(\$534.0)	(\$402.1)	(\$278.7)	(\$453.7)	(\$351.4)	(\$240.9)	(\$124.9)	\$0.0	

2022 Adjusted Charge Per Capita	\$219.95
----------------------------------------	-----------------

Allocation of Capital Program	
Residential Sector	87.0%
Non-Residential Sector	13.0%
Rates for 2022	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



**APPENDIX C.1
TABLE 3**

**RUSSELL TOWNSHIP
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS
NON-RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)**

SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	\$29.30	(\$37.46)	(\$86.06)	(\$61.77)	(\$35.93)	(\$19.03)	(\$43.94)	(\$28.35)	(\$18.64)	(\$9.67)	
2022 - 2031 NON-RESIDENTIAL FUNDING REQUIREMENTS											
-Prior Growth (Funding form DC Reserve Balance)	\$29.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$29.3
- Services Related To A Highway: Public Works: Non Inflated	\$67.2	\$74.6	\$2.5	\$2.5	\$2.5	\$41.5	\$2.5	\$2.5	\$2.5	\$2.5	\$200.6
- Services Related To A Highway: Public Works: Inflated	\$96.5	\$76.1	\$2.6	\$2.6	\$2.7	\$45.8	\$2.8	\$2.8	\$2.9	\$3.0	\$237.8
NON-RESIDENTIAL SPACE GROWTH											
- Growth in Square Metres	12,259	12,123	11,988	11,852	7,868	8,198	7,293	4,859	4,356	4,356	85,151
REVENUE											
- DC Receipts: Inflated	\$30.6	\$30.8	\$31.1	\$31.4	\$21.2	\$22.6	\$20.5	\$13.9	\$12.7	\$13.0	\$227.7
INTEREST											
- Interest on Opening Balance	\$1.0	(\$2.1)	(\$4.7)	(\$3.4)	(\$2.0)	(\$1.0)	(\$2.4)	(\$1.6)	(\$1.0)	(\$0.5)	(\$17.7)
- Interest on In-year Transactions	(\$1.8)	(\$1.2)	\$0.5	\$0.5	\$0.3	(\$0.6)	\$0.3	\$0.2	\$0.2	\$0.2	(\$1.5)
TOTAL REVENUE	\$29.8	\$27.5	\$26.9	\$28.5	\$19.6	\$20.9	\$18.4	\$12.5	\$11.9	\$12.6	\$208.5
CLOSING CASH BALANCE	(\$37.5)	(\$86.1)	(\$61.8)	(\$35.9)	(\$19.0)	(\$43.9)	(\$28.4)	(\$18.6)	(\$9.7)	(\$0.0)	

2022 Adjusted Charge Per Square Metre	\$2.49
----------------------------------------------	---------------

Allocation of Capital Program	
Residential Sector	87.0%
Non-Residential Sector	13.0%
Rates for 2022	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX C.2

SERVICES RELATED TO A HIGHWAY:

ROADS AND RELATED

APPENDIX C.2 – SERVICES RELATED TO A HIGHWAY: ROADS AND RELATED

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

TABLE 1 HISTORICAL SERVICE LEVELS

Table 1 displays the 10-year historical inventory for Roads & Related infrastructure. The total value of roads, traffic signals, streetlights, sidewalks, bridges and culverts infrastructure is approximately \$136.49 million. The resulting 10-year historical average service level of \$6,601.87 per capita and employment. The historical service level, multiplied by the net population growth and employment growth in new space growth to 2031 (7,556), results in a maximum allowable funding envelope of \$49.88 million.

TABLE 2 2022 – 2031 DEVELOPMENT-RELATED CAPITAL PROGRAMS & CALCULATION OF THE “UNADJUSTED” DEVELOPMENT CHARGES

Table 2 sets out the 2021 to 2031 development-related capital forecast and the calculation of the development charges for Roads and Related. The development-related capital program was prepared by Township staff and the projects identified are required to service the demands of new development between 2022 and 2031 subject to annual capital budget reviews.

The total cost of the capital program is \$15.55 million and provides for the undertaking of projects throughout the Township. Approximately \$3.24 million of this amount relates to roads and related infrastructure and \$11.81 million relates to intersection and sidewalk infrastructure. Also included in the cost is \$495,000 for studies and other development related roads projects.

The entire \$15.55 million development-related capital program is not to be fully recovered from future development charges; roughly \$5.62 million will be funded through contributions from the County and neighbouring communities to fund a share of specific intersection

improvements and studies. In addition, approximately \$1.68 million of the program has been identified as a non-growth or benefit to existing share. For road projects, 50 per cent of the projects costs were deemed to be a replacement share, consistent with the 2016 Development Charge Background Study. This share represent a share of costs which would need to be incurred for regular road work in the absence of growth. A portion of the traffic calming measures project has been allocated 76 per cent to replacement and 24 per cent to growth (based on share of future population and employment growth relative to the existing base).

The development charge recoverable share of the capital program is \$8.25 million. Around \$106,800 is related to growth beyond 2031 and will be recovered through subsequent studies. A portion, \$1.75 million, will be funded through the Roads and Related DC reserve, which leaves \$6.39 million eligible for recovery in the 2022 to 2031 planning period.

The development-related cost has been allocated 87 per cent (\$5.56 million) to new residential development and 13 per cent (\$831,026) to new non-residential development. The allocation of costs is based on shares of population growth in new households and employment growth over the planning period. When the residential share is divided by the forecast increase in population in new units to 2031 (6,610) a per capita charge of \$841.37 is derived. Similarly, when the non-residential share is divided by the forecast increase in floor space (85,151) a charge of \$9.76 per square metre is derived.

TABLE 3 CASH FLOW ANALYSIS

After cash flow consideration, both the residential and non-residential calculated charges increases to \$900.66 per capita and \$10.21 per square metre, respectively. The following table summarizes the calculation of the Roads & Related development charge:

SERVICES RELATED TO A HIGHWAY: ROADS & RELATED SUMMARY						
10-year Hist.	2022 - 2031		Unadjusted		Adjusted	
Service Level	Development-Related Capital Program		Development Charge		Development Charge	
per pop & emp	Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m
\$6,601.87	\$15,549,700	\$6,392,509	\$841.37	\$9.76	\$900.66	\$10.21

APPENDIX C.2

TABLE 1

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

ROADS Type of Road	# of Kilometres										UNIT COST (\$/km)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
LCB	28	28	28	28	28	28	28	28	28	28	\$414,000
HCB	60	60	60	60	60	60	60	60	60	60	\$644,400
Gravel	19	19	19	19	19	19	19	19	19	19	\$401,600
Total (km)	107										
Total (\$000)	\$57,886.4										

BRIDGES & CULVERTS Description	# of Bridges & Culverts										UNIT COST (\$/unit)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Bridges	14	14	14	14	14	14	14	14	14	14	\$4,500,000
Major Culverts	11	11	11	11	11	11	11	11	11	11	\$300,000
Minor Culverts	230	230	230	230	232	232	232	232	232	232	\$7,500
Total (#)	255	255	255	255	257	257	257	257	257	257	
Total (\$000)	\$68,025.0	\$68,025.0	\$68,025.0	\$68,025.0	\$68,040.0	\$68,040.0	\$68,040.0	\$68,040.0	\$68,040.0	\$68,040.0	

TRAFFIC SIGNALS & STREETLIGHTS Description	# of Units										UNIT COST (\$/unit)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Street and stop signs	1,180	1,192	1,214	1,214	1,223	1,223	1,223	1,223	1,223	1,223	\$180
Street ligths	959	998	1,012	1,012	1,368	1,368	1,483	1,494	1,494	1,494	\$2,100
Total (#)	2,139	2,190	2,226	2,226	2,591	2,591	2,706	2,717	2,717	2,717	
Total (\$000)	\$2,226.3	\$2,310.4	\$2,343.7	\$2,343.7	\$3,092.9	\$3,092.9	\$3,334.4	\$3,357.5	\$3,357.5	\$3,357.5	

SIDEWALKS Description	# of Metres										UNIT COST (\$/m)
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Sidewalks	32,755	32,755	32,755	32,755	32,755	32,755	32,755	32,755	32,755	32,755	\$220
Total (km)	32,755.4										
Total (\$000)	\$7,206.2										



APPENDIX C.2
TABLE 1

RUSSELL TOWNSHIP
CALCULATION OF SERVICE LEVELS
SERVICES RELATED TO A HIGHWAY: ROADS & RELATED

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Historical Population	15,493	15,743	15,998	16,257	16,520	17,003	17,622	18,538	19,605	20,320
Historical Employment	2,735	2,897	3,068	3,249	3,441	3,542	3,671	3,861	4,084	4,233
Total Historical Pop. & Emp.	18,228	18,640	19,066	19,506	19,961	20,545	21,292	22,399	23,689	24,552

INVENTORY SUMMARY (\$000)

Roads	\$57,886.4	\$57,886.4	\$57,886.4	\$57,886.4	\$57,886.4	\$57,886.4	\$57,886.4	\$57,886.4	\$57,886.4	\$57,886.4
Bridges & Culverts	\$68,025.0	\$68,025.0	\$68,025.0	\$68,025.0	\$68,040.0	\$68,040.0	\$68,040.0	\$68,040.0	\$68,040.0	\$68,040.0
Traffic Signals & Streetlights	\$2,226.3	\$2,310.4	\$2,343.7	\$2,343.7	\$3,092.9	\$3,092.9	\$3,334.4	\$3,357.5	\$3,357.5	\$3,357.5
Sidewalks	\$7,206.2	\$7,206.2	\$7,206.2	\$7,206.2	\$7,206.2	\$7,206.2	\$7,206.2	\$7,206.2	\$7,206.2	\$7,206.2
Total (\$000)	\$135,343.9	\$135,427.9	\$135,461.3	\$135,461.3	\$136,225.5	\$136,225.5	\$136,467.0	\$136,490.1	\$136,490.1	\$136,490.1

Average
Service
Level

SERVICE LEVEL (\$/pop & emp)

Roads	\$3,175.69	\$3,105.49	\$3,036.11	\$2,967.62	\$2,899.95	\$2,817.52	\$2,718.67	\$2,584.33	\$2,443.57	\$2,357.68	\$2,810.66
Bridges & Culverts	\$3,731.9	\$3,649.4	\$3,567.9	\$3,487.4	\$3,408.6	\$3,311.7	\$3,195.5	\$3,037.6	\$2,872.2	\$2,771.2	\$3,303.35
Traffic Signals & Streetlights	\$122.1	\$123.9	\$122.9	\$120.2	\$154.9	\$150.5	\$156.6	\$149.9	\$141.7	\$136.8	\$137.96
Sidewalks	\$395.3	\$386.6	\$378.0	\$369.4	\$361.0	\$350.7	\$338.4	\$321.7	\$304.2	\$293.5	\$349.89
Total (\$/pop & emp)	\$7,425.05	\$7,265.45	\$7,104.86	\$6,944.60	\$6,824.52	\$6,630.54	\$6,409.26	\$6,093.57	\$5,761.69	\$5,559.17	\$6,601.87

RUSSELL TOWNSHIP
CALCULATION OF MAXIMUM ALLOWABLE
SERVICES RELATED TO A HIGHWAY: ROADS & RELATED

10-Year Funding Envelope Calculation	
10 Year Average Service Level 2012 - 2021	\$6,601.87
Net Population & Employment Growth 2022 - 2031	7,556
Maximum Allowable Funding Envelope	\$49,885,905

Excess Capacity Calculation	
Total Value of Inventory in 2021	\$136,490,117
Inventory Using Average Service Level	\$162,090,862
Excess Capacity	\$0
Excess Capacity:	Committed



APPENDIX C.2
TABLE 2

RUSSELL TOWNSHIP
DEVELOPMENT-RELATED CAPITAL PROGRAM
SERVICES RELATED TO A HIGHWAY: ROADS & RELATED

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Development Related Costs		
					BTE (%)	Replacement & BTE Shares		Available DC Reserves	2022-2031	Other Dev. Related*
2.0 SERVICES RELATED TO A HIGHWAY: ROADS & RELATED										
2.1 Roads and Related Infrastructure										
2.1.1 St-Joseph, Notre-Dame to Route 400 (1.1 km)	2022	\$ 140,000	\$ -	\$ 140,000	50%	\$ 70,000	\$ 70,000	\$ 70,000	\$ -	\$ -
2.1.2 Route 300 St-Guillaume to Limoges Rd (7.0 km) - Part 1	2022	\$ 729,850	\$ -	\$ 729,850	50%	\$ 364,925	\$ 364,925	\$ 364,925	\$ -	\$ -
2.1.3 Route 200 - Boundary to St. Guillaume (1.4km)	2022	\$ 175,000	\$ -	\$ 175,000	50%	\$ 87,500	\$ 87,500	\$ 87,500	\$ -	\$ -
2.1.4 Route 300 - 4.5km	2022	\$ 540,000	\$ -	\$ 540,000	50%	\$ 270,000	\$ 270,000	\$ 270,000	\$ -	\$ -
2.1.5 Route 200 - 1.5km Overlay	2022	\$ 45,000	\$ -	\$ 45,000	50%	\$ 22,500	\$ 22,500	\$ 22,500	\$ -	\$ -
2.1.6 Route 500, (Grégoire Rd to South Russell Rd (1.5 km)	2023	\$ 250,000	\$ -	\$ 250,000	50%	\$ 125,000	\$ 125,000	\$ -	\$ 125,000	\$ -
2.1.7 Route 300 St-Guillaume to Limoges Rd (7.0 km) - Part 2	2023	\$ 729,850	\$ -	\$ 729,850	50%	\$ 364,925	\$ 364,925	\$ -	\$ 364,925	\$ -
2.1.8 Concession / North Russell Craig to Route 200 (2.6 km)	2023	\$ 140,000	\$ -	\$ 140,000	50%	\$ 70,000	\$ 70,000	\$ -	\$ 70,000	\$ -
2.1.9 St. Thomas - Notre Dame to Route 200 (1.8km)	2025	\$ 215,000	\$ -	\$ 215,000	50%	\$ 107,500	\$ 107,500	\$ -	\$ 107,500	\$ -
2.1.10 St. Augustin - Notre Dame to Route 200 (1.5km)	2026	\$ 280,000	\$ -	\$ 280,000	50%	\$ 140,000	\$ 140,000	\$ -	\$ 140,000	\$ -
Subtotal Roads and Related Infrastructure		\$ 3,244,700	\$ -	\$ 3,244,700		\$ 1,622,350	\$ 1,622,350	\$ 814,925	\$ 807,425	\$ -
2.2 Intersections and Sidewalks										
2.2.1 Reroute of St.Pierre Road Intersection Improvements	2022	\$ 1,960,000	\$ 1,225,000	\$ 735,000	0%	\$ -	\$ 735,000	\$ 735,000	\$ -	\$ -
2.2.2 Route 300 and St. Pierre Intersection Improvements	2023	\$ 1,500,000	\$ -	\$ 1,500,000	0%	\$ -	\$ 1,500,000	\$ -	\$ 1,500,000	\$ -
2.2.3 Roundabout Limoges Rd and Route 300	2023	\$ 2,000,000	\$ 1,333,333	\$ 666,667	0%	\$ -	\$ 666,667	\$ -	\$ 666,667	\$ -
2.2.4 Intersection Signilization - Notre Dame, St. Joseph & St. Thomas	2025	\$ 750,000	\$ -	\$ 750,000	0%	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
2.2.5 Signalize Castor and Eadie intersection	2025	\$ 750,000	\$ -	\$ 750,000	0%	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
2.2.6 Turning lane St-Jacques and Notre-Dame	2025	\$ 250,000	\$ -	\$ 250,000	0%	\$ -	\$ 250,000	\$ -	\$ 250,000	\$ -
2.2.7 Roundabout St-Guillaume and Route 300	2025	\$ 2,000,000	\$ 1,333,333	\$ 666,667	0%	\$ -	\$ 666,667	\$ -	\$ 666,667	\$ -
2.2.8 Turn lane Route 300 and St-Augustin	2025	\$ 300,000	\$ -	\$ 300,000	0%	\$ -	\$ 300,000	\$ -	\$ 300,000	\$ -
2.2.9 Turn lane Route 300 and St-Thomas	2025	\$ 300,000	\$ -	\$ 300,000	0%	\$ -	\$ 300,000	\$ -	\$ 225,000	\$ 75,000
2.2.10 Roundabout St-Guillaume and Commercial Land	2022	\$ 2,000,000	\$ 1,670,000	\$ 330,000	0%	\$ -	\$ 330,000	\$ 202,963	\$ 95,277	\$ 31,759
Subtotal Intersections and Sidewalks		\$ 11,810,000	\$ 5,561,667	\$ 6,248,333		\$ -	\$ 6,248,333	\$ 937,963	\$ 5,203,611	\$ 106,759

APPENDIX C.2
TABLE 2

RUSSELL TOWNSHIP
DEVELOPMENT-RELATED CAPITAL PROGRAM
SERVICES RELATED TO A HIGHWAY: ROADS & RELATED

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Development Related Costs		
					BTE (%)	Replacement & BTE Shares		Available DC Reserves	2022-2031	Other Dev. Related*
2.3 Studies & Others										
2.3.1 Intersection Study	2022	\$ 45,000	\$ 30,000	\$ 15,000	0%	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
2.3.2 Traffic Calming Measures	Various	\$ 100,000	\$ 30,000	\$ 70,000	76%	\$ 53,526	\$ 16,474	\$ -	\$ 16,474	\$ -
2.3.3 Multi-Use Path Provision	Various	\$ 350,000	\$ -	\$ 350,000	0%	\$ -	\$ 350,000	\$ -	\$ 350,000	\$ -
Subtotal Studies & Others		\$ 495,000	\$ 60,000	\$ 435,000		\$ 53,526	\$ 381,474	\$ -	\$ 381,474	\$ -
TOTAL SERVICES RELATED TO A HIGHWAY: ROADS & RELATED		\$ 15,549,700	\$ 5,621,667	\$ 9,928,033		\$ 1,675,876	\$ 8,252,157	\$ 1,752,888	\$ 6,392,509	\$ 106,759

*Development related costs to be considered for funding from other tools and/or future DC Studies.

Residential Development Charge Calculation		
Residential Share of 2022 - 2031 DC Eligible Costs	87%	\$5,561,483
2022-2031 Growth in Population in New Units		6,610
Unadjusted Development Charge Per Capita		\$841.37
Non-Residential Development Charge Calculation		
Non-Residential Share of 2022 - 2031 DC Eligible Costs	13%	\$831,026
2022-2031 Growth in Square Metres		85,151
Unadjusted Development Charge Per Square Metre		\$9.76

2022 - 2031 Net Funding Envelope	\$49,885,905
December 31, 2020 Reserve Funds	\$1,752,888

**APPENDIX C.2
TABLE 3**

**RUSSELL TOWNSHIP
SERVICES RELATED TO A HIGHWAY: ROADS & RELATED
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE**

ROADS: RESIDENTIAL	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE (\$000)	\$1,525.0	\$577.9	(\$1,209.7)	(\$591.1)	(\$2,810.4)	(\$2,463.7)	(\$2,005.7)	(\$1,554.0)	(\$1,066.1)	(\$552.9)	
2022 - 2031 RESIDENTIAL FUNDING REQUIREMENTS											
Prior Growth	\$1,525.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1,525.0
Roads: Residential: Non Inflated	\$127.8	\$2,404.0	\$31.9	\$2,684.7	\$153.7	\$31.9	\$31.9	\$31.9	\$31.9	\$31.9	\$5,561.5
Roads: Residential: Inflated	\$1,652.8	\$2,452.1	\$33.2	\$2,849.0	\$166.4	\$35.2	\$35.9	\$36.6	\$37.4	\$38.1	\$7,336.6
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	754	754	754	754	676	622	580	580	568	568	6,610
REVENUE											
- DC Receipts: Inflated	\$679.1	\$692.7	\$706.5	\$720.7	\$659.0	\$618.5	\$588.3	\$600.1	\$599.4	\$611.4	\$6,475.6
INTEREST											
- Interest on Opening Balance	\$53.4	\$20.2	(\$66.5)	(\$32.5)	(\$154.6)	(\$135.5)	(\$110.3)	(\$85.5)	(\$58.6)	(\$30.4)	(\$600.3)
- Interest on In-year Transactions	(\$26.8)	(\$48.4)	\$11.8	(\$58.5)	\$8.6	\$10.2	\$9.7	\$9.9	\$9.8	\$10.0	(\$63.7)
TOTAL REVENUE	\$705.7	\$664.5	\$651.8	\$629.6	\$513.1	\$493.2	\$487.6	\$524.4	\$550.6	\$591.0	\$5,811.6
CLOSING CASH BALANCE	\$577.9	(\$1,209.7)	(\$591.1)	(\$2,810.4)	(\$2,463.7)	(\$2,005.7)	(\$1,554.0)	(\$1,066.1)	(\$552.9)	\$0.0	

2022 Adjusted Charge Per Capita	\$900.66
----------------------------------------	-----------------

Allocation of Capital Program	
Residential Sector	87.0%
Non-Residential Sector	13.0%
Rates for 2022	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



**APPENDIX C.2
TABLE 3**

**RUSSELL TOWNSHIP
SERVICES RELATED TO A HIGHWAY: ROADS & RELATED
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE**

ROADS: NON-RESIDENTIAL	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE (\$000)	\$227.9	\$110.7	(\$132.2)	(\$14.9)	(\$321.2)	(\$275.6)	(\$202.1)	(\$133.4)	(\$88.3)	(\$45.8)	
2022 - 2031 NON-RESIDENTIAL FUNDING REQUIREMENTS											
Prior Growth	\$227.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$227.9
Roads: Non-Residential: Non: Inflated	\$19.1	\$359.2	\$4.8	\$401.2	\$23.0	\$4.8	\$4.8	\$4.8	\$4.8	\$4.8	\$831.0
Roads: Non-Residential: Inflated	\$247.0	\$366.4	\$5.0	\$425.7	\$24.9	\$5.3	\$5.4	\$5.5	\$5.6	\$5.7	\$1,096.3
NEW NON-RESIDENTIAL DEVELOPMENT											
- New Building GFA - square metres	12,259	12,123	11,988	11,852	7,868	8,198	7,293	4,859	4,356	4,356	85,151
REVENUE											
- DC Receipts: Inflated	\$125.2	\$126.3	\$127.4	\$128.4	\$87.0	\$92.4	\$83.9	\$57.0	\$52.1	\$53.2	\$932.7
INTEREST											
- Interest on Opening Balance	\$8.0	\$3.9	(\$7.3)	(\$0.8)	(\$17.7)	(\$15.2)	(\$11.1)	(\$7.3)	(\$4.9)	(\$2.5)	(\$54.9)
- Interest on In-year Transactions	(\$3.3)	(\$6.6)	\$2.1	(\$8.2)	\$1.1	\$1.5	\$1.4	\$0.9	\$0.8	\$0.8	(\$9.5)
TOTAL REVENUE	\$129.8	\$123.5	\$122.2	\$119.4	\$70.4	\$78.8	\$74.1	\$50.6	\$48.1	\$51.5	\$868.4
CLOSING CASH BALANCE	\$110.7	(\$132.2)	(\$14.9)	(\$321.2)	(\$275.6)	(\$202.1)	(\$133.4)	(\$88.3)	(\$45.8)	\$0.0	

2022 Adjusted Charge Per Square Metre	\$10.21
----------------------------------------------	----------------

Allocation of Capital Program	
Residential Sector	87.0%
Non-Residential Sector	13.0%
Rates for 2022	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX D
WATER & WASTEWATER SERVICES
TECHNICAL APPENDIX

WATER AND WASTEWATER SERVICES

The Township of Russell's Infrastructure Department is responsible for water and wastewater delivery to residents and businesses. The following two appendices are related to:

Appendix D.1 Water Services

Appendix D.2 Wastewater Services

Each appendix contains two sets of tables including the capital program and cashflowing of the calculated DC rates. 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.

As required by Section 5(1) of the DCA, the Township has to include the anticipated amount, type and location of development. In the Township, various areas do not receive water services and are therefore not included in the forecast of this DC Background Study. As such, the development forecast used to in the calculation of water and wastewater DC rates are limited to "serviced" areas.

Tables 6 and 7 of Appendix A refer to the total serviced population in new households and non-residential floor space over the 2022 to 2031 timeframe. Residential unserviced units are estimated to be 70 units over the ten year development period and make up approximately 4 per cent of the total single and semi-detached homes. The large majority of development is therefore forecasted to be serviced and as such, 6,400 of the 6,610 total population in new units, or approximately ninety-seven per cent is included in the rate calculation below.

Non-residential serviced forecast was developed through review of the serviced Gross Floor Area (GFA) in Embrun, Russell and Limoges areas and the unserviced 417 Industrial Park. Of the total 85,151 square meters of space forecasted in the Township over the ten-year period, about eighty per cent or 67,524 is included in the serviced GFA and forms the basis of the calculations below.

The Water and Wastewater Services capital programs are allocated 89 per cent residential and 11 per cent non-residential sectors. This apportionment is based on the anticipated

shares of population growth in new units and employment growth in new space over the ten-year forecast period.

APPENDIX D.1

WATER SERVICES

APPENDIX D.1 – WATER SERVICES

TABLE 1 2022-2031 DEVELOPMENT RELATED CAPITAL PROGRAM & CALCULATION OF THE “UNADJUSTED” DEVELOPMENT CHARGES

The development-related capital program for water services includes new vehicles, an above-ground reservoir expansion, studies, recovery of past expenditures and negative reserve fund balances.

The total cost of the projects is \$13.30 million and can largely be attributable to the recovery of past expenditures (Ottawa water supply debt and the recovery of the negative reserve fund balance). A share of \$20,000 has been netted off the total program to reflect the shared cost with wastewater services. No other grants, subsidies or other contributions have been identified. The resulting total net municipal cost is \$13.28 million.

The benefit to existing share of \$2.12 million has also been netted off of the Ottawa Water Supply debt principal payments, resulting in \$11.16 million eligible for recovery from DCs. About \$1.44 million of the principal payments has been identified to benefit growth beyond 2031 and the remaining \$9.72 million is eligible for recovery in the 2022 to 2031 planning period. The share considered post-period relates to the capacity available for development outside the planning period.

Of the \$9.72 million, \$8.65 million, or 89 per cent, is allocated to residential development. This results in a charge of \$1,351.41 per capita. The remaining \$1.07 million (11 per cent) is allocated to non-residential development, yielding in a charge of \$15.83 per square metre.

TABLE 2 CASH FLOW ANALYSIS

After taking into account the timing of projects and development, the residential charge increases to \$1,959.97 per capita and the non-residential charge increases to \$22.67 per square metre.

WATER SERVICES SUMMARY					
2022 - 2031		Unadjusted		Adjusted	
Development-Related Capital Program		Development Charge		Development Charge	
Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m
\$13,297,869	\$9,717,992	\$1,351.41	\$15.83	\$1,959.97	\$22.67

APPENDIX D.1

TABLE 1

RUSSELL TOWNSHIP
DEVELOPMENT-RELATED CAPITAL PROGRAM
WATER SERVICES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Development Related Costs		
					BTE (%)	Replacement & BTE Shares		Available DC Reserves	2022-2031	Other Dev. Related*
1.0 WATER SERVICES										
1.1 Water Services										
1.1.1 New Vehicle	2022	\$ 40,000	\$ -	\$ 40,000	0%	\$ -	\$ 40,000	\$ -	\$ 40,000	\$ -
1.1.2 New Vehicle (Shared with Wastewater)	2022	\$ 40,000	\$ 20,000	\$ 20,000	0%	\$ -	\$ 20,000	\$ -	\$ 20,000	\$ -
1.1.3 Above-Ground Reservoir Expansion - Construction	2023	\$ 500,000	\$ -	\$ 500,000	0%	\$ -	\$ 500,000	\$ -	\$ 500,000	\$ -
Subtotal Water Services		\$ 580,000	\$ 20,000	\$ 560,000		\$ -	\$ 560,000	\$ -	\$ 560,000	\$ -
1.2 Recovery of Past Expenditures (Principal Payments Only) (1)										
1.2.1 Negative Reserve Fund Balance	2022	\$ 1,410,622	\$ -	\$ 1,410,622	0%	\$ -	\$ 1,410,622	\$ -	\$ 1,410,622	\$ -
1.2.2 Ottawa Water Supply	2022	\$ 354,295	\$ -	\$ 354,295	19%	\$ 67,316	\$ 286,979	\$ -	\$ 286,979	\$ -
1.2.3 Ottawa Water Supply	2023	\$ 371,687	\$ -	\$ 371,687	19%	\$ 70,621	\$ 301,066	\$ -	\$ 301,066	\$ -
1.2.4 Ottawa Water Supply	2024	\$ 389,932	\$ -	\$ 389,932	19%	\$ 74,087	\$ 315,845	\$ -	\$ 315,845	\$ -
1.2.5 Ottawa Water Supply	2025	\$ 409,073	\$ -	\$ 409,073	19%	\$ 77,724	\$ 331,349	\$ -	\$ 331,349	\$ -
1.2.6 Ottawa Water Supply	2026	\$ 429,154	\$ -	\$ 429,154	19%	\$ 81,539	\$ 347,615	\$ -	\$ 347,615	\$ -
1.2.7 Ottawa Water Supply	2027	\$ 450,220	\$ -	\$ 450,220	19%	\$ 85,542	\$ 364,678	\$ -	\$ 364,678	\$ -
1.2.8 Ottawa Water Supply	2028	\$ 472,321	\$ -	\$ 472,321	19%	\$ 89,741	\$ 382,580	\$ -	\$ 382,580	\$ -
1.2.9 Ottawa Water Supply	2029	\$ 495,506	\$ -	\$ 495,506	19%	\$ 94,146	\$ 401,360	\$ -	\$ 401,360	\$ -
1.2.10 Ottawa Water Supply	2030	\$ 519,830	\$ -	\$ 519,830	19%	\$ 98,768	\$ 421,062	\$ -	\$ 421,062	\$ -
1.2.11 Ottawa Water Supply	2031	\$ 545,347	\$ -	\$ 545,347	19%	\$ 103,616	\$ 441,731	\$ -	\$ 441,731	\$ -
1.2.12 Ottawa Water Supply (Remaining Payments)	2031	\$ 6,719,881	\$ -	\$ 6,719,881	19%	\$ 1,276,777	\$ 5,443,104	\$ -	\$ 4,003,104	\$ 1,440,000
Subtotal Recovery of Past Expenditures (Principal Payments Only) (1)		\$ 12,567,869	\$ -	\$ 12,567,869		\$ 2,119,877	\$ 10,447,992	\$ -	\$ 9,007,992	\$ 1,440,000
1.3 Studies										
1.3.1 Reservoir Expansion Study	2022	\$ 150,000	\$ -	\$ 150,000	0%	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
Subtotal Studies		\$ 150,000	\$ -	\$ 150,000		\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
TOTAL WATER SERVICES		\$ 13,297,869	\$ 20,000	\$ 13,277,869		\$ 2,119,877	\$ 11,157,992	\$ -	\$ 9,717,992	\$ 1,440,000

Note 1: interest Payments included in the cash Flow

*Development related costs to be considered for funding from other tools and/or future DC Studies.

Residential Development Charge Calculation		
Residential Share of 2022 - 2031 DC Eligible Costs	89%	\$8,649,013
2022-2031 Growth in Population in New Units		6,400
Unadjusted Development Charge Per Capita		\$1,351.41
Non-Residential Development Charge Calculation		
Non-Residential Share of 2022 - 2031 DC Eligible Costs	11%	\$1,068,979
2022-2031 Growth in Square Metres		67,524
Unadjusted Development Charge Per Square Metre		\$15.83

Reserve Fund Balance	
Balance as at December 31, 2020	(\$1,410,622)



APPENDIX D.1
TABLE 2

RUSSELL TOWNSHIP
WATER SERVICES
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE

WATER: RESIDENTIAL	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE (\$000)	(\$1,255.5)	(\$1,979.8)	(\$1,706.7)	(\$927.0)	(\$74.4)	\$687.6	\$1,386.9	\$2,042.4	\$2,745.8	\$3,471.0	
2022 - 2031 RESIDENTIAL FUNDING REQUIREMENTS											
Prior Growth	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Water: Residential: Non Inflated	\$186.9	\$445.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$631.9
Water: Ottawa Supply Debt ¹	\$1,510.9	\$267.9	\$281.1	\$294.9	\$309.4	\$324.6	\$340.5	\$357.2	\$374.7	\$3,955.9	\$8,017.1
Water: Residential: Inflated	\$1,697.8	\$721.8	\$281.1	\$294.9	\$309.4	\$324.6	\$340.5	\$357.2	\$374.7	\$3,955.9	\$8,657.9
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	733	733	733	733	655	601	559	559	547	547	6,400
REVENUE											
- DC Receipts: Inflated	\$1,436.7	\$1,465.4	\$1,494.7	\$1,524.6	\$1,389.6	\$1,300.5	\$1,233.9	\$1,258.5	\$1,256.1	\$1,281.3	\$13,641.3
INTEREST											
- Interest on Opening Balance	(\$69.0)	(\$108.9)	(\$93.9)	(\$51.0)	(\$4.1)	\$24.1	\$48.5	\$71.5	\$96.1	\$121.5	\$34.8
- Interest on In-year Transactions	(\$7.2)	\$13.0	\$21.2	\$21.5	\$18.9	\$17.1	\$15.6	\$15.8	\$15.4	(\$73.6)	\$57.9
- Interest on Ottawa Supply Debt	(\$387.0)	(\$374.5)	(\$361.3)	(\$347.5)	(\$333.1)	(\$317.9)	(\$302.0)	(\$285.2)	(\$267.7)	(\$844.3)	(\$3,820.6)
TOTAL REVENUE	\$973.4	\$995.0	\$1,060.7	\$1,147.6	\$1,071.3	\$1,023.8	\$996.1	\$1,060.5	\$1,100.0	\$484.9	\$9,913.4
CLOSING CASH BALANCE	(\$1,979.8)	(\$1,706.7)	(\$927.0)	(\$74.4)	\$687.6	\$1,386.9	\$2,042.4	\$2,745.8	\$3,471.0	(\$0.0)	

¹ Principal payments not inflated.

2022 Adjusted Charge Per Capita	\$1,959.97
----------------------------------------	-------------------

Allocation of Capital Program	
Residential Sector	89.0%
Non-Residential Sector	11.0%
Rates for 2022	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

APPENDIX D.1
TABLE 2

RUSSELL TOWNSHIP
WATER SERVICES
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE

WATER: NON-RESIDENTIAL	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL	
OPENING CASH BALANCE (\$000)	(\$155.2)	(\$200.8)	(\$122.8)	\$18.5	\$169.2	\$250.8	\$345.0	\$427.1	\$464.0	\$493.3		
2022 - 2031 NON-RESIDENTIAL FUNDING REQUIREMENTS												
Prior Growth	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Water: Non-Residential: Non: Inflated	\$23.1	\$55.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$78.1
Water: Ottawa Supply Debt ¹	\$186.7	\$33.1	\$34.7	\$36.4	\$38.2	\$40.1	\$42.1	\$44.1	\$46.3	\$488.9	\$990.9	\$990.9
Water: Non-Residential: Inflated	\$209.84	\$89.2	\$34.7	\$36.4	\$38.2	\$40.1	\$42.1	\$44.1	\$46.3	\$488.9	\$1,070.1	\$1,070.1
NEW NON-RESIDENTIAL DEVELOPMENT												
- New Building GFA - square metres	9,721	9,614	9,506	9,399	6,239	6,501	5,783	3,853	3,454	3,454	67,524	67,524
REVENUE												
- DC Receipts: Inflated	\$220.3	\$222.3	\$224.2	\$226.1	\$153.1	\$162.7	\$147.6	\$100.3	\$91.7	\$93.6	\$1,641.9	\$1,641.9
INTEREST												
- Interest on Opening Balance	(\$8.5)	(\$11.0)	(\$6.8)	\$0.6	\$5.9	\$8.8	\$12.1	\$14.9	\$16.2	\$17.3	\$49.5	\$49.5
- Interest on In-year Transactions	\$0.2	\$2.3	\$3.3	\$3.3	\$2.0	\$2.1	\$1.8	\$1.0	\$0.8	(\$10.9)	\$6.1	\$6.1
- Interest on Ottawa Supply Debt	(\$47.8)	(\$46.3)	(\$44.7)	(\$43.0)	(\$41.2)	(\$39.3)	(\$37.3)	(\$35.3)	(\$33.1)	(\$104.3)	(\$472.2)	(\$472.2)
TOTAL REVENUE	\$164.2	\$167.3	\$176.1	\$187.1	\$119.8	\$134.3	\$124.2	\$81.0	\$75.7	(\$4.4)	\$1,225.2	\$1,225.2
CLOSING CASH BALANCE	(\$200.8)	(\$122.8)	\$18.5	\$169.2	\$250.8	\$345.0	\$427.1	\$464.0	\$493.3	(\$0.0)		

¹ Principal payments not inflated.

2022 Adjusted Charge Per Square Metre

\$22.67

Allocation of Capital Program

Residential Sector	89.0%
Non-Residential Sector	11.0%

Rates for 2022

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

APPENDIX D.2

WASTEWATER SERVICES

APPENDIX D.2 – WASTEWATER SERVICES

TABLE 1 2022-2031 DEVELOPMENT-RELATED CAPITAL PROGRAM & CALCULATION OF THE “UNADJUSTED” DEVELOPMENT CHARGES

The Russell Township’s wastewater services capital program consists of capital infrastructure projects in the Embrun and Russell service area. In addition to the infrastructure projects, the program also includes the recovery of past expenditures in the Embrun service area and outstanding prepayment agreements in both Embrun and Russell. Also included is the recovery of the negative reserve fund, sewer capacity studies and a new vehicle.

The entire capital program totals \$14.71 million with a \$20,000 deduction for the new vehicle that will be shared with water services. No other grants, subsidies or other recoveries have been identified for Wastewater services. As the new projects are entirely associated to development-related projects that relate to ensuring capacity is available for development, no shares of the capital program relate to benefit to existing or replacement shares and the entire net municipal cost of \$14.69 million is eligible for recovery from development charges.

Importantly, the entire cost of the Embrun Lagoon expansion is anticipated to benefit development beyond 2031 and the cost of \$2.50 million has been removed from the calculation of development charges. The cost is anticipated to be reviewed for recovery under subsequent DC Studies. The remaining \$12.19 million is brought forward to the development charge calculation, of which, \$7.07 million of this cost relates to the recovery of the Township’s negative DC reserve fund balance and about \$917,000 from outstanding DC credits in Embrun and Russell service areas.

Of the \$12.19 million, 89 per cent, \$10.85 million is allocated to residential development, which results in a charge of \$1,695.18 per capita and \$1.34 million (11 per cent) is allocated toward non-residential development, yielding a charge of \$19.86 per square metre.

TABLE 2 CASH FLOW ANALYSIS

After taking into account reserve fund balances and interest costs, the residential charge increases \$1,787.36 per capita and the non-residential charge increases to \$21.67 per square metre.

WASTEWATER SERVICES SUMMARY					
2022 - 2031		Unadjusted		Adjusted	
Development-Related Capital Program		Development Charge		Development Charge	
Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/capita	\$/sq.m
\$14,710,046	\$12,190,046	\$1,695.18	\$19.86	\$1,787.36	\$21.67

APPENDIX D.2

TABLE 1

RUSSELL TOWNSHIP
DEVELOPMENT-RELATED CAPITAL PROGRAM
WASTEWATER SERVICES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Development Related Costs		
					BTE (%)	Replacement & BTE Shares		Available DC Reserves	2022-2031	Other Dev. Related*
2.0 WASTEWATER SERVICES										
2.1 Embrun Wastewater Sewers										
2.1.1 Dredging & Desludging	2022	\$ 80,000	\$ -	\$ 80,000	0%	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
2.1.2 Embrun SPS 3 Upgrade	2026	\$ 500,000	\$ -	\$ 500,000	0%	\$ -	\$ 500,000	\$ -	\$ 500,000	\$ -
2.1.3 Embrun SPS 1 Upgrade	2031	\$ 500,000	\$ -	\$ 500,000	0%	\$ -	\$ 500,000	\$ -	\$ 500,000	\$ -
2.1.4 Embrun SPS 2 Upgrade	2031	\$ 500,000	\$ -	\$ 500,000	0%	\$ -	\$ 500,000	\$ -	\$ 500,000	\$ -
2.1.5 Lagoon Expansion (Land and Capital Works)	2035	\$ 2,500,000	\$ -	\$ 2,500,000	0%	\$ -	\$ 2,500,000	\$ -	\$ -	\$ 2,500,000
Subtotal Embrun Wastewater Sewers		\$ 4,080,000	\$ -	\$ 4,080,000		\$ -	\$ 4,080,000	\$ -	\$ 1,580,000	\$ 2,500,000
2.2 Russell Wastewater Sewers										
2.2.1 Phosphorus Removal - Plan	2022	\$ 50,000	\$ -	\$ 50,000	0%	\$ -	\$ 50,000	\$ -	\$ 50,000	\$ -
2.2.2 Dredging & Desludging	2022	\$ 80,000	\$ -	\$ 80,000	0%	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
2.2.3 Russell SPS 1 Upgrade - Design/Study	2023	\$ 150,000	\$ -	\$ 150,000	0%	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
2.2.4 Russell SPS 1 Upgrade - Construction	2027	\$ 1,350,000	\$ -	\$ 1,350,000	0%	\$ -	\$ 1,350,000	\$ -	\$ 1,350,000	\$ -
Subtotal Russell Wastewater Sewers		\$ 1,630,000	\$ -	\$ 1,630,000		\$ -	\$ 1,630,000	\$ -	\$ 1,630,000	\$ -
2.3 Recovery of Past Expenditures (Principal Payments Only) (1)										
2.3.1 Embrun Sewer Station 3	2022	\$ 60,426	\$ -	\$ 60,426	0%	\$ -	\$ 60,426	\$ -	\$ 60,426	\$ -
2.3.1 Embrun Sewer Station 3	2023	\$ 61,979	\$ -	\$ 61,979	0%	\$ -	\$ 61,979	\$ -	\$ 61,979	\$ -
2.3.1 Embrun Sewer Station 3	2024	\$ 63,573	\$ -	\$ 63,573	0%	\$ -	\$ 63,573	\$ -	\$ 63,573	\$ -
2.3.1 Embrun Sewer Station 3	2025	\$ 65,207	\$ -	\$ 65,207	0%	\$ -	\$ 65,207	\$ -	\$ 65,207	\$ -
2.3.1 Embrun Sewer Station 3	2026	\$ 66,884	\$ -	\$ 66,884	0%	\$ -	\$ 66,884	\$ -	\$ 66,884	\$ -
2.3.2 Embrun Lagoon Extension	2022	\$ 81,186	\$ -	\$ 81,186	0%	\$ -	\$ 81,186	\$ -	\$ 81,186	\$ -
2.3.3 Embrun Lagoon Extension	2023	\$ 83,274	\$ -	\$ 83,274	0%	\$ -	\$ 83,274	\$ -	\$ 83,274	\$ -
2.3.4 Embrun Lagoon Extension	2024	\$ 85,415	\$ -	\$ 85,415	0%	\$ -	\$ 85,415	\$ -	\$ 85,415	\$ -
2.3.5 Embrun Lagoon Extension	2025	\$ 87,611	\$ -	\$ 87,611	0%	\$ -	\$ 87,611	\$ -	\$ 87,611	\$ -
2.3.6 Embrun Lagoon Extension	2026	\$ 89,863	\$ -	\$ 89,863	0%	\$ -	\$ 89,863	\$ -	\$ 89,863	\$ -
2.3.7 Embrun Sewer Station 8	2022	\$ 31,668	\$ -	\$ 31,668	0%	\$ -	\$ 31,668	\$ -	\$ 31,668	\$ -
2.3.8 Embrun Sewer Station 8	2023	\$ 32,482	\$ -	\$ 32,482	0%	\$ -	\$ 32,482	\$ -	\$ 32,482	\$ -
2.3.9 Embrun Sewer Station 8	2024	\$ 33,317	\$ -	\$ 33,317	0%	\$ -	\$ 33,317	\$ -	\$ 33,317	\$ -
2.3.10 Embrun Sewer Station 8	2025	\$ 34,174	\$ -	\$ 34,174	0%	\$ -	\$ 34,174	\$ -	\$ 34,174	\$ -
2.3.11 Embrun Sewer Station 8	2026	\$ 35,052	\$ -	\$ 35,052	0%	\$ -	\$ 35,052	\$ -	\$ 35,052	\$ -
2.3.3 Outstanding Prepayment Agreements (Embrun + Russell)	2022	\$ 916,712	\$ -	\$ 916,712	0%	\$ -	\$ 916,712	\$ -	\$ 916,712	\$ -
2.3.4 Recovery of Negative Reserve Fund	2022	\$ 7,071,225	\$ -	\$ 7,071,225	0%	\$ -	\$ 7,071,225	\$ -	\$ 7,071,225	\$ -
Subtotal Recovery of Past Expenditures (Principal Payments Only) (1)		\$ 8,900,046	\$ -	\$ 8,900,046		\$ -	\$ 8,900,046	\$ -	\$ 8,900,046	\$ -



APPENDIX D.2

TABLE 1

RUSSELL TOWNSHIP
DEVELOPMENT-RELATED CAPITAL PROGRAM
WASTEWATER SERVICES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Development Related Costs		
					BTE (%)	Replacement & BTE Shares		Available DC Reserves	2022-2031	Other Dev. Related*
2.4 Studies and Other										
2.4.1 Sewer Capacity Study	2025	\$ 30,000	\$ -	\$ 30,000	0%	\$ -	\$ 30,000	\$ -	\$ 30,000	\$ -
2.4.2 Sewer Capacity Study	2030	\$ 30,000	\$ -	\$ 30,000	0%	\$ -	\$ 30,000	\$ -	\$ 30,000	\$ -
2.4.3 New Vehicle (Shared with Water)	2022	\$ 40,000	\$ 20,000	\$ 20,000	0%	\$ -	\$ 20,000	\$ -	\$ 20,000	\$ -
Subtotal Studies and Other		\$ 100,000	\$ 20,000	\$ 80,000		\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
TOTAL WASTEWATER SERVICES		\$ 14,710,046	\$ 20,000	\$ 14,690,046		\$ -	\$ 14,690,046	\$ -	\$ 12,190,046	\$ 2,500,000

Note 1: interest Payments included in the cash Flow

*Development related costs to be considered for funding from other tools and/or future DC Studies.

Residential Development Charge Calculation		
Residential Share of 2022 - 2031 DC Eligible Costs	89%	\$10,849,141
2022-2031 Growth in Population in New Units		6,400
Unadjusted Development Charge Per Capita		\$1,695.18
Non-Residential Development Charge Calculation		
Non-Residential Share of 2022 - 2031 DC Eligible Costs	11%	\$1,340,905
2022-2031 Growth in Square Metres		67,524
Unadjusted Development Charge Per Square Metre		\$19.86

Reserve Fund Balance	
Balance as at December 31, 2020	(\$7,071,225)



APPENDIX D.2
TABLE 2

**RUSSELL TOWNSHIP
WASTEWATER SERVICES
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE**

WASTEWATER SERVICES: RESIDENTIAL	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE (\$000)	(\$6,293.4)	(\$6,521.6)	(\$5,674.9)	(\$4,611.8)	(\$3,487.2)	(\$2,883.0)	(\$3,186.0)	(\$2,216.3)	(\$1,170.4)	(\$101.1)	
2022 - 2031 RESIDENTIAL FUNDING REQUIREMENTS											
Prior Growth	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wastewater Services: Residential: Non Inflated	\$204.7	\$133.5	\$0.0	\$26.7	\$445.0	\$1,201.5	\$0.0	\$0.0	\$26.7	\$890.0	\$2,928.1
Wastewater Services: Residential: Principal Debt	\$970.1	\$158.2	\$162.3	\$166.4	\$170.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1,627.7
Wastewater Services: Residential: Inflated	\$1,174.8	\$136.2	\$0.0	\$28.3	\$481.7	\$1,326.6	\$0.0	\$0.0	\$31.3	\$1,063.6	\$4,242.4
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	733	733	733	733	655	601	559	559	547	547	6,400
REVENUE											
- DC Receipts: Inflated	\$1,310.1	\$1,336.3	\$1,363.1	\$1,390.3	\$1,267.2	\$1,186.0	\$1,125.2	\$1,147.7	\$1,145.5	\$1,168.4	\$12,439.9
INTEREST											
- Interest on Opening Balance	(\$346.1)	(\$358.7)	(\$312.1)	(\$253.6)	(\$191.8)	(\$158.6)	(\$175.2)	(\$121.9)	(\$64.4)	(\$5.6)	(\$1,988.0)
- Interest on In-year Transactions	\$2.4	\$21.0	\$23.9	\$23.8	\$13.7	(\$3.9)	\$19.7	\$20.1	\$19.5	\$1.8	\$142.1
- Interest on Debt	(\$19.8)	(\$15.8)	(\$11.7)	(\$7.6)	(\$3.3)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$58.1)
TOTAL REVENUE	\$946.6	\$982.9	\$1,063.1	\$1,153.0	\$1,085.9	\$1,023.6	\$969.7	\$1,045.9	\$1,100.6	\$1,164.7	\$10,535.8
CLOSING CASH BALANCE	(\$6,521.6)	(\$5,674.9)	(\$4,611.8)	(\$3,487.2)	(\$2,883.0)	(\$3,186.0)	(\$2,216.3)	(\$1,170.4)	(\$101.1)	\$0.0	

2022 Adjusted Charge Per Capita	\$1,787.36
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Allocation of Capital Program	
Residential Sector	89.0%
Non-Residential Sector	11.0%
Rates for 2022	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%



APPENDIX D.2
TABLE 2

**RUSSELL TOWNSHIP
WASTEWATER SERVICES
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE**

WASTEWATER SERVICES: NON-RESIDENTIAL	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE (\$000)	(\$777.8)	(\$756.5)	(\$620.9)	(\$458.8)	(\$289.6)	(\$239.1)	(\$260.9)	(\$131.6)	(\$41.3)	\$41.7	
2022 - 2031 NON-RESIDENTIAL FUNDING REQUIREMENTS											
Prior Growth	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Wastewater Services: Non-Residential: Non: Inflated	\$25.3	\$16.5	\$0.0	\$3.3	\$55.0	\$148.5	\$0.0	\$0.0	\$3.3	\$110.0	\$361.9
Wastewater Services: Non-Residential: Principal Debt P:	\$119.9	\$19.6	\$20.1	\$20.6	\$21.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$201.2
Wastewater Services: Non-Residential: Inflated	\$145.2	\$36.4	\$20.1	\$24.1	\$80.6	\$164.0	\$0.0	\$0.0	\$3.9	\$131.5	\$605.6
NEW NON-RESIDENTIAL DEVELOPMENT											
- New Building GFA - square metres	9,721	9,614	9,506	9,399	6,239	6,501	5,783	3,853	3,454	3,454	67,524
REVENUE											
- DC Receipts: Inflated	\$210.6	\$212.5	\$214.3	\$216.1	\$146.3	\$155.5	\$141.1	\$95.9	\$87.7	\$89.4	\$1,569.5
INTEREST											
- Interest on Opening Balance	(\$42.8)	(\$41.6)	(\$34.1)	(\$25.2)	(\$15.9)	(\$13.1)	(\$14.3)	(\$7.2)	(\$2.3)	\$1.5	(\$195.2)
- Interest on In-year Transactions	\$1.1	\$3.1	\$3.4	\$3.4	\$1.1	(\$0.2)	\$2.5	\$1.7	\$1.5	(\$1.2)	\$16.4
- Interest on Debt	(\$2.4)	(\$2.0)	(\$1.4)	(\$0.9)	(\$0.4)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$7.2)
TOTAL REVENUE	\$166.6	\$172.0	\$182.1	\$193.3	\$131.2	\$142.1	\$129.2	\$90.3	\$86.9	\$89.7	\$1,383.5
CLOSING CASH BALANCE	(\$756.5)	(\$620.9)	(\$458.8)	(\$289.6)	(\$239.1)	(\$260.9)	(\$131.6)	(\$41.3)	\$41.7	\$0.0	

2022 Adjusted Charge Per Square Metre

\$21.67

Allocation of Capital Program

Residential Sector	89.0%
Non-Residential Sector	11.0%

Rates for 2022

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

APPENDIX E

RESERVE FUNDS

APPENDIX E – RESERVE FUNDS

The *Development Charges Act* requires that a reserve fund be established for each service for which development charges are collected. Table 1 presents the uncommitted reserve fund balances, as at December 31, 2020, that are available to help fund the development-related net capital costs identified in this study. We have made an adjustment based on anticipated collections to year-end to arrive at an uncommitted reserve fund balance as of December 31, 2021. All of the available reserve funds are accounted for in this study.

As shown in Table 1, the December 2021 total reserve fund balance was in a positive position of \$717,200. These funds are assigned to projects in the cash flow analysis for each service area. This has the effect of reducing and deferring capital costs brought forward to the development charge calculation through the cash flow analysis.

APPENDIX E

TABLE 1

**RUSSELL TOWNSHIP
DEVELOPMENT CHARGE RESERVE FUND BALANCE BY ACCOUNT
YEAR ENDING DECEMBER 31, 2021**

Service	Uncommitted Reserve Funds
Library Services	\$623,231
Parks & Recreation	\$6,504,126
Fire Protection Services	\$18,596
Police Services	\$53,842
By-Law Enforcement	\$6,768
Development Related Studies	\$14,135
Services Related To A Highway: Public Works	\$225,415
Services Related To A Highway: Roads & Related	\$1,752,888
Water Services	(\$1,410,622)
Wastewater Services	(\$7,071,225)
Total Development Charge Reserves	\$717,154

APPENDIX F

COST OF GROWTH

COST OF GROWTH

ASSET MANAGEMENT PLAN

The *DCA* now requires that municipalities complete an Asset Management Plan before passing a development charges by-law. A key function of the Asset Management Plan 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 Township-owned assets and estimated useful life assumptions for eligible DC services considered as part of the study are outlined in Table 1. Although all capital assets considered in this study have been identified, not all assets necessitate future replacement or ongoing maintenance activities. The exception and the justification is as follows:

- 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.
- For assets that have been constructed (i.e. recovery of past commitments) it is assumed that the related contribution is already included within the Township’s annual provision. As such, these projects are identified as “not applicable” 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 (e.g. 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 Township Assets Useful Lives	
Service	Estimated Useful Life
Library	
Buildings	50 years
Materials and Equipment	15 years
Parks and Recreation	
Buildings	50 years
Park Facilities and Trails	15 years
Fleet and Equipment	10 years
Master Plan	Not infrastructure
Day Care	
Buildings	50 years
Fire Protection Services	
Buildings	50 years
Firefighter Equipment	15 years
Vehicles	10 years
Studies	Not infrastructure
Police Services	Not applicable
By-law Enforcement	
Buildings	50 years
Vehicles and Equipment	10 years
Development Related Studies	
Studies	Not Infrastructure
Services Related to a Highway: Public Works	
Buildings	50 years
Vehicles	15 years
Services Related to a Highway: Roads & Related	
Roads Infrastructure	30 years
Sidewalks	15 years
Studies	Not infrastructure
Water	
Water Infrastructure	50 years
Vehicles	10 years
Studies	Not infrastructure
Wastewater	
Wastewater Infrastructure	30 years
Vehicles	10 years
Studies	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 information obtained from Township staff regarding useful life assumptions and the capital cost of acquiring and/or emplacing 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 (BTE) development. However, for reference, the annual replacement provisions associated with the non-development charge funded costs, including costs related to benefit-to-existing (BTE) and post-period benefit have also been calculated.

Table 2 provides the calculated annual asset management contribution for both the gross capital expenditures and the share related to the 2022-2031 DC recoverable portion for general and engineering services. The year 2032 has been included to calculate the annual contribution for the 2022-2031 period as the expenditures in 2031 will not trigger asset management contributions until 2032. As shown in Table 2, by 2032, the Township will need to fund an additional \$1.38 million per annum in order to properly fund the full life cycle costs of the new assets related to general and engineering services supported under the development charges by-law.

Table 2 Calculated Annual AMP Provisions				
Services	2022-2031 Capital Program		Annual AMP Provision by 2032	
	DC-Eligible	Non DC-Eligible	DC-Related	Non DC-Related
LIBRARY SERVICES	\$2,420,000	\$4,497,000	\$50,200	\$135,600
PARKS & RECREATION	\$20,049,000	\$34,800,000	\$546,200	\$751,500
DAY CARE	\$533,000	\$0	\$10,600	\$0
FIRE PROTECTION SERVICES	\$907,000	\$0	\$77,500	\$0
POLICE SERVICES	\$99,000	\$1,131,000	\$0	\$0
BY-LAW ENFORCEMENT	\$187,000	\$39,000	\$9,800	\$4,000
DEVELOPMENT RELATED STUDIES	\$380,000	\$90,000	\$0	\$0
SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS	\$1,769,000	\$1,376,000	\$75,000	\$27,300
SERVICES RELATED TO A HIGHWAY: ROADS & RELATED	\$7,404,000	\$8,145,000	\$485,000	\$446,000
WATER SERVICES	\$3,580,000	\$9,718,000	\$16,000	\$2,000
WASTEWATER SERVICES	\$2,520,000	\$12,190,000	\$111,000	\$2,000
TOTAL	\$39,848,000	\$71,986,000	\$1,381,300	\$1,368,400

iii. Financial Sustainability of the Program

a) Future Revenue Growth

The calculated annual funding provision should be considered within the context of the Township's projected growth. Over the next 10 years (to 2031) the Township is projected to increase by 2,430 households, which represents a 33 per cent increase over the existing base. In addition, the Township will also add 946 new employees that will result in approximately 85,151 square metres of total additional non-residential building 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.

LONG-TERM CAPITAL AND OPERATING IMPACT ANALYSIS

As shown in Table 3, by 2031, the Township's net operating costs are estimated to increase by \$1.75 million for property tax supported services. Increases in net operating costs would be experienced if new facilities such as park facilities are opened. Operating and maintenance costs will also increase as additions to in the Township's road network are made. Water and Sewer capital expenditures are expected to be off-set by water/sewer rates rather than property taxes and therefore no impact is reflected in the analysis. Capital costs related to studies are not expected to have an impact on property tax supported costs. Importantly, as the Township proceeds with more detailed business cases and

assessments associated with the new multi-plex facility, net operating cost impacts will be refined and reviewed in the context of anticipated user fee revenues.

Table 4 summarizes the components of the development-related capital forecast that will require funding from non-DC sources. In total, \$18.04 million will need to be financed from non-DC sources over the 2022-2031 planning period. In addition, \$31.73 million in interim DC financing related to post-period shares of projects may be required. 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.

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 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 F

TABLE 3

RUSSELL TOWNSHIP
 ESTIMATED NET OPERATING COST OF THE PROPOSED
 DEVELOPMENT-RELATED CAPITAL PROGRAM
 (in constant 2021 dollars)

		Net Cost (in 2021\$)	Estimated Operating Costs (\$000) 2031
Library Services			\$510.0
- New Additional Space	\$30.00	per sq.ft. added	\$510.0
Parks & Recreation			\$431.6
- New Additional Space, Equipment and Vehicles	\$0.01	per \$1.00 of new infrastructure	\$431.6
Day Care			\$5.3
- New Additional Space, Equipment and Vehicles	\$0.01	per \$1.00 of new infrastructure	\$5.3
Fire Protection Services			\$80.0
- New Additional Space, Equipment and Vehicles	\$30.00	per sq.ft. added	\$15.0
- New Additional Space, Equipment and Vehicles	\$0.10	per \$1.00 of new infrastructure	\$65.0
Police Services			\$42.5
- Additional Services (capital only)	\$17.50	per household	\$42.5
By-Law Enforcement			\$15.7
- New Additional Space, Equipment and Vehicles	\$15.00	per sq.ft. added	\$15.0
- New Additional Space, Equipment and Vehicles	\$0.01	per \$1.00 of new infrastructure	\$0.7
Development Related Studies			\$0.0
- No Capital Assets	N/A		
Services Related To A Highway: Public Works			\$176.9
- New Additional Space, Equipment and Vehicles	\$0.10	per \$1.00 of new infrastructure	\$176.9
Services Related To A Highway: Roads & Related			\$486.0
- Development-Related Roads Infrastructure	\$200	per household	\$486.0
Water Services			\$0.0
- Rate supported service - no additional op costs			\$0.0
Wastewater Services			\$0.0
- Rate supported service - no additional op costs			\$0.0
TOTAL ESTIMATED OPERATING COSTS			\$1,748.0

APPENDIX F
TABLE 4

RUSSELL TOWNSHIP
SUMMARY OF TAX AND RATE SUPPORTED FUNDING REQUIREMENTS
CAPITAL PROGRAM FOR NON-DISCOUNTED SERVICES

Service	Development-Related Capital Program (2022 - 2031)				Total DC Eligible Costs for Recovery (\$000)
	Net Municipal Cost (\$000)	Replacement & Benefit to Existing (\$000)	Prior Growth (\$000)	Post-Period Benefit (\$000)	
1.0 LIBRARY SERVICES	\$6,917.1	\$1,050.0	\$623.2	\$3,447.3	\$1,796.6
2.0 PARKS & RECREATION	\$54,849.0	\$11,691.6	\$6,504.1	\$23,108.2	\$13,545.1
3.0 DAY CARE	\$532.9	\$0.0	\$0.0	\$0.0	\$532.9
4.0 FIRE PROTECTION SERVICES	\$906.9	\$0.0	\$18.6	\$0.0	\$888.3
5.0 POLICE SERVICES	\$1,230.2	\$0.0	\$53.8	\$1,131.3	\$45.1
6.0 BY-LAW ENFORCEMENT	\$225.6	\$39.0	\$6.8	\$0.0	\$179.8
7.0 DEVELOPMENT RELATED STUDIES	\$470.0	\$90.0	\$14.1	\$0.0	\$365.9
8.0 SERVICES RELATED TO A HIGHWAY: PUBLIC WORKS	\$3,145.0	\$1,376.4	\$225.4	\$0.0	\$1,543.2
9.0 SERVICES RELATED TO A HIGHWAY: ROADS & RELATED	\$9,928.0	\$1,675.9	\$1,752.9	\$106.8	\$6,392.5
10.0 WATER SERVICES	\$13,277.9	\$2,119.9	\$0.0	\$1,440.0	\$9,718.0
11.0 WASTEWATER SERVICES	\$14,690.0	\$0.0	\$0.0	\$2,500.0	\$12,190.0
TOTAL 10 YEAR NON-DISCOUNTED SERVICES	\$106,172.7	\$18,042.7	\$9,199.0	\$31,733.6	\$47,197.4

APPENDIX G

DRAFT 2021 DEVELOPMENT CHARGES BY-LAW
(AVAILABLE UNDER SEPARATE COVER)