

DEVELOPMENT CHARGES BACKGROUND STUDY



STAFF CONSOLIDATION REPORT

HEMSON Consulting Ltd.

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EXECUTIVE SUMMARY

Hemson Consulting Ltd. was retained by the City of Markham to complete a Development Charges (DC) Background Study. The following summarizes the findings of the 2017 DC Background Study.

A. CITY OF MARKHAM DEVELOPMENT CHARGES REGIME

The City of Markham currently levies three types of development charges for the recovery of development-related capital costs:

- City-Wide Soft (CWS) Service Development Charges — for the recovery of development-related costs for the provision of general government, library, fire, indoor recreation, parks development and facilities, public works (building, equipment and fleet), waste management, and parking services.
- City-Wide Hard (CWH) Service Development Charges — for the recovery of development-related costs for the provision of major roads and related services, including structures, sidewalks, streetlights and special traffic management and design features, as well as storm water management projects (erosion control projects), special projects (streetscaping), and related studies.
- Area-Specific Development Charges (ASDC) — for the recovery of development-related costs for the provision of some roads, intersection improvements, streetlighting, watermains, sanitary sewers, storm water management facilities (storm water ponds), and related studies.

The first two types of development charges, the CWS and CWH, are levied on a uniform basis against all development in the City. The ASDCs are levied on a planning area-specific basis. This review of the DC Background Study will update all of the related CWS, CWH and ASDC by-laws.

B. STUDY CONSISTENT WITH DEVELOPMENT CHARGES LEGISLATION

This study calculates development charges for the City of Markham in compliance with the provisions of the *Development Charges Act, 1997 (DCA)* and its associated regulation (*Ontario Regulation 82/98*).

The City needs to continue implementing development charges to fund capital projects related to growth throughout Markham so that development pays for its capital requirements to the extent allowed by the *DCA* and so that new services required by growth are provided in a fiscally responsible manner.

The *DCA* and *O. Reg. 82/98* require that a development charges background study be prepared in which development charges are determined with reference to:

- a forecast of the amount, type and location of housing units, population and non-residential development anticipated in the City;
- a review of future capital projects, including an analysis of gross expenditures, funding sources, and net expenditures incurred or to be incurred by the City to provide for the expected development, including the determination of the growth and non-growth-related components of the capital projects; 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.

This report identifies the growth-related net capital costs which are attributable to development that is forecast to occur in the City. These 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.

C. ALL SERVICES WITH DEVELOPMENT-RELATED COSTS ARE INCLUDED IN THE ANALYSIS

The following City services have been included in the development charge analysis:

- General Government
- Library
- Fire Services
- Indoor Recreation
- Parks Development and Facilities
- Public Works
- Parking
- Waste Management
- City-Wide Hard (including roads and associated structures, sidewalks, streetlights, streetscaping, intersections, studies, storm water management, water mains, and related studies)

- Area-Specific (including illumination, intersections, roads, storm water management, structures, sanitary sewers, water mains, and related studies)

D. TWO APPROACHES ARE USED TO CALCULATE DEVELOPMENT CHARGES

- A City-wide average cost approach is used to calculate development charges for general government, library, fire services, indoor recreation, parks development and facilities, public works, parking, waste management and City-wide hard services. This approach results in uniform charges throughout the City.
- In addition, area-specific development charges are calculated for illumination, intersections, roads, storm water management, structures, sanitary sewers, water mains, and related studies. The area-specific approach more closely aligns costs and benefits for services where benefits are more localized and can be identified.

E. THE CITY OF MARKHAM IS ANTICIPATED TO GROW BY 73,200 PEOPLE AND 41,500 EMPLOYEES OVER TEN YEARS

- The table below provides a summary of the anticipated residential and non-residential growth over the ten-year period from mid-2017 to mid-2026. The development forecast is further discussed in Appendix A.

	2016 Estimate	Soft Services Planning Period 2017 - 2026		Hard Services Planning Period 2017 - 2031	
		Growth	Total at 2026	Growth	Total at 2031
Residential Development Forecast					
Total Occupied Dwellings	102,676	26,477	129,153	42,174	144,850
Census	328,966	73,161	402,127	115,634	444,600
Non-Residential Development Forecast					
Place of Work Employment	149,779	41,467	191,246	66,021	215,800
Non-Residential Building Space (sq.m.)		1,997,205		3,180,202	

F. INCREASE IN NEED FOR SERVICE BASED ON ANTICIPATED DEVELOPMENT

- In accordance with the *DCA*, development charges have been calculated at a level no higher than the average service level provided in the City over the

ten-year period immediately preceding the preparation of the background study, on a service by service basis.

- The increase in need for service required to service the anticipated development is based on the net population or net population and employment growth in the City. This is used to calculate the ten-year average historical service levels and the maximum permissible DC funding envelopes.
- This approach reflects the manner in which the City develops complete communities and plans for infrastructure and facilities to meet the servicing needs of development.

G. THE STUDY INCLUDES A \$456.30 MILLION GROWTH-RELATED CAPITAL PROGRAM FOR SOFT SERVICES AND A \$1.48 BILLION PROGRAM FOR HARD SERVICES

- The 2017–2026 growth-related capital program for soft services including General Government, Library, Fire, Indoor Recreation, Parks Development & Facilities, Public Works, Parking, and Waste Management totals \$456.30 million.
- The City-wide hard services net capital program totals an additional \$1.48 billion. This amount is estimated to provide for development-related infrastructure required to 2031.
- The *DCA* requires that the gross capital costs be reduced by grants, subsidies, and recoveries from other governments; capital replacements or other benefits provided to the existing community; existing reserve fund balances; amounts that exceed historic service levels; and a statutory ten per cent reduction for eligible soft services when calculating development charges.
- After these deductions the net growth-related soft services capital program is reduced to \$302.35 million, and the City-wide hard services growth-related capital program decreases to \$881.49 million. These amounts are eligible for recovery through development charges.
- The following is a summary of the development-related capital program.

Service	Gross Cost (\$000)	DC Eligible Cost For Recovery (\$000)
General Government	\$28,455.5	\$17,700.7
Library	\$43,910.0	\$30,718.0
Fire Services	\$28,487.1	\$24,383.6
Indoor Recreation	\$156,812.3	\$109,130.2
Park Development and Facilities	\$149,930.4	\$97,320.1
Public Works	\$40,385.6	\$18,000.1
Parking	\$1,348.3	\$1,043.0
Waste Management	\$6,967.1	\$4,049.5
Total – 10-Year Soft Services (to 2026)	\$456,296.4	\$302,345.1
Total – City-Wide Hard (to 2031)	\$1,482.32	\$881.49

H. CALCULATED DEVELOPMENT CHARGES

- The following tables summarize the proposed residential and non-residential City-wide development charges.

Calculated Residential Charges for City-Wide Services

Service	Residential Charge By Unit Type (1)				Percentage of Charge
	Singles & Semis	Townhouses & Multiples	Large Apartments	Small Apartments	
General Government	\$667	\$510	\$400	\$294	2.0%
Library	\$1,594	\$1,219	\$955	\$702	4.7%
Fire Services	\$838	\$641	\$502	\$369	2.5%
Indoor Recreation	\$6,023	\$4,606	\$3,607	\$2,652	17.9%
Park Development & Facilities	\$4,948	\$3,784	\$2,963	\$2,178	14.7%
Public Works	\$660	\$505	\$395	\$291	2.0%
Parking	\$35	\$27	\$21	\$15	0.1%
Waste Management	\$210	\$161	\$126	\$93	0.6%
Subtotal City-Wide Soft	\$14,975	\$11,453	\$8,969	\$6,594	44.5%
City-wide Hard	\$18,712	\$14,310	\$11,206	\$8,239	55.5%
Total City-wide Residential	\$33,687	\$25,763	\$20,175	\$14,833	100.0%

Calculated Non-Residential Charges for City-Wide Services

Service	Retail		Industrial/Office/Insitutional		Mixed-Use	
	Adjusted Charge per Square Metre	Percentage of Charge	Adjusted Charge per Square Metre	Percentage of Charge	Adjusted Charge per Square Metre	Percentage of Charge
General Government	\$4.46	3.2%	\$3.40	3.2%	\$2.17	3.2%
Library	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%
Fire Services	\$5.60	4.0%	\$4.27	4.0%	\$2.73	4.0%
Indoor Recreation	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%
Park Development & Facilities	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%
Public Works	\$4.41	3.2%	\$3.36	3.2%	\$2.15	3.2%
Parking	\$0.23	0.2%	\$0.18	0.2%	\$0.11	0.2%
Waste Management	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%
Subtotal City-wide Soft per Sq.M.	\$14.69	10.5%	\$11.20	10.5%	\$7.16	10.5%
City-wide Hard	\$124.78	89.5%	\$95.32	89.5%	\$60.80	89.5%
Total City-wide Residential	\$139.48	100.0%	\$106.52	100.0%	\$67.95	100.0%

I. AREA-SPECIFIC CHARGES

- Area-Specific Development Charges are proposed to provide for some roads, intersection improvements, streetlighting, watermains, sanitary sewers, storm water management facilities (storm water ponds), and related studies.
- The ASDCs calculated for the purposes of this background study are summarized below.

Area Name	Area	ASDC Charge \$/ha
Yonge Steeles Corridor	1B	\$1,256,227
Armadale	5	\$11,695
Armadale NE	7	\$16,766
PD 1-7	9	\$1,270,583
Rodick/Miller Road Planning District	17	\$613,149
Buttonville Airport	18	\$153,303
Mount Joy	23	\$166,726
Markham Centre - South Unionville - Helen Ave	42A.1	\$162,264
Markham Centre	42B	\$7,825
Markham Centre - Clegg	42B.2	\$162,726
Markham Centre - Hotel	42B.4	\$889,370
Markham Centre - South Hwy 7	42B.6	\$1,289,611
Markham Centre - Sciberras	42B.8	\$1,468,636
Markham Centre - East Precinct	42B.9	\$233,680
Cathedral	46	\$10,138
York Downs	47B	\$24,348
404 North	49	\$61,987
Future Urban Area	50A	\$12,952
Future Urban Area - Robinson Glen	50A-2	\$603

J. A PORTION OF DEVELOPMENT-RELATED COSTS REQUIRE FUNDING FROM NON-DEVELOPMENT CHARGE SOURCES

- The *Development Charges Act, 1997* requires that the growth-related net capital costs for “soft” services be reduced by ten per cent in calculating the applicable development charge for these services. The ten per cent share of growth-related net capital costs not included in the development charge calculation must be funded from non-development charge sources.
- In total, nearly \$30.55 million is identified to provide for the required ten per cent reduction.
- Non-development charge funding for replacement or benefit to existing shares of the capital forecast of the CWH program will total an additional \$35.62 million.

- Another portion of the program, deemed to benefit development beyond the ten-year planning period for soft services, will require funding from non-DC sources in the interim. The post-period benefit shares relating to the soft services capital program amounts to \$25.27 million.
- It is estimated also that net operating costs will increase by about \$31.08 million by the year 2026 as the facilities and infrastructure embodied in the capital forecast are operated and maintained.

K. CONSIDERATION FOR AREA RATED SERVICES

- 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 development charges background study. The City of Markham has historically used both City-wide and area-specific charges and this practice is anticipated to continue into the future.

L. ASSET MANAGEMENT PLAN

- A key function 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.
- By 2026, the City will need to fund an additional \$22.84 million per annum in order to properly fund the full life cycle costs of the new City-wide soft and City-wide hard assets supported under the 2017 Development Charges By-Law. A further \$20.23 million will be required by 2031 for City-wide hard services.

M. MODIFICATIONS TO THE CITY'S DEVELOPMENT CHARGES BY-LAW AND LOCAL SERVICE DEFINITIONS ARE PROPOSED

- The City is proposing to modify the current development charges by-laws. The proposed draft by-laws will be made available, under separate cover, a minimum of two weeks in advance of the statutory public meeting.

I INTRODUCTION

This City of Markham Development Charges Background Study is presented as part of a process to lead to the approval of new development charge by-laws in compliance with the *Development Charges Act, 1997 (DCA)*.

The *DCA* and *Ontario Regulation 82/98 (O. Reg. 82/98)* require that a development charges background study be prepared in which development charges are determined with reference to:

- A forecast of the amount, type and location of housing units, population and non-residential development anticipated in the City;
- The average capital service levels provided in the City over the ten-year period immediately preceding the preparation of the background study;
- A review of capital works in progress and anticipated future capital projects, including an analysis of gross expenditures, funding sources, and net expenditures incurred or to be incurred by the City or its local boards to provide for the expected development, including the determination of the growth and non-growth-related components of the capital projects; 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.

This study presents the results of the review which determines the development-related net capital costs which are attributable to development that is forecast to occur in the community. These development-related net capital costs are then apportioned among various types of sectors (residential and non-residential) in a manner that reflects the increase in the need for each service attributable to each type of development. The study arrives, therefore, at proposed development charges for various types of development.

The *DCA* provides for a period of public review and comment regarding the proposed development charges. Following completion of this process in accordance with the *DCA* and Council's review of this study and the comments it receives regarding this study or other information brought to its attention about the proposed charges, it is intended that Council will pass new development charges for the City.

The remainder of this study sets out the information and analysis upon which the proposed development charges are based.

Section II designates the services for which the development charges are proposed and the areas within the City to which the development charges will apply. It also briefly reviews the methodology that has been used in this background study.

Section III presents a summary of the forecast residential and non-residential development which is expected to occur within the City over the 2017–2026 period and to 2031 (ultimate development).

Section IV summarizes the historic ten-year average capital service levels that have been attained in the City which form the basis for the development charges soft services calculations.

In Section V, the development-related capital forecast that has been developed by various City departments and boards is reviewed.

Section VI summarizes the calculation of applicable development charges and the resulting proposed development charges by class and type of development as well as by geographic area in the City.

Section VII provides an examination of the long term capital and operating costs for each service included in the development charge calculation.

Section VIII presents an Asset Management Plan for the City, demonstrating financial sustainability of assets over the life cycle of the 2017 Development Charges By-law and satisfying the new requirements implicated by the amendment to the *Development Charges Act*.

Section IX provides a review of development charges administrative matters and the City's local service policies.

II THE METHODOLOGY COMBINES A CITY-WIDE AND AREA-SPECIFIC APPROACH TO ALIGN DEVELOPMENT-RELATED COSTS AND BENEFITS

Several key steps are required in calculating any development charge. However, specific circumstances arise in each municipality which must be reflected in the calculation. In this study, therefore, we have tailored our approach to the City of Markham's unique circumstances. The approach to the proposed development charges is focussed on providing a reasonable alignment of growth-related costs with the development that necessitates them. This study combines a City-wide approach for soft and certain hard services which the City provides and with an area-specific approach for certain hard services.

A. CONSIDERATION FOR AREA RATED SERVICES

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 development charges background study. The City of Markham has historically used both City-wide and area-specific charges and this practice is anticipated to continue into the future.

The rationale for the City-wide and area-specific development charges are discussed further in following sections.

B. BOTH CITY-WIDE AND AREA-SPECIFIC DEVELOPMENT CHARGES ARE PROPOSED

The City 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 the flexibility to define services that will be included in the development charge by-laws, provided that the other provisions of the Act and associated regulations are met. The *DCA* also requires that the by-laws designate the areas within which the by-laws shall be imposed. The development charges may apply to all lands in the municipality or to other designated development areas as specified in the by-laws.

1. Services Based on a City-Wide Approach

For the majority of services that the City provides, a range of capital facilities, land, equipment and infrastructure is available throughout the City; arenas, community

centres, pools, libraries, fire stations, arterial roads, watermains, parks and so on. As new development occurs, new facilities will need to be added so that service levels in newly developing areas are provided for at levels enjoyed in existing communities. A widely accepted method for sharing the development-related capital costs for such City services is to apportion them over all new growth anticipated in the City.

The following services are included in the City-wide development charge calculation:

- General Government;
- Library;
- Fire;
- Indoor Recreation;
- Park Development & Facilities;
- Public Works;
- Parking;
- Waste Management; and
- City-wide Hard (including roads and associated structures, sidewalks, streetlights, streetscaping, intersections, studies, storm water management, water mains, and related studies).

These services form a reasonable basis on which to plan and administer the development charges. It is noted that the analysis of each of these services examines the individual capital facilities and equipment that make them up. For example, Indoor Recreation includes various indoor facilities such as community centres, pools, arenas; associated land requirements as allowed under the *DCA*.

The resulting development charge for these services would be imposed against all development anywhere in the City.

2. Area-Specific Charges Are Proposed

For some services that the City provides, the need for development-related capital additions to support anticipated development is more localized. For such services, where costs and benefits are more localized, an alternative technique — the area-specific approach — is employed.

The area-specific charges relate mainly to the provision of sanitary sewer collection trunks, roads and related improvements, storm water management works, trunk water mains, projects undertaken by credit agreements, and related studies. Charges for these services are called Area-Specific Development Charges (ASDC) and are consistent with the City's existing development charges for such works.

The area-specific approach for these services reflects the fact that the demand for, and benefit from, the projects provided by the City is much more localized than that for other City services. Area-specific charges result in a more accurate distribution of costs

among developers than the City-wide approach. The geographic areas that are included coincide with the specific service area for each project.

The area-specific approach also facilitates front-end financing or credit agreements for the designated services if the City chooses to use these provisions of the *DCA*. As an alternative that is more commonly used in Markham, the area-specific charges also facilitate the use of developer group agreements.

Map 1 illustrates the area-specific service areas that have been identified in the City. The areas recommended in this study are as follows:




- Area 1B – Yonge Steeles Corridor
- Area 5 – Armadale
- Area 7 – Armadale NE
- Area 9 – PD 1-7
- Area 17 – Rodick/Miller Road Planning District
- Area 18 – Buttonville Airport
- Area 23 – Mount Joy
- Area 42A.1 – Markham Centre – South Unionville – Helen Ave
- Area 42B – Markham Centre
- Area 42B.2 – Markham Centre – Clegg
- Area 42B.4 – Markham Centre – Hotel
- Area 42B.6 – Markham Centre – South Hwy 7
- Area 42B.8 – Markham Centre – Sciberras
- Area 42B.9 – Markham Centre – East Precinct
- Area 46 – Cathedral
- Area 47B – York Downs
- Area 49 – 404 North
- Area 50A – Future Urban Area
- Area 50A.2 – Future Urban Area – Robinson Glen

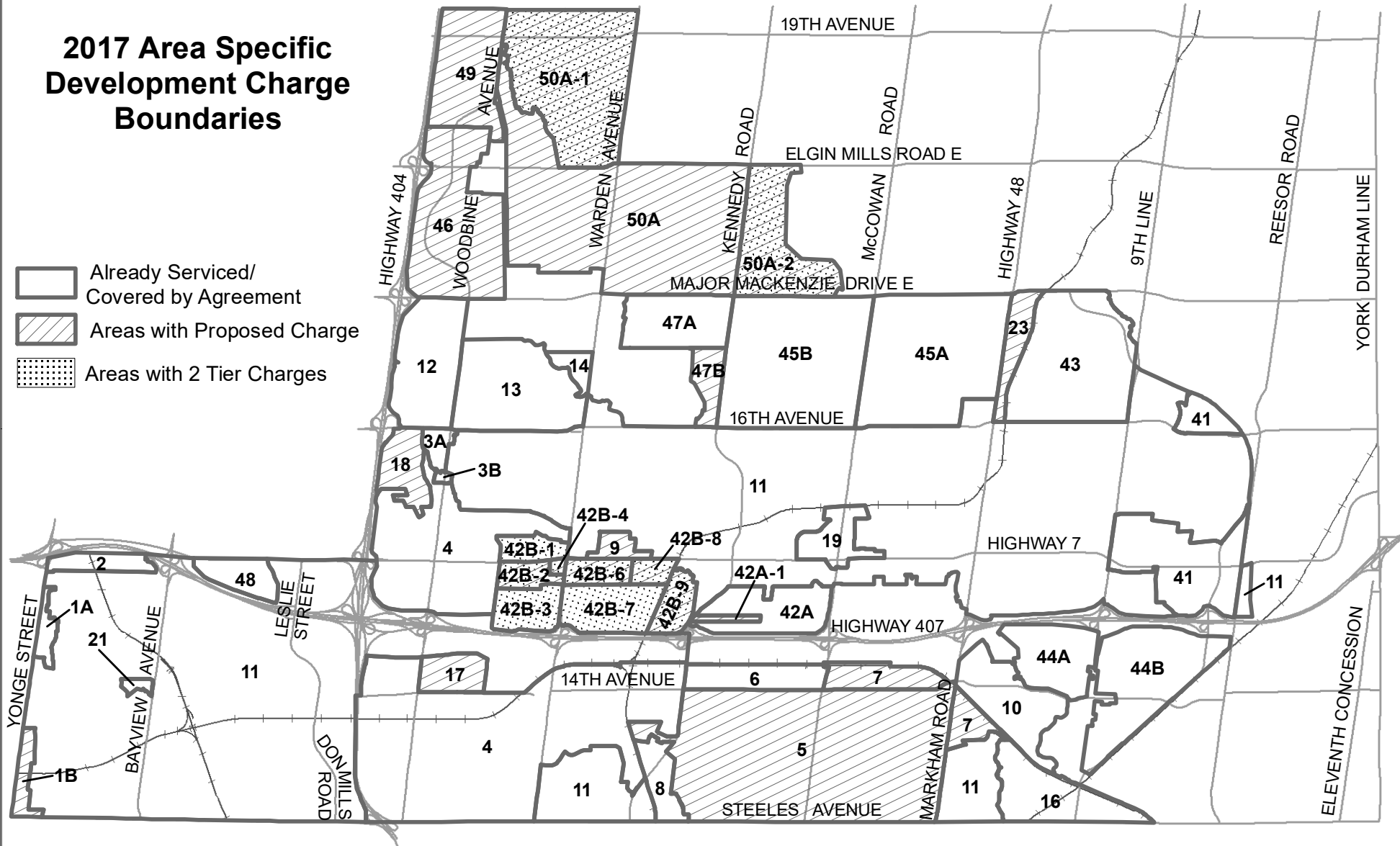
For other areas, development plans are not sufficiently known to be able to provide appropriate servicing plans and development charges. Area-specific development charges for these areas may be prepared by the City in the future as development plans become more advanced. There are some other areas in which the ASDC work will be completed by the developers in which a letter of agreement would be required by the City.

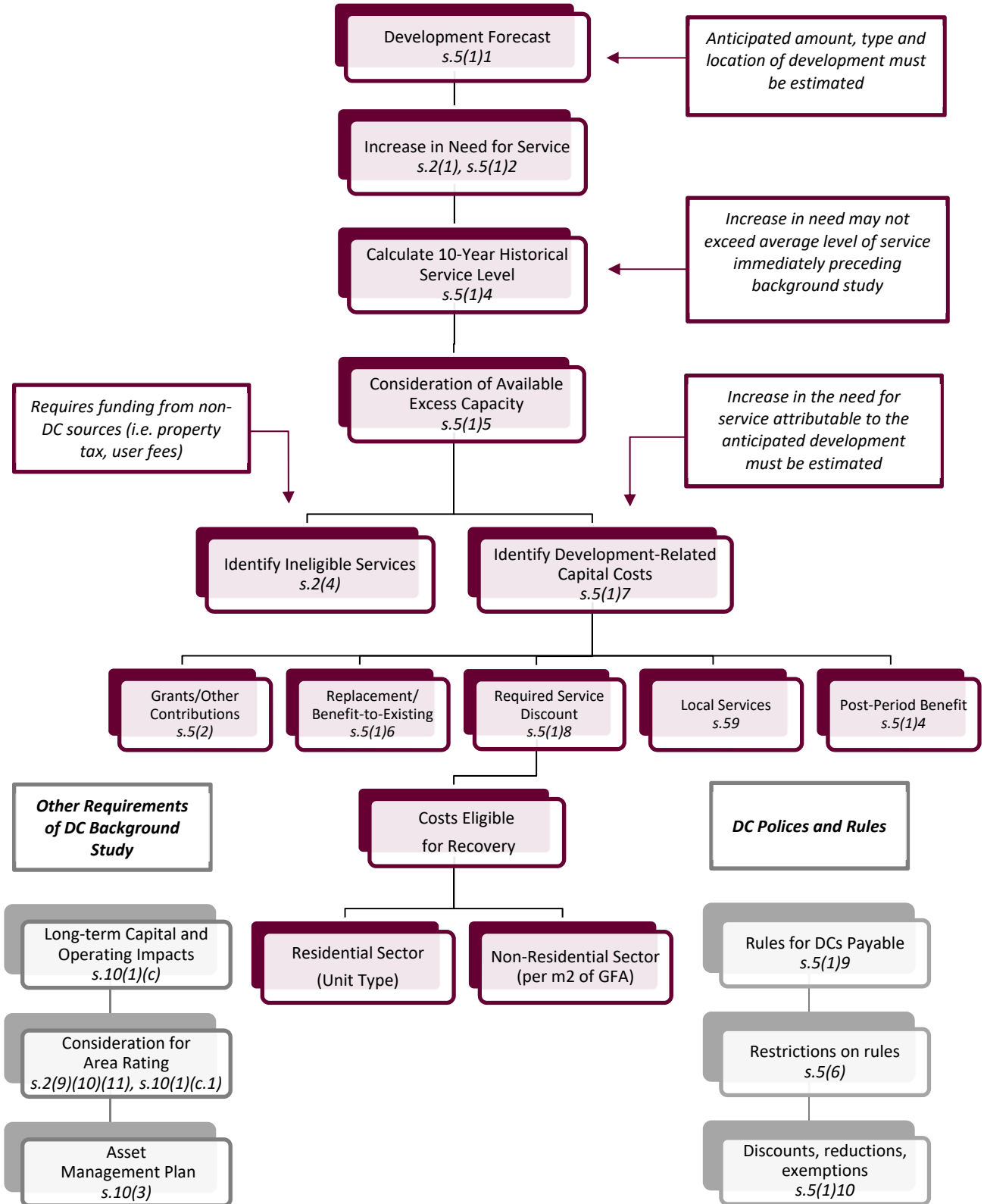
C. KEY STEPS IN DETERMINING DEVELOPMENT CHARGES FOR FUTURE DEVELOPMENT-RELATED PROJECTS

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

2017 Area Specific Development Charge Boundaries

-  Already Served/
Covered by Agreement
-  Areas with Proposed Charge
-  Areas with 2 Tier Charges





1. Development Forecast

The first step in the methodology requires a development forecast to be prepared for the ten-year study period, 2017–2026, for City-wide soft services and to ultimate development (2031) for the hard services. The forecast of the future residential and non-residential development by location used in this study is based on growth anticipated to occur within York Region’s 45 per cent intensification scenario used for the purposes of the Region’s 2016 Development Charges Background Study. The forecast reflects 2031 targets, 2016 Census data and recent development activity.

For the residential portion of the forecast the new dwelling units, net population growth, and population growth in new units is estimated. Net population growth equals the population in new housing units reduced by the decline in the population in the existing base anticipated over the ten-year period and to build-out (due to reducing household sizes as the community ages). The net population change and growth in dwelling units is used in the calculation of the development charges funding envelopes. In calculating the per capita development charge, however, the population growth in new housing units is used.

The non-residential portion of the forecast estimates the gross floor area (GFA) of building space to be developed over the ten-year period, 2017–2026, and to 2031. The forecast provides estimates for five categories: retail, mixed-use, institutional, employment land, office and work at home. The forecast of GFA is based on the employment forecast for the City. Factors for floor space per worker by category are used to convert the employment forecast into gross floor areas for the purposes of the development charges study.

2. Service Categories and Historical Service Levels

The *Development Charges Act* 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 ten-year average service levels thus form the basis for development charges. A detailed review of City’s capital service levels for buildings, land, vehicles, and related infrastructure and facilities has been undertaken, and included in this study. This data and resulting ten-year historical service levels are used as a reference for the calculation to determine what portion of future capital projects that may be included in the development charge can be determined. The historic service levels used in this study have been calculated based on the period 2007–2016.

In this study, the approach used to calculate service levels and maximum funding envelopes is described as follows.

For those services with only a residential impact (Library, Indoor Recreation, Park Development and Facilities, and Waste Management), the service level measure of population has been utilized. For those services which levy both a residential and non-residential charge (General Government, Public Works, Fire and Parking), the service level measure of population + employment has been utilized.

For “hard” services, such as water, wastewater, storm drainage and roads (and road-related works), historical service levels are less applicable and reference is made to the City’s engineering standards as well as Provincial health and environmental requirements. The historical service level for roads related infrastructure has been included as part of Appendix C.

3. Development-Related Capital Forecast and Analysis of Net Capital Costs to be Included in the Development Charges

A development-related capital forecast has been prepared by the City’s departments and boards as part of the present study. The forecast 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 forecast 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 ten-year average service levels or the service levels embodied in future plans of the City. 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 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

City from non-development charges sources. The amount of City funding for such non-growth 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 the future servicing requirements. Adjustments are made in the analysis to meet this requirement of the *Act*.

Finally, in calculating development charges, the growth-related net capital costs must be reduced by 10 per cent for all services except water, wastewater, storm drainage, services related to highways and fire (*DCA*, s. 5. (1) 8.). The ten per cent discount is applied to the other services, e.g. indoor recreation, libraries, parks, and the resulting City funding responsibility from non-development charge sources is identified.

4. Attribution to Types of Development

For the City-wide development charge, 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 exists, the apportionment is based on the expected demand for, and use of, the service by each sector (e.g. shares of population and employment).

Finally, the residential component of the City-wide development 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.

The Area-Specific Development Charges are apportioned on the basis of net developable land area. This is the same approach as presently used by the City and is judged to equitably apply the charge only against lands that can be developed.

5. Final Adjustment

The final determination of the development charge results from adjustments made to growth-related net capital costs for each service and sector resulting from the application of any unallocated growth-related reserve fund balances that are available to finance the growth-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. Interest earnings or borrowing costs are therefore accounted for in the calculation as allowed under the *DCA*.

III DEVELOPMENT FORECAST

This section provides the basis for the development forecasts used in calculating the development charges and provides a summary of the forecast results. The development forecast in the Development Charges Background Study is based on estimates of growth occurring within approved Official Plan designated urban areas. This forecast is consistent with population and employment targets used in York Region's 2016 Development Charges Background Study which was based on the 45 per cent intensification scenario. The values have been adjusted in the initial years to reflect recent Census releases.

This section portrays a summary of the results of the housing unit and population forecast and of the non-residential employment and space forecast. Details of the forecasts are provided in Appendix A.

A. THE RESIDENTIAL FORECAST IS BASED ON THE 2011 AND 2016 CENSUS AND OFFICIAL PLAN TARGETS

The residential growth forecast is based on development that is expected in designated urban areas of Markham's Official Plan. A description of the forecast methodology and more detailed tables of results are provided in Appendix A. Table 1 provides a summary of the residential forecast for two planning periods: a ten-year planning period, 2017–2026, and 2017–2031. As noted in Section II, for development charges calculation purposes, the ten-year planning period is not applicable to non-engineering services. The 2017–2031 development forecast has been utilized in the calculation of the City-wide hard component of development charges and in the Area-Specific Development Charges calculations.

Table 1
Summary of Residential Development Charges Forecast

	2016 Estimate	Soft Services Planning Period 2017 - 2026		Hard Services Planning Period 2017 - 2031	
		Growth	Total at 2026	Growth	Total at 2031
Residential					
Total Occupied Dwellings	102,676	26,477	129,153	42,174	144,850
- Singles & Semis		8,546		14,074	
- Rows & Other Multiples		7,175		10,920	
- Apartments		10,757		17,180	
Total Population					
Census	328,966	73,161	402,127	115,634	444,600
Population In New Dwellings		75,375		120,436	

The City's population is expected to increase by about 22 per cent over the next ten years reaching approximately 402,130 by 2026. The 2031 population is forecast to reach nearly 444,600.

The population figures referred to above reflect the "net" increase in population. This is the increase after taking into account the expected continuation of the decline in occupancy factors in existing housing units. The population residing in new housing units is expected to increase by 75,380 people over the 10-year planning period and 120,440 people to ultimate development.

About 26,480 housing units are forecast to be developed between 2017 and 2026. The composition of the new units is forecast to be 32 per cent singles/semis, 27 per cent rows and other multiples, and 41 per cent apartments.

**B. NON-RESIDENTIAL SPACE FORECAST IS BASED ON FORECAST
EMPLOYMENT GROWTH**

The non-residential space forecast is based on the forecast of employment, since most new non-residential space is required to accommodate new employment growth.

Table 2 provides a summary of the employment forecast for the 2017–2026 period and to 2031. Over the next ten years, employment is projected to grow by 41,470 employees, an increase of 28 per cent from the City's current employment base. Beyond 2026 to 2031, a further 66,020 employees are forecast to be added.

Table 2
Summary of Non-Residential Development Forecast

	2016 Estimate	Soft Services Planning Period 2017 - 2026		Hard Services Planning Period 2017 - 2031	
		Growth	Total at 2026	Growth	Total at 2031
Non-Residential Development Forecast					
Place of Work Employment	149,779	41,467	191,246	66,021	215,800
- <i>Mixed-Use</i>		555		877	
- <i>Retail</i>		10,548		16,672	
- <i>Institutional</i>		6,600		10,908	
- <i>Industrial</i>		9,436		14,762	
- <i>Office</i>		14,328		22,801	
- <i>Rural</i>		-		-	
Non-Residential Building Space (sq.m.)		1,997,205		3,180,202	
- <i>Mixed-Use</i>		22,205		35,096	
- <i>Retail</i>		421,920		666,863	
- <i>Institutional</i>		440,000		727,227	
- <i>Industrial</i>		754,880		1,180,987	
- <i>Office</i>		358,200		570,029	
- <i>Rural</i>		-		-	

The table also shows that about 2.00 million square metres of GFA is forecast to come on-stream over the next decade. During the longer-term planning period to 2031 it is forecast that 3.18 million square metres of GFA will be added.

IV SUMMARY OF HISTORICAL CAPITAL SERVICE LEVELS

The *DCA* and *Ontario Regulation 82/98 (O. Reg. 82/98)* require that the development charges be set at a level no higher than the average service level provided in the municipality over the ten-year period immediately preceding the preparation of the background study, on a service by service basis.

For non-engineering services such as Fire, Library, Indoor Recreation etc. the legislative requirement is met by documenting historical service levels for the preceding ten years, in this case, for the period 2007 to 2016. Service levels have been measured as a ratio of inputs per capita or per capita and employment. With City-wide hard services such as water and stormwater facilities, engineering and legislated environmental and health standards are used in lieu of inputs per capita and employment. A per capita and employment standard has been included for roads related infrastructure.

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 growth-related capital facilities that are to be charged to new growth reflect not only the quantity (number and size) but also the quality (value or replacement cost) of service provided historically by the City. Both the quantitative and qualitative aspects of service levels used in the present analysis are based on information provided by staff of the City and boards based on historical records and their experience with costs to acquire or construct similar facilities, equipment and infrastructure as of 2016.

Table 3 summarizes service levels for all soft services included in the development charge calculation. Appendix B provides detailed historical inventory data upon which the calculation of service levels is based.

TABLE 3

**CITY OF MARKHAM
SUMMARY OF AVERAGE HISTORIC SERVICE LEVELS 2007 - 2016
FOR SOFT SERVICES**

Service	2007 - 2016 Service Level Indicator
1.0 LIBRARY	\$466.52 per capita
Buildings	\$189.06 per capita
Land	\$185.75 per capita
Materials	\$66.32 per capita
Fixtures, Furniture & Equipment	\$25.39 per capita
2.0 FIRE SERVICES	\$227.68 per capita and employment
Buildings	\$74.73 per capita and employment
Land	\$95.66 per capita and employment
Furniture & Equipment	\$24.04 per capita and employment
Vehicles	\$33.25 per capita and employment
3.0 INDOOR RECREATION	\$2,504.98 per capita
Buildings	\$1,234.23 per capita
Parking Structures	\$11.69 per capita
Land	\$1,235.98 per capita
Furniture & Equipment	\$23.08 per capita
4.0 PARK DEVELOPMENT & FACILITIES	\$1,478.02 per capita
Sports Fields	\$383.90 per capita
Parks Buildings	\$232.13 per capita
Developed Parkland	\$765.89 per capita
Bridges, Etc.	\$96.10 per capita
5.0 PUBLIC WORKS	\$157.03 per capita and employment
Buildings	\$29.42 per capita and employment
Land	\$29.00 per capita and employment
Furniture & Equipment	\$2.28 per capita and employment
Fleet & Equipment	\$96.33 per capita and employment
6.0 PARKING	\$10.11 per capita and employment
On Street Parking	\$7.84 per capita and employment
Off Street Parking	\$0.31 per capita and employment
Land	\$1.96 per capita and employment
7.0 WASTE MANAGEMENT	\$61.50 per capita
Buildings	\$11.81 per capita
Land	\$19.95 per capita
Vehicles	\$27.24 per capita
Furniture & Equipment	\$2.50 per capita

V THE DEVELOPMENT-RELATED CAPITAL FORECAST

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

The *DCA* requires the Council of a municipality to express its intent to provide future capital facilities at the level incorporated in the development charges calculation. As noted above in Section II, *Ontario Regulation 82/98*, s. 3 states that:

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

Based on the development forecasts summarized in Section III and detailed in Appendix A, staff of the City departments, in collaboration with the consultants, developed a development-related capital forecast setting out those projects that are required to service anticipated growth. For all City-wide soft services, the capital plan covers the ten year period from 2017 to 2026. As permitted by the *DCA*, s. 5 (1) 4, the development charge for City-wide hard services is based on 2031.

One of the recommendations contained in this background study is for Council to adopt the development-related capital forecast developed for the purposes of the development charges calculation. It is assumed that future capital budgets and forecasts will continue to bring forward the growth-related projects contained herein that are consistent with the growth occurring in the City. It is acknowledged that changes to the forecast presented here may occur through the City's normal capital budget process.

B. THE DEVELOPMENT-RELATED CAPITAL FORECAST FOR CITY-WIDE SOFT SERVICES

A summary of the development-related capital forecast for soft services is presented in Table 4. The full details of the soft services capital forecasts are included in Appendix B.

CITY OF MARKHAM
SUMMARY OF DEVELOPMENT-RELATED CAPITAL FORECAST
FOR SOFT SERVICES 2017 - 2026
(in \$000)

Service	Gross Cost	Grants/ Subsidies	Net Cost	Total Net Capital Program									
				2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
1.0 GENERAL GOVERNMENT	\$28,455.5	\$0.0	\$28,455.5	\$12,524.9	\$1,770.1	\$1,770.1	\$1,770.1	\$1,770.1	\$1,770.1	\$1,770.1	\$1,770.1	\$1,770.1	\$1,770.1
1.1 Recovery of Negative Reserve Fund Balance	\$10,754.8	\$0.0	\$10,754.8	\$10,754.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
1.2 Development-Related Studies	\$17,700.7	\$0.0	\$17,700.7	\$1,770.1	\$1,770.1	\$1,770.1	\$1,770.1	\$1,770.1	\$1,770.1	\$1,770.1	\$1,770.1	\$1,770.1	\$1,770.1
2.0 LIBRARY	\$43,910.0	\$0.0	\$43,910.0	\$16,405.6	\$0.0	\$0.0	\$0.0	\$15,513.5	\$0.0	\$0.0	\$0.0	\$11,991.0	\$0.0
2.1 Recovery of Negative Reserve Fund Balance	\$1,667.7	\$0.0	\$1,667.7	\$1,667.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
2.2 Library Buildings	\$26,553.2	\$0.0	\$26,553.2	\$9,655.7	\$0.0	\$0.0	\$0.0	\$9,655.7	\$0.0	\$0.0	\$0.0	\$7,241.8	\$0.0
2.3 Library Land	\$3,714.5	\$0.0	\$3,714.5	\$867.8	\$0.0	\$0.0	\$0.0	\$1,423.4	\$0.0	\$0.0	\$0.0	\$1,423.4	\$0.0
2.4 Library Furniture & Equipment	\$3,749.2	\$0.0	\$3,749.2	\$1,223.3	\$0.0	\$0.0	\$0.0	\$1,443.4	\$0.0	\$0.0	\$0.0	\$1,082.5	\$0.0
2.5 Library Collection Materials	\$8,225.4	\$0.0	\$8,225.4	\$2,991.0	\$0.0	\$0.0	\$0.0	\$2,991.0	\$0.0	\$0.0	\$0.0	\$2,243.3	\$0.0
3.0 FIRE SERVICES	\$28,487.1	\$0.0	\$28,487.1	\$602.6	\$50.0	\$9,553.2	\$0.0	\$9,128.2	\$0.0	\$9,153.2	\$0.0	\$0.0	\$0.0
3.1 Recovery of Negative Reserve Fund Balance	\$440.8	\$0.0	\$440.8	\$440.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
3.2 Fire Buildings	\$12,000.0	\$0.0	\$12,000.0	\$0.0	\$0.0	\$4,000.0	\$0.0	\$4,000.0	\$0.0	\$4,000.0	\$0.0	\$0.0	\$0.0
3.3 Land for Fire Buildings	\$11,386.8	\$0.0	\$11,386.8	\$0.0	\$0.0	\$3,795.6	\$0.0	\$3,795.6	\$0.0	\$3,795.6	\$0.0	\$0.0	\$0.0
3.4 Furniture and Equipment	\$1,166.7	\$0.0	\$1,166.7	\$0.0	\$0.0	\$388.9	\$0.0	\$388.9	\$0.0	\$388.9	\$0.0	\$0.0	\$0.0
3.5 Firefighter Equipment	\$567.8	\$0.0	\$567.8	\$136.8	\$0.0	\$143.7	\$0.0	\$143.7	\$0.0	\$143.7	\$0.0	\$0.0	\$0.0
3.6 Fire Vehicles	\$2,925.0	\$0.0	\$2,925.0	\$25.0	\$50.0	\$1,225.0	\$0.0	\$800.0	\$0.0	\$825.0	\$0.0	\$0.0	\$0.0
4.0 INDOOR RECREATION	\$156,812.3	\$0.0	\$156,812.3	\$104,442.1	\$1,816.6	\$1,865.7	\$8,093.7	\$1,967.8	\$2,020.9	\$7,303.3	\$2,131.5	\$2,189.1	\$24,981.7
4.1 Recovery of Negative Reserve Fund Balance	\$49,529.6	\$0.0	\$49,529.6	\$49,529.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
4.2 Recovery of Past Commitments	\$20,000.0	\$0.0	\$20,000.0	\$1,768.9	\$1,816.6	\$1,865.7	\$1,916.0	\$1,967.8	\$2,020.9	\$2,075.5	\$2,131.5	\$2,189.1	\$2,248.2
4.3 Major Facilities	\$61,089.3	\$0.0	\$61,089.3	\$48,761.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$4,827.9	\$0.0	\$0.0	\$7,500.0
4.4 Land for Major Facilities	\$18,615.7	\$0.0	\$18,615.7	\$4,382.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$14,233.5
4.5 Furniture & Equipment	\$7,577.7	\$0.0	\$7,577.7	\$0.0	\$0.0	\$0.0	\$6,177.7	\$0.0	\$0.0	\$400.0	\$0.0	\$0.0	\$1,000.0
5.0 PARK DEVELOPMENT & FACILITIES	\$149,930.4	\$0.0	\$149,930.4	\$38,770.3	\$8,718.1	\$19,553.1	\$9,249.5	\$9,357.1	\$8,930.5	\$9,661.0	\$26,408.9	\$9,907.4	\$9,374.5
6.0 PUBLIC WORKS	\$40,385.6	\$0.0	\$40,385.6	\$238.3	\$20,990.2	\$14,146.0	\$189.6	\$105.3	\$385.3	\$3,264.9	\$385.8	\$294.9	\$385.3
6.1 Public Works Buildings	\$16,707.0	\$0.0	\$16,707.0	\$0.0	\$0.0	\$13,810.2	\$0.0	\$0.0	\$0.0	\$2,896.8	\$0.0	\$0.0	\$0.0
6.2 Land for Public Works Buildings	\$19,722.5	\$0.0	\$19,722.5	\$0.0	\$19,722.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
6.3 Furniture and Equipment	\$285.6	\$0.0	\$285.6	\$0.0	\$285.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
6.4 Fleet	\$3,670.5	\$0.0	\$3,670.5	\$238.3	\$982.1	\$335.8	\$189.6	\$105.3	\$385.3	\$368.1	\$385.8	\$294.9	\$385.3
7.0 PARKING	\$1,348.3	\$0.0	\$1,348.3	\$0.0	\$310.7	\$0.0	\$228.1	\$0.0	\$435.4	\$0.0	\$83.4	\$0.0	\$290.7
7.1 Parking Studies	\$1,348.3	\$0.0	\$1,348.3	\$0.0	\$310.7	\$0.0	\$228.1	\$0.0	\$435.4	\$0.0	\$83.4	\$0.0	\$290.7
8.0 WASTE MANAGEMENT	\$6,967.1	\$0.0	\$6,967.1	\$87.1	\$250.0	\$570.0	\$270.0	\$250.0	\$1,715.8	\$1,078.5	\$250.0	\$1,445.8	\$1,050.0
8.1 Waste Buildings	\$1,560.0	\$0.0	\$1,560.0	\$0.0	\$0.0	\$300.0	\$0.0	\$0.0	\$0.0	\$630.0	\$0.0	\$0.0	\$630.0
8.2 Land for Waste Buildings	\$2,891.5	\$0.0	\$2,891.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1,445.8	\$0.0	\$0.0	\$1,445.8	\$0.0
8.1 Furniture and Equipment	\$415.6	\$0.0	\$415.6	\$87.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$178.5	\$0.0	\$0.0	\$150.0
8.1 Fleet	\$2,100.0	\$0.0	\$2,100.0	\$0.0	\$250.0	\$270.0	\$270.0	\$250.0	\$270.0	\$270.0	\$250.0	\$0.0	\$270.0
TOTAL - 10 YEAR SOFT SERVICES	\$456,296.4	\$0.0	\$456,296.4	\$173,070.9	\$33,905.7	\$47,458.0	\$19,801.0	\$38,091.9	\$15,257.9	\$32,230.9	\$31,029.7	\$27,598.2	\$37,852.2

The development-related capital forecast for ten-year soft services estimates a total gross cost of \$456.30 million. No senior government grants are expected to be received over the ten-year period and as such, \$456.30 million to the City.

This capital forecast incorporates those projects identified to be related to development anticipated in the next ten years. It is not implied that all of these costs are to be recovered from new development by way of development charges (see the following Section VI for the method and determination of net capital costs attributable to growth). Portions of this capital forecast may relate to providing servicing for growth which has occurred prior to 2017 (for which development charge reserve fund balances exist), or for growth anticipated to occur beyond the 2017–2026 planning period. In addition, the amounts shown on Table 4 have not been reduced by ten per cent for various “soft” services as mandated by s. 5(1)8 of the *DCA*.

Of the \$456.30 million in ten-year net development-related capital costs for soft services, \$156.81 million (34 per cent) is related to the provision of Indoor Recreation. The capital program includes the recovery of a negative reserve fund balance and past commitments, two new community centres, and a facility expansion.

The next largest growth-related capital component is for Park Development & Related facilities at \$149.93 million (33 per cent). A variety of playing fields, tennis courts, bocce courts, wading pools, playground equipment, basketball and other play courts are included in the capital program. This service category also provides for the development of various parks across the City.

An extensive growth-related capital servicing plan is forecast for Public Works Buildings and Fleet at \$40.39 million (9 per cent). Several public works facility expansions and additions are included for development in the ten-year capital program. The program also includes new additions to the City’s fleet and equipment inventory.

The net growth-related capital forecast for the Library service totals about \$43.91 million. The program includes the addition of new library facilities, including land and furniture, and additional library collection material.

Fire Services \$28.49 million capital program provides for three new fire stations including associated land, and furniture and equipment. New vehicles and equipment for additional firefighters are also included.

General Government (growth studies) is included at \$28.46 million, while Parking Services has a modest capital forecast of \$1.35 million. Finally, Waste Management adds a further \$6.97 million over the ten-year period.

C. THE DEVELOPMENT-RELATED CAPITAL FORECAST FOR CITY-WIDE HARD SERVICES

A summary of the development-related capital forecast for the City-wide hard services is presented in Table 5. The table provides a summary breakdown of the City-wide hard services. Further details on the capital plans for each individual service category are available in Appendix C.

The gross cost of the capital program totals \$1.48 billion. A local service or “internal” component is identified for some of the projects, reflecting the cost that a development would have to pay to provide for required local servicing for a particular subdivision. The City will continue to require these contributions through the normal subdivision process, but excluding them from the development charges calculation ensures that only the oversized portion of costs is shared by other developments. The total recoveries anticipated from local costs are estimated at \$394.90 million. A further \$35.62 million has been identified as a non-growth or benefit to existing share; these costs will be recovered from other municipal funding sources. The remaining capital cost of \$1.05 billion is deemed development-related and recoverable from development charges.

Of the total \$1.05 billion, about \$940.40 million is identified as development-related and forms the basis for the City-wide hard services development charges calculation. The remaining share of \$5.43 million will be funded through portions of the projects that are allocated to the area-specific development charges proposed in this study and a further \$105.97 million is considered a post-period benefit and will be considered for recovery under subsequent development charge studies.

Of the in-period City-wide development charge recoverable costs, 35 per cent of the capital program relates to the provision of structures valued at \$331.14 million and roads valued at \$208.18 million, or 22 per cent. Properties acquisition (\$206.59 million) accounts for approximately 22 per cent of the capital program.

TABLE 5

**CITY OF MARKHAM
CITY-WIDE HARD SERVICES DEVELOPMENT-RELATED PROJECTS SUMMARY
2017-2031**

Service	Total Gross Cost	Non-Development Charge Recoverable Costs		Area Specific & Other Development Charges Recovery	Post-2031 Costs	City-Wide Development Charge Recoverable
		Local Costs	Non-Growth (Benefit to Existing)			
ILLUMINATION	\$ 28,137,229	\$ 163,406	\$ 2,927,674	\$ -	\$ -	\$ 25,046,149
INTERSECTION	\$ 36,728,188	\$ 275,000	\$ 4,652,973	\$ -	\$ -	\$ 31,800,215
ROADS	\$ 475,333,010	\$ 195,311,949	\$ -	\$ -	\$ 71,837,187	\$ 208,183,873
PROPERTIES ACQUISITION	\$ 261,280,179	\$ 51,806,917	\$ 2,883,749	\$ -	\$ -	\$ 206,589,514
SIDEWALKS	\$ 29,352,201	\$ -	\$ 179,535	\$ 175,780	\$ -	\$ 28,996,885
STORM WATER MANAGEMENT	\$ 56,504,680	\$ 13,733,472	\$ 12,255,393	\$ 1,777,999	\$ -	\$ 28,737,815
WATERMAIN	\$ 30,884,893	\$ -	\$ 555,649	\$ 1,386,496	\$ -	\$ 28,942,748
STUDIES	\$ 10,602,000	\$ -	\$ -	\$ -	\$ -	\$ 10,602,000
SPECIAL PROJECTS	\$ 62,651,308	\$ 14,028,248	\$ 12,163,084	\$ -	\$ -	\$ 36,459,976
STRUCTURES	\$ 484,854,006	\$ 119,576,786	\$ 0	\$ -	\$ 34,132,763	\$ 331,144,458
CREDIT AGREEMENT PROJECTS	\$ 5,989,298	\$ -	\$ -	\$ 2,093,566	\$ -	\$ 3,895,732
TOTAL	\$ 1,482,316,992	\$ 394,895,778	\$ 35,618,057	\$ 5,433,841	\$ 105,969,950	\$ 940,399,365

Adjustments	
Less Existing Unallocated Reserve Fund Balances	(\$41,466,574)
Less Credit Agreements Paid	(\$2,652,776)
Projects Funded From Reserves	(\$14,786,176)
TOTAL CITY-WIDE HARD DEVELOPMENT CHARGE RECOVERABLE	\$ 881,493,839

The balance of the gross capital cost capital program is for special project (largely streetscaping) (\$36.46 million), illumination (\$25.05 million), intersections (\$31.8 million), studies (\$10.60 million), watermain projects (\$28.94 million), undertaken under credit agreements (\$3.90 million).

D. THE DEVELOPMENT-RELATED CAPITAL FORECAST FOR AREA-SPECIFIC SERVICES

Table 6 provides a summary of the development-related capital program for area-specific services (the projects included in the capital program for each area are identified in Appendix D).

Many of the area-specific projects provide benefits to multiple areas and City-wide hard services, and the recovery of the cost of these projects are shared amongst many areas. In addition, an internal component is identified for some of the projects, reflecting the cost that a development would have to pay to provide for required local servicing for a particular subdivision. The City will continue to require these contributions through the normal subdivision process, but excluding them from the development charges calculations ensures that only the oversized portion of costs is shared by other developments. A further share of some projects is identified as a non-growth or benefit to existing share to be funded from other municipal revenue sources. The costs shown in the column entitled, “growth-related costs” are net of the local costs and non-growth shares.

In total, \$86.82 million is identified as area-specific growth-related costs. However, not all of these costs are recovered through ASDC by-laws. Any available DC reserve fund balances have been applied to the growth-related costs. In addition, if there are any credits in agreement or any projects funded from reserves, these cost have been appropriately accounted for. After these adjustments, the ASDC recoverable is \$78.01 million, and this amount forms the basis for the area-specific development charges calculations.

TABLE 6

CITY OF MARKHAM
SUMMARY OF AREA-SPECIFIC DEVELOPMENT CHARGES
FOR AREA-SPECIFIC SERVICES 2017-2031

Area Name	Area	Growth-Related Costs	Adjustments			Total ASDC Recoverable
			Reserve Fund Balance	Credits in Agreement	Projects Funded From Reserve	
Yonge Steeles Corridor	1B	\$11,393,976	\$0	\$0	\$0	\$11,393,976
Armadale	5	\$1,213,831	\$596,924	\$293,988	\$0	\$322,919
Armadale NE	7	\$521,486	\$74,102	\$0	\$0	\$447,384
PD 1-7	9	\$7,565,306	(\$270,237)	\$2,146,378	\$0	\$5,689,165
Rodick/Miller Road Planning District	17	\$17,396,302	(\$182,057)	\$0	\$0	\$17,578,359
Buttonville Airport	18	\$8,121,000	(\$4,034)	\$0	\$0	\$8,125,034
Mount Joy	23	\$2,598,076	\$51,500	\$0	\$0	\$2,546,576
Markham Centre - South Unionville - Helen Ave	42A.1	\$3,137,837	\$307,935	\$1,787,453	\$691,311	\$351,138
Markham Centre	42B	\$881,933	\$39,894	\$0	\$0	\$842,039
Markham Centre - Clegg	42B.2	\$504,473	(\$345,443)	\$0	\$0	\$849,916
Markham Centre - Hotel	42B.4	\$424,385	(\$20,300)	\$0	\$0	\$444,685
Markham Centre - South Hwy 7	42B.6	\$10,582,519	\$602,507	\$1,985,716	\$0	\$7,994,296
Markham Centre - Sciberras	42B.8	\$6,400,392	(\$647,591)	\$0	\$0	\$7,047,983
Markham Centre - East Precinct	42B.9	\$3,125,352	\$1,124,354	\$0	\$0	\$2,000,998
Cathedral	46	\$1,041,155	\$121,896	\$290,350	\$0	\$628,909
York Downs	47B	\$502,681	\$65,652	\$0	\$0	\$437,029
404 North	49	\$3,720,909	\$97,581	\$0	\$0	\$3,623,328
Future Urban Area	50A	\$7,587,159	\$0	\$0	\$0	\$7,587,159
Future Urban Area - Robinson Glen	50A-2	\$100,000	\$0	\$0	\$0	\$100,000
Total		\$86,818,772	\$1,612,683	\$6,503,885	\$691,311	\$78,010,893

VI PROPOSED DEVELOPMENT CHARGES ARE CALCULATED IN ACCORDANCE WITH THE *DCA*

This section summarizes the calculation of development charges for each service category and the resulting total development charge by type of development. For City-wide services, the calculation of the “unadjusted” per capita (residential) and per square metre 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 the both City-wide soft and City-wide hard services, the charges are calculated and levied as follows. For residential development, the adjusted total per capita amount is then converted to a variable charge by housing unit type using various unit occupancy factors. For non-residential development, the calculated development charges rates are based on a gross floor area (GFA) of building space. Historically, the City has levied the CWS non-residential development charges on a differentiated basis and the CWH non-residential charges on a land area (per net developable hectare) basis. Through discussions with staff and Council it was determined that both the CWS and CWH non-residential charges should be levied on a GFA basis. However, for area-specific charges, the rates are proposed to continue to be calculated and levied on a per net hectare basis.

It is noted that the calculation of the City-wide development charges does not include any provision for exemptions required under the *DCA* such as the exemption for enlargements of up to 50 per cent on existing industrial buildings. Such legislated exemptions, or other exemptions which Council may choose to provide, will result in loss of development charge revenue for the affected types of development. Any such revenue loss may not be made up, however, by offsetting increases in other portions of the calculated charge.

A. DEVELOPMENT CHARGE CALCULATION FOR CITY-WIDE AND AREA-SPECIFIC SERVICES

A summary of the “unadjusted” residential and non-residential development charges for City-wide services is presented in Tables 7 and 8. Further details of the calculation for each individual City service category are available in Appendices B and C.

1. City-Wide Soft (CWS) Services

A summary of the “unadjusted” residential and non-residential development charges for the City-wide soft services is presented in Table 7.

The capital forecast for the soft services incorporates those projects identified to be related to growth anticipated in the next ten years. However, not all of the capital costs are to be recovered from new development by way of development charges. Table 7 shows that \$50.63 million has been identified as available DC reserves and represents the revenues collected from previous development charges. A further \$47.50 million relates to prior growth shares of projects where development charge funds have been collected and applied to portions of the projects. These amounts have been netted out of the chargeable capital costs. Another share of the forecast, \$25.27 million, is attributable to development beyond the 2026 period (and may therefore be recovered under future development charge studies).

The *DCA*, s. 5 (1) 8 requires that growth-related net capital costs for “soft” services be reduced by ten per cent in calculating the applicable development charge. The discount does not apply to the Fire and Public Works. The ten per cent share of development-related net capital costs not included in the development charge calculations must be funded from non-development charge sources. In total, about \$30.55 million is identified as the required ten per cent reduction.

The discounted net growth-related capital cost for soft services is \$302.35 million. This amount is allocated between the residential and non-residential sectors including retail, industrial/office/institutional (I.O.I) and mixed-use development, to derive unadjusted development charges. Library, Indoor Recreation, Park Development and Facilities and Waste Management services are all deemed to benefit residential development only, while the General Government, Fire, Public Works, and Parking services are allocated between both sectors based on shares of population and employment growth (see Appendix B for details). Approximately \$280.65 million of the soft services development charges net discounted capital program is deemed to benefit residential development. When this amount is divided by the ten year population growth in new units (75,375) an unadjusted charge of \$3,723.40 per capita is derived.

The retail share of the general services capital program totals \$5.66 million and when this amount is divided by the ten-year forecast of new retail non-residential space growth (421,920 square metres), an unadjusted charge of \$13.42 per square metre is derived. For the mixed-use sector, the total share of the capital program amounts to \$93.68 million and when this amount is divided by the ten-year new mixed-use space growth (22,205 square metres), an unadjusted charge of \$4.21 per square metre is derived. Finally, the total industrial/office/institutional share amounts to \$10.25 million, and when divided by the anticipated growth in I.O.I. space (1,553,080 square metres) the unadjusted charge of \$6.59 square metres is derived.

CITY OF MARKHAM
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES
10-YEAR CAPITAL PROGRAM FOR SOFT SERVICES

10 Year Growth in Population in New Units	75,375
10 Year Growth in New Building Space (Sq.M)	1,997,205
Retail Space (sq.m)	421,920
Mixed-use	22,205
Industrial/Office/Institutional (sq.m.)	1,553,080

Service	Development-Related Capital Program (2017 - 2026)							Residential Share	Non-Residential Share						
	Net Municipal Cost (\$000)	Replacement & Benefit to Existing (\$000)	Required Service Discount (\$000)	Prior Growth Shares (\$000)	Available DC Reserves (\$000)	Post-2026 Benefit (\$000)	Total DC Eligible Costs for Recovery (\$000)		Retail		Mixed-Use		I.O.I		
									%	(\$000)	%	(\$000)	%	(\$000)	
1.0 GENERAL GOVERNMENT	\$28,455.5	\$0.0	\$1,770.1	\$0.0	\$0.0	\$8,984.8	\$17,700.7	65%	\$11,418.7	9%	\$1,640.00	0.2%	\$27.13	26.0%	\$2,967.41
Unadjusted Development Charge Per Capita									\$151.49						
Unadjusted Retail Development Charge Per Sq.M											\$3.89				
Unadjusted Mixed-Use Development Charge Per Sq.M													\$1.22		
Unadjusted I.O.I Development Charge Per Sq.M															\$1.91
2.0 LIBRARY	\$43,910.0	\$0.0	\$4,224.2	\$8,697.5	\$0.0	\$270.3	\$30,718.0	100%	\$30,718.0	0%	\$0.00	0%	\$0.00	0%	\$0.00
Unadjusted Development Charge Per Capita									\$407.54						
Unadjusted Retail Development Charge Per Sq.M											\$0.00				
Unadjusted Mixed-Use Development Charge Per Sq.M													\$0.00		
Unadjusted I.O.I Development Charge Per Sq.M															\$0.00
3.0 FIRE SERVICES	\$28,487.1	\$0.0	\$0.0	\$0.0	\$0.0	\$4,103.5	\$24,383.6	65%	\$15,729.9	9%	\$2,259.18	0.2%	\$37.37	26.0%	\$4,087.75
Unadjusted Development Charge Per Capita									\$208.69						
Unadjusted Retail Development Charge Per Sq.M											\$5.35				
Unadjusted Mixed-Use Development Charge Per Sq.M													\$1.68		
Unadjusted I.O.I Development Charge Per Sq.M															\$2.63
4.0 INDOOR RECREATION	\$156,812.3	\$0.0	\$8,728.3	\$38,802.2	\$0.0	\$151.6	\$109,130.2	100%	\$109,130.2	0%	\$0.00	0%	\$0.00	0%	\$0.00
Unadjusted Development Charge Per Capita									\$1,447.83						
Unadjusted Retail Development Charge Per Sq.M											\$0.00				
Unadjusted Mixed-Use Development Charge Per Sq.M													\$0.00		
Unadjusted I.O.I Development Charge Per Sq.M															\$0.00
5.0 PARK DEVELOPMENT & FACILITIES	\$149,930.4	\$0.0	\$14,993.0	\$0.0	\$36,600.5	\$1,016.8	\$97,320.1	100%	\$97,320.1	0%	\$0.00	0%	\$0.00	0%	\$0.00
Unadjusted Development Charge Per Capita									\$1,291.15						
Unadjusted Retail Development Charge Per Sq.M											\$0.00				
Unadjusted Mixed-Use Development Charge Per Sq.M													\$0.00		
Unadjusted I.O.I Development Charge Per Sq.M															\$0.00
6.0 PUBLIC WORKS	\$40,385.6	\$0.0	\$0.0	\$0.0	\$13,948.1	\$8,437.4	\$18,000.1	65%	\$11,611.9	9%	\$1,667.73	0.2%	\$27.59	26.0%	\$3,017.60
Unadjusted Development Charge Per Capita									\$154.05						
Unadjusted Retail Development Charge Per Sq.M											\$3.95				
Unadjusted Mixed-Use Development Charge Per Sq.M													\$1.24		
Unadjusted I.O.I Development Charge Per Sq.M															\$1.94

CITY OF MARKHAM
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES
10-YEAR CAPITAL PROGRAM FOR SOFT SERVICES

10 Year Growth in Population in New Units	75,375
10 Year Growth in New Building Space (Sq.M)	1,997,205
Retail Space (sq.m)	421,920
Mixed-use	22,205
Industrial/Office/Institutional (sq.m.)	1,553,080

Service	Development-Related Capital Program (2017 - 2026)							Residential Share	Non-Residential Share						
	Net Municipal Cost (\$000)	Replacement & Benefit to Existing (\$000)	Required Service Discount (\$000)	Prior Growth Shares (\$000)	Available DC Reserves (\$000)	Post-2026 Benefit (\$000)	Total DC Eligible Costs for Recovery (\$000)		Retail		Mixed-Use		I.O.I		
									%	(\$000)	%	(\$000)	%	(\$000)	
7.0 PARKING	\$1,348.3	\$0.0	\$134.8	\$0.0	\$81.0	\$89.4	\$1,043.0	65%	\$672.8	9%	\$96.64	0.2%	\$1.60	26.0%	\$174.85
Unadjusted Development Charge Per Capita									\$8.93						
Unadjusted Retail Development Charge Per Sq.M											\$0.23				
Unadjusted Mixed-Use Development Charge Per Sq.M													\$0.07		
Unadjusted I.O.I Development Charge Per Sq.M															\$0.11
8.0 WASTE MANAGEMENT	\$6,967.1	\$0.0	\$696.7	\$0.0	\$0.0	\$2,221.0	\$4,049.5	100%	\$4,049.5	0%	\$0.00	0%	\$0.00	0%	\$0.00
Unadjusted Development Charge Per Capita									\$53.72						
Unadjusted Retail Development Charge Per Sq.M											\$0.00				
Unadjusted Mixed-Use Development Charge Per Sq.M													\$0.00		
Unadjusted I.O.I Development Charge Per Sq.M															\$0.00
TOTAL 10-YEAR SOFT SERVICES	\$456,296.4	\$0.0	\$30,547.2	\$47,499.7	\$50,629.6	\$25,274.8	\$302,345.1		\$280,651.0		\$5,663.5		\$93.7		\$10,247.6
Unadjusted Development Charge Per Capita									\$3,723.40						
Unadjusted Retail Development Charge Per Sq.M											\$13.42				
Unadjusted Mixed-Use Development Charge Per Sq.M													\$4.21		
Unadjusted I.O.I Development Charge Per Sq.M															\$6.59

2. City-Wide Hard (CWH) Services

City-wide hard services include illumination, intersections, roads, properties acquisition, sidewalks, storm water management, structures, studies, water, special projects (mainly streetscaping), and credit agreement projects. The total gross capital cost estimated for City-wide hard services is \$1.48 billion (see Table 8). This infrastructure will be used to service the development of the lands within the City's currently designated urban areas to 2031.

Of the \$1.48 billion gross cost, a local service, or "internal" component, is identified for some of the projects, reflecting the cost that a development would have to pay to provide for required local servicing for a particular subdivision. The City will continue to require these contributions through the normal subdivision process, but excluding them from the development charges calculations ensures that only the oversized portion of costs is shared by other developments. The total recoveries anticipated from these sources are estimated at \$394.90 million. A further \$35.62 million has been identified as a non-growth or benefit to existing share; these costs will be recovered from other municipal funding sources. Another share of the City-wide hard program will be funded through portions of the projects that are allocated to the area-specific development charges proposed in this study and those shares amount to \$5.43 million. Finally, \$105.97 million relates to costs that are considered to be post-period and will be considered for recovery under subsequent development charge study updates.

After these adjustments, the City-wide DC recovery share is then netted down to \$940.40 million. However, \$41.47 million is available in the City's existing related development charges reserve accounts, \$2.65 million from credits already paid, and \$14.79 million for projects, or shares of projects, already funded reserves, are all removed from the DC recovery share. Therefore, about \$881.49 million is included in the development charges calculations.

This amount is allocated to the residential and non-residential sectors based on each sector's share of forecast future population in new units and employment growth to ultimate development. The total costs eligible for development charge recovery amounts to \$881.49 million and is allocated 64.6 per cent, or \$569.37 million to the residential sector, 9.2 per cent, or \$80.89 million to the retail sector, 26.0 per cent, or \$229.16 million, to the other industrial/office/institutional sector and 0.2 per cent, or \$2.07 million to the mixed-use sector, based on 2017-2031 shares of growth in population in new units and employment. The resulting unadjusted per capita residential charge is \$4,727.60 before cash flow adjustments. The non-residential retail unadjusted charge is \$121.30 per square metre, the industrial/office/institutional is \$92.47 per square metre and the mixed used charge is \$59.10 per square meter.

3. Area-Specific Services

The proposed area-specific development charges are summarized in Table 9. The table shows the development-related capital cost for area-specific services of \$86.82 million. In total, there is an available reserve fund balance of \$1.61 million for all area-specific charges which have been applied to the area-specific capital programs. Agreement credits in the sum of \$6.50 million have been removed from the total eligible costs included for recovery in the ASDC calculation. In addition, a further \$0.69 million in projects already funded from reserves have also been removed. Therefore, on a collective basis, \$78.01 million is included in the development charges calculation for area-specific services.

The City's intention is to continue to calculate and collect the area-specific development charges on the basis of net developable land area. As shown in Table 9, the calculated area-specific charges range from a low of about \$600 per net hectare in Future Urban Area - Robinson Glen to a high of about \$1.47 million per net hectare for Markham Centre – Sciberras. Nevertheless, as shown, there are significantly different servicing costs associated with the various areas as well as the secured financing already approved by the City for some of the areas. Together, these factors contribute to the wide range of area-specific development charges.

CITY OF MARKHAM
CITY-WIDE HARD SERVICES DEVELOPMENT-RELATED PROJECTS
SUMMARY 2017-2031

Service	Total Gross Cost	Non-Development Charge Recoverable Costs		Area Specific & Other Development Charges Recovery	Post-2031 Costs	City-Wide Development Charge Recoverable	Residential Share of TWH Development Charge Recoverable		Non-Residential Retail Share of TWH Development Charge Recoverable		Non-Residential I.O.I. Share of TWH Development Charge Recoverable		Non-Residential Mixed-Use Share of TWH Development Charge Recoverable	
		Local Costs	Non-Growth (Benefit to Existing)				%	\$	%	\$	%	\$	%	\$
		\$	\$	\$	\$	\$	%	\$	%	\$	%	\$	%	\$
ILLUMINATION	\$ 28,137,229	\$ 163,406	\$ 2,927,674	\$ -	\$ -	\$ 25,046,149	64.6%	\$ 16,177,772	9.2%	\$ 2,298,374	26.0%	\$ 6,511,070	0.2%	\$ 58,933
INTERSECTION	\$ 36,728,188	\$ 275,000	\$ 4,652,973	\$ -	\$ -	\$ 31,800,215	64.6%	\$ 20,540,349	9.2%	\$ 2,918,164	26.0%	\$ 8,266,877	0.2%	\$ 74,825
ROADS	\$ 475,333,010	\$ 195,311,949	\$ -	\$ -	\$ 71,837,187	\$ 208,183,873	64.6%	\$ 134,469,828	9.2%	\$ 19,104,107	26.0%	\$ 54,120,089	0.2%	\$ 489,849
PROPERTIES ACQUISITION	\$ 261,280,179	\$ 51,806,917	\$ 2,883,749	\$ 0	\$ -	\$ 206,589,514	64.6%	\$ 133,440,002	9.2%	\$ 18,957,800	26.0%	\$ 53,705,614	0.2%	\$ 486,097
SIDEWALKS	\$ 29,352,201	\$ -	\$ 179,535	\$ 175,780	\$ -	\$ 28,996,885	64.6%	\$ 18,729,627	9.2%	\$ 2,660,915	26.0%	\$ 7,538,115	0.2%	\$ 68,229
STORM WATER MANAGEMENT	\$ 56,504,680	\$ 13,733,472	\$ 12,255,393	\$ 1,777,999	\$ -	\$ 28,737,815	64.6%	\$ 18,562,288	9.2%	\$ 2,637,141	26.0%	\$ 7,470,767	0.2%	\$ 67,619
WATERMAIN	\$ 30,884,893	\$ -	\$ 555,649	\$ 1,386,496	\$ -	\$ 28,942,748	64.6%	\$ 18,694,658	9.2%	\$ 2,655,947	26.0%	\$ 7,524,041	0.2%	\$ 68,101
STUDIES	\$ 10,602,000	\$ -	\$ -	\$ -	\$ -	\$ 10,602,000	64.6%	\$ 6,848,029	9.2%	\$ 972,898	26.0%	\$ 2,756,127	0.2%	\$ 24,946
SPECIAL PROJECTS	\$ 62,651,308	\$ 14,028,248	\$ 12,163,084	\$ -	\$ -	\$ 36,459,976	64.6%	\$ 23,550,175	9.2%	\$ 3,345,770	26.0%	\$ 9,478,242	0.2%	\$ 85,789
STRUCTURES	\$ 484,854,006	\$ 119,576,786	\$ -	\$ 0	\$ 34,132,763	\$ 331,144,458	64.6%	\$ 213,892,352	9.2%	\$ 30,387,653	26.0%	\$ 86,085,282	0.2%	\$ 779,171
CREDIT AGREEMENT PROJECTS	\$ 5,989,298	\$ -	\$ -	\$ 2,093,566	\$ -	\$ 3,895,732	64.6%	\$ 2,516,325	9.2%	\$ 357,494	26.0%	\$ 1,012,746	0.2%	\$ 9,167
TOTAL	\$ 1,482,316,992	\$ 394,895,778	\$ 35,618,057	\$ 5,433,841	\$ 105,969,950	\$ 940,399,365		\$ 607,421,406		\$ 86,296,264		\$ 244,468,971		\$ 2,212,725
Adjustments														
Less Existing Unallocated Reserve Fund Balances						(\$41,466,574)	64.6%	(\$26,784,030)	9.2%	(\$3,805,203)	26.0%	(\$10,779,772)	0.2%	(\$97,569)
Less Credit Agreements Paid						(\$2,652,776)	64.6%	(\$1,713,477)	9.2%	(\$243,433)	26.0%	(\$689,623)	0.2%	(\$6,242)
Projects Funded From Reserves						(\$14,786,176)	64.6%	(\$9,550,665)	9.2%	(\$1,356,862)	26.0%	(\$3,843,857)	0.2%	(\$34,791)
TOTAL TOWN-WIDE HARD DEVELOPMENT CHARGE RECOVERABLE						\$ 881,493,839		\$ 569,373,233		\$ 80,890,766		\$ 229,155,718		\$ 2,074,122
RESIDENTIAL DEVELOPMENT CHARGE														
Population in New Units 2017 - 2031								120,436						
Unadjusted Development Charge Per Capita - Before Cash Flow								\$ 4,727.60						
Charge per Single and Semi								3.84						
City-Wide Hard Preliminary Draft Rate Calculation								\$18,146						
NON-RESIDENTIAL DEVELOPMENT CHARGE														
Non-residential Growth in Square Metres (GFA) 2017-2031										666,863		2,478,243		35,096
Unadjusted Development Charge Per Square Metre of GFA - Before Cash Flow										Retail \$ 121.30		I.O.I \$ 92.47		Mixed-use \$ 59.10

Notes:
1) Other includes costs allocated to the Region or other agencies and other post-period benefit.

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TABLE 9

CITY OF MARKHAM
SUMMARY OF AREA-SPECIFIC DEVELOPMENT CHARGES
FOR AREA-SPECIFIC SERVICES 2017-2031

Area Name	Area	Growth-Related Costs	Adjustments			Total ASDC Recoverable	Land Area (Ha)	ASDC Charge \$/ha
			Reserve Fund Balance	Credits in Agreement	Projects Funded From Reserve			
Yonge Steeles Corridor	1B	\$11,393,976	\$0	\$0	\$0	\$11,393,976	9.070	\$1,256,227
Armadale	5	\$1,213,831	\$596,924	\$293,988	\$0	\$322,919	27.612	\$11,695
Armadale NE	7	\$521,486	\$74,102	\$0	\$0	\$447,384	26.684	\$16,766
PD 1-7	9	\$7,565,306	(\$270,237)	\$2,146,378	\$0	\$5,689,165	4.478	\$1,270,583
Rodick/Miller Road Planning District	17	\$17,396,302	(\$182,057)	\$0	\$0	\$17,578,359	28.669	\$613,149
Buttonville Airport	18	\$8,121,000	(\$4,034)	\$0	\$0	\$8,125,034	53.000	\$153,303
Mount Joy	23	\$2,598,076	\$51,500	\$0	\$0	\$2,546,576	15.274	\$166,726
Markham Centre - South Unionville - Helen Ave	42A.1	\$3,137,837	\$307,935	\$1,787,453	\$691,311	\$351,138	2.164	\$162,264
Markham Centre	42B	\$881,933	\$39,894	\$0	\$0	\$842,039	107.613	\$7,825
Markham Centre - Clegg	42B.2	\$504,473	(\$345,443)	\$0	\$0	\$849,916	5.223	\$162,726
Markham Centre - Hotel	42B.4	\$424,385	(\$20,300)	\$0	\$0	\$444,685	0.500	\$889,370
Markham Centre - South Hwy 7	42B.6	\$10,582,519	\$602,507	\$1,985,716	\$0	\$7,994,296	6.199	\$1,289,611
Markham Centre - Sciberras	42B.8	\$6,400,392	(\$647,591)	\$0	\$0	\$7,047,983	4.799	\$1,468,636
Markham Centre - East Precinct	42B.9	\$3,125,352	\$1,124,354	\$0	\$0	\$2,000,998	8.563	\$233,680
Cathedral	46	\$1,041,155	\$121,896	\$290,350	\$0	\$628,909	62.033	\$10,138
York Downs	47B	\$502,681	\$65,652	\$0	\$0	\$437,029	17.949	\$24,348
404 North	49	\$3,720,909	\$97,581	\$0	\$0	\$3,623,328	58.453	\$61,987
Future Urban Area	50A	\$7,587,159	\$0	\$0	\$0	\$7,587,159	585.810	\$12,952
Future Urban Area - Robinson Glen	50A-2	\$100,000	\$0	\$0	\$0	\$100,000	165.740	\$603
Total		\$86,818,772	\$1,612,683	\$6,503,885	\$691,311	\$78,010,893		

B. ADJUSTED RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES

Final adjustments to the “unadjusted” development charge rates summarized above for the City-wide hard and soft services are made through a cash flow analysis. The analysis, details of which are included in the appendices, considers the borrowing cost and interest earnings associated with the timing of expenditures and development charge receipts for each service.

Table 10 and 11 summarize the results of the adjustment for the residential and non-residential components of the City-wide rates respectively. As shown on Table 10, the adjusted per capita rate for City-wide services increases from the unadjusted rate of \$8,451.00 to \$8,776.41 after the cash flow analysis.

Residential City-wide development charges are proposed to vary by dwelling unit type to reflect their different occupancy factors and resulting demand for services. The proposed residential charges for City-wide services are shown in Table 10. As shown, the proposed residential charge for City-wide services ranges from \$14,833 for small apartments to \$33,687 for single and semi-detached units. The proposed charge for townhouses (and other multiple units) is \$25,763 and \$20,175 for large apartments.

The calculated non-residential development charges rates are presented in Table 11. The calculated adjusted rate for retail commercial development is \$139.48 per square metre, which is an increase of \$4.75 from the unadjusted rate of \$134.72 per square metre. For industrial/office/institutional (I.O.I) development, the adjusted development charge amounts to \$106.52 per square metre which is an increase of \$3.83 from the unadjusted rate of \$102.70 per square metre. Finally, for mixed-use development, the adjusted development charge amounts to \$67.95 per square metre which is an increase of \$2.32 from the unadjusted rate of \$65.64 per square metre.

TABLE 10

**CITY OF MARKHAM
CITY-WIDE DEVELOPMENT CHARGES
RESIDENTIAL DEVELOPMENT CHARGES BY UNIT TYPE**

Service	Unadjusted Charge Per Capita	Adjusted Charge Per Capita	Residential Charge By Unit Type (1)				Percentage of Charge
			Singles & Semis	Townhouses & Multiples	Large Apartments	Small Apartments	
General Government	\$151.49	\$173.90	\$667	\$510	\$400	\$294	2.0%
Library	\$407.54	\$415.29	\$1,594	\$1,219	\$955	\$702	4.7%
Fire Services	\$208.69	\$218.33	\$838	\$641	\$502	\$369	2.5%
Indoor Recreation	\$1,447.83	\$1,569.20	\$6,023	\$4,606	\$3,607	\$2,652	17.9%
Park Development & Facilities	\$1,291.15	\$1,289.04	\$4,948	\$3,784	\$2,963	\$2,178	14.7%
Public Works	\$154.05	\$171.94	\$660	\$505	\$395	\$291	2.0%
Parking	\$8.93	\$9.04	\$35	\$27	\$21	\$15	0.1%
Waste Management	\$53.72	\$54.76	\$210	\$161	\$126	\$93	0.6%
Subtotal City-Wide Soft	\$3,723.40	\$3,901.51	\$14,975	\$11,453	\$8,969	\$6,594	44.5%
City-wide Hard	\$4,727.60	\$4,874.90	\$18,712	\$14,310	\$11,206	\$8,239	55.5%
Total City-wide Residential	\$8,451.00	\$8,776.41	\$33,687	\$25,763	\$20,175	\$14,833	100.0%
(1) Based on Persons Per Unit Of:			3.84	2.94	2.30	1.69	

TABLE 11

**CITY OF MARKHAM
CITY-WIDE DEVELOPMENT CHARGES
RETAIL, I.O.I. & MIXED-USE NON-RESIDENTIAL DEVELOPMENT CHARGES PER SQUARE METRE**

Service	Retail			Industrial/Office/Insitutional			Mixed-Use		
	Unadjusted Charge per Square Metre	Adjusted Charge per Square Metre	Percentage of Charge	Unadjusted Charge per Square Metre	Adjusted Charge per Square Metre	Percentage of Charge	Unadjusted Charge per Square Metre	Adjusted Charge per Square Metre	Percentage of Charge
General Government	\$3.89	\$4.46	3.2%	\$2.96	\$3.40	3.2%	\$1.89	\$2.17	3.2%
Library	\$0.00	\$0.00	0.0%	\$0.00	\$0.00	0.0%	\$0.00	\$0.00	0.0%
Fire Services	\$5.35	\$5.60	4.0%	\$4.08	\$4.27	4.0%	\$2.61	\$2.73	4.0%
Indoor Recreation	\$0.00	\$0.00	0.0%	\$0.00	\$0.00	0.0%	\$0.00	\$0.00	0.0%
Park Development & Facilities	\$0.00	\$0.00	0.0%	\$0.00	\$0.00	0.0%	\$0.00	\$0.00	0.0%
Public Works	\$3.95	\$4.41	3.2%	\$3.01	\$3.36	3.2%	\$1.93	\$2.15	3.2%
Parking	\$0.23	\$0.23	0.2%	\$0.17	\$0.18	0.2%	\$0.11	\$0.11	0.2%
Waste Management	\$0.00	\$0.00	0.0%	\$0.00	\$0.00	0.0%	\$0.00	\$0.00	0.0%
Subtotal City-wide Soft per Sq.M.	\$13.42	\$14.69	10.5%	\$10.23	\$11.20	10.5%	\$6.54	\$7.16	10.5%
City-wide Hard	\$121.30	\$124.78	89.5%	\$92.47	\$95.32	89.5%	\$59.10	\$60.80	89.5%
Total City-wide	\$134.72	\$139.48	100.0%	\$102.70	\$106.52	100.0%	\$65.64	\$67.95	100.0%

C. COMPARISON OF CALCULATED AND EXISTING DEVELOPMENT CHARGES

Tables 12 present a comparison of calculated City-wide hard and soft residential development charges with the City's current charges (as at January, 2017). Table 13, 14 and 15 presents a comparison of the City-wide soft non-residential development charges for retail, industrial/office/institutional and mixed-used with the City's current charges. A comparison to the City-wide hard has not been included as it is now calculated on a square metre basis rather than net developable land area.

Table 12 shows that the calculated charge, by service, per single/semi detached unit of \$33,687 will produce an increase of \$10,917 over the present development charge of \$22,770.

Table 13 shows that the calculated charge, by service, for industrial/office/institutional development of \$11.20 per square metre will produce an increase of \$1.33 per square metre over the present development charge of \$9.87 per square metre or an increase of 14 per cent. Similarly, Table 14 identifies a calculated retail development charge of \$14.69 per square metre, which represents an increase of \$4.01 over the current charge of \$10.68 per square metre. Finally, Table 15 presents the calculated mixed-use charge at \$7.16 per square metre over the current charge of \$6.95, an increase of \$0.21.

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TABLE 12

**CITY OF MARKHAM
 COMPARISON OF CURRENT AND CALCULATED
 RESIDENTIAL DEVELOPMENT CHARGES**

Service	Current Residential Charge / SDU	Calculated Residential Charge / SDU	Difference in Charge	
General Government	\$511	\$667	\$156	30%
Library	\$1,113	\$1,594	\$481	43%
Fire Services	\$584	\$838	\$254	43%
Indoor Recreation	\$5,364	\$6,023	\$659	12%
Park Development & Facilities	\$3,697	\$4,948	\$1,251	34%
Public Works	\$507	\$660	\$153	30%
Parking	\$12	\$35	\$23	192%
Waste Management	\$0	\$210	\$210	N/A
Subtotal City-Wide Soft	\$11,789	\$14,975	\$3,186	27%
City-wide Hard	\$10,981	\$18,712	\$7,731	70%
Total City-wide	\$22,770	\$33,687	\$10,917	48%

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TABLE 13

**CITY OF MARKHAM
 COMPARISON OF CURRENT AND CALCULATED
 NON-RESIDENTIAL DEVELOPMENT CHARGES**

Service	Non-Residential (\$/Square Metre)			
	Current Non-Res IOI Charge	Calculated Non-Res IOI Charge	Difference in Charge	
General Government	\$3.13	\$3.40	\$0.27	9%
Library	\$0.00	\$0.00	\$0.00	0%
Fire Services	\$3.57	\$4.27	\$0.70	20%
Indoor Recreation	\$0.00	\$0.00	\$0.00	0%
Park Development & Facilities	\$0.00	\$0.00	\$0.00	0%
Public Works	\$3.10	\$3.36	\$0.26	8%
Parking	\$0.08	\$0.18	\$0.10	132%
Waste Management	\$0.00	\$0.00	\$0.00	0%
Subtotal City-wide Soft per Sq.M.	\$9.87	\$11.20	\$1.33	14%

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TABLE 14

**CITY OF MARKHAM
 COMPARISON OF CURRENT AND CALCULATED
 NON-RESIDENTIAL DEVELOPMENT CHARGES**

Service	Non-Residential (\$/Square Metre)			
	Current Non-Res Retail Charge	Calculated Non-Res Retail Charge	Difference in Charge	
General Government	\$3.13	\$4.46	\$1.33	42%
Library	\$0.00	\$0.00	\$0.00	0%
Fire Services	\$3.99	\$5.60	\$1.61	40%
Indoor Recreation	\$0.00	\$0.00	\$0.00	0%
Park Development & Facilities	\$0.00	\$0.00	\$0.00	0%
Public Works	\$3.48	\$4.41	\$0.93	27%
Parking	\$0.08	\$0.23	\$0.15	190%
Waste Management	\$0.00	\$0.00	\$0.00	0%
Subtotal City-wide Soft per Sq.M.	\$10.68	\$14.69	\$4.01	38%

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TABLE 15

**CITY OF MARKHAM
 COMPARISON OF CURRENT AND CALCULATED
 NON-RESIDENTIAL DEVELOPMENT CHARGES**

Service	Non-Residential (\$/Square Metre)			
	Current Non-Res Mixed-Use Charge	Calculated Non-Res Mixed-Use Charge	Difference in Charge	
General Government	\$3.13	\$2.17	(\$0.96)	-31%
Library	\$0.00	\$0.00	\$0.00	0%
Fire Services	\$2.00	\$2.73	\$0.73	36%
Indoor Recreation	\$0.00	\$0.00	\$0.00	0%
Park Development & Facilities	\$0.00	\$0.00	\$0.00	0%
Public Works	\$1.74	\$2.15	\$0.41	23%
Parking	\$0.08	\$0.11	\$0.03	41%
Waste Management	\$0.00	\$0.00	\$0.00	0%
Subtotal City-wide Soft per Sq.M.	\$6.95	\$7.16	\$0.21	3%

VII LONG-TERM CAPITAL AND OPERATING COSTS

This section provides a brief examination of the long-term capital and operating costs for the capital facilities and infrastructure to be included in the development charges by-law. This examination is required as one of the features of the *Development Charges Act, 1997*.

A. NET OPERATING COSTS FOR THE CITY'S SERVICES ESTIMATED TO INCREASE BY \$31.08 MILLION OVER THE FORECAST PERIOD

Table 16 summarizes the estimated increase in net operating costs that the City will experience for additions associated with the planned capital program. These estimates are based on average costs informed based on the City's current operating costs.

As shown in Table 16, by 2026, the City's net operating costs are estimated to increase by \$31.08 million. Significant increases in net operating costs will be experienced as new facilities such as new indoor recreation centres, proposed new community centres and new libraries are opened. Operating and maintenance costs will increase also as additions to the City's road network and parkland and playing fields are made.

B. LONG-TERM CAPITAL FINANCING FROM NON-DEVELOPMENT CHARGE SOURCES TOTALS \$30.55 MILLION

Table 16 also summarizes the components of the development-related capital forecast that will require funding from non-development charge sources as discussed in Section VI. In total \$30.55 million will need to be financed from non-development charge sources over the next ten years. In addition, \$25.27 million in interim financing, if any, would be addressed through the City's annual budget process. Because the by-laws must be revisited at least every five years, however, it is difficult to determine the quantum of interim financing that may be required. Appendix E provides a breakdown of the non-development charge financing requirements by service.

The share of the development-related capital forecast requiring funding from non-development charge sources consisting \$30.55 million is identified as the mandatory ten per cent discount for certain City-wide soft services. Council is made aware of these factors so that they understand the operating and capital costs that will not be covered by development charges as it adopts the development-related capital forecast set out in this study.

TABLE 16

CITY OF MARKHAM
SUMMARY OF LONG-TERM CAPITAL AND
OPERATING COST IMPACTS FOR GENERAL SERVICES
(in thousands of constant dollars)

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Net Operating Impacts (1)											
General Government	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
Library	\$1,500.0	\$1,500.0	\$1,500.0	\$1,500.0	\$3,000.0	\$3,000.0	\$3,000.0	\$3,000.0	\$4,125.0	\$4,125.0	
Fire Services	\$0.0	\$0.0	\$0.0	\$3,900.0	\$3,900.0	\$7,800.0	\$7,800.0	\$11,700.0	\$11,700.0	\$11,700.0	
Indoor Recreation	\$0.0	\$2,020.0	\$2,020.0	\$2,020.0	\$2,020.0	\$2,020.0	\$2,020.0	\$2,220.0	\$2,220.0	\$2,220.0	
Park Development & Facilities	\$969.3	\$1,187.2	\$1,676.0	\$1,907.3	\$2,141.2	\$2,364.5	\$2,606.0	\$3,266.2	\$3,513.9	\$3,748.3	
Public Works	\$4.8	\$424.6	\$707.5	\$711.3	\$713.4	\$721.1	\$786.4	\$794.1	\$800.0	\$807.7	
Parking	\$0.0	\$1.6	\$1.6	\$2.7	\$2.7	\$4.9	\$4.9	\$5.3	\$5.3	\$6.7	
Waste Management	\$166.8	\$337.5	\$512.1	\$690.8	\$873.7	\$1,060.7	\$1,252.1	\$1,448.0	\$1,648.4	\$1,853.4	
Roads and Related	\$595.8	\$1,205.3	\$1,829.0	\$2,467.3	\$3,120.3	\$3,788.3	\$4,471.8	\$5,171.3	\$5,887.0	\$6,619.3	
NET OPERATING IMPACTS	\$3,236.6	\$6,676.1	\$8,246.2	\$13,199.3	\$15,771.2	\$20,759.4	\$21,941.1	\$27,604.8	\$29,899.5	\$31,080.4	n/a
Long-term Capital Impact (1)											
Total Net Cost	\$173,070.9	\$33,905.7	\$47,458.0	\$19,801.0	\$38,091.9	\$15,257.9	\$32,230.9	\$31,029.7	\$27,598.2	\$37,852.2	\$456,296.4
Net Cost From Development Charges	\$79,906.2	\$17,620.3	\$42,159.8	\$18,159.4	\$33,651.9	\$12,311.9	\$22,756.9	\$23,341.9	\$21,944.8	\$30,491.9	\$302,345.1
Prior Growth	\$47,499.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$47,499.7
DC Reserve Balances (2)	\$35,131.6	\$15,498.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$50,629.6
Portion for Post-2026 Development (3)	\$0.0	\$0.0	\$3,426.3	\$189.6	\$2,068.4	\$1,978.4	\$8,017.8	\$1,978.9	\$3,459.5	\$4,156.0	\$25,274.8
Funding From Non-DC Sources											
Discount Portion	\$10,850.9	\$1,104.9	\$2,189.3	\$1,769.5	\$2,689.1	\$1,285.2	\$1,773.7	\$2,851.2	\$2,511.4	\$3,521.9	\$30,547.2
Replacement	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
FUNDING FROM NON-DC SOURCES	\$10,850.9	\$1,104.9	\$2,189.3	\$1,769.5	\$2,689.1	\$1,285.2	\$1,773.7	\$2,851.2	\$2,511.4	\$3,521.9	\$30,547.2
TOTAL NET OPERATING & CAPITAL IMPACTS	\$14,087.5	\$7,780.9	\$10,435.5	\$14,968.9	\$18,460.3	\$22,044.6	\$23,714.8	\$30,456.0	\$32,411.0	\$34,602.2	n/a

Notes:

(1) See Appendix F

(2) Existing development charge reserve fund balances collected from growth prior to 2017 are applied to fund initial projects in development-related capital forecast

(3) Post 2026 development-related net capital costs may be eligible for development charge funding in future DC by-laws

VIII ASSET MANAGEMENT PLAN

The *Development Charges Act* now requires that municipalities complete an Asset Management Plan before the passing of a development charges by-law. A key function 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. Further details relating to the Asset Management Plan are discussed in Appendix G.

A. ANNUAL CAPITAL PROVISIONS WILL REACH \$22.84 MILLION BY 2026

Table 17 summarizes the annual capital provisions required to replace the capital infrastructure proposed to be funded under the development charges by-law. This estimate is based on information obtained through discussions with municipal staff regarding useful life assumptions and the capital cost of acquiring and/or emplacing each asset.

Table 17 illustrates that, by 2026, the City will need to fund an additional \$22.84 million per annum in order to properly fund the full life-cycle costs of the new City-wide soft and City-wide hard assets supported under this development charges by-law.

The calculated annual funding provision should be considered within the context of the City's projected growth; over the next ten years (to 2026) the City is projecting an increase of approximately 26,480 total private dwellings units as well as roughly 41,470 new employees. 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.

In addition, as part of the annual budget update the City also undertakes analysis of the Life-cycle Reserve Fund. The analysis includes anticipated funding requirements and potential funding shortfalls resulting from inflation, past growth and new assets. Funding requirements are examined over a 25 year period and mitigation measures are proposed for Council's consideration. Examples of mitigating measures that have been used historically in the City include increased revenue sources (including projected dividends), allocation of Federal Gas Tax funding towards life-cycle costs and transferring additional funds into the Life-cycle Reserve Fund.

The calculated annual provisions identified are considered to be financially sustainable as it is expected that the increased capital asset management requirements can be absorbed by the tax and user base over the long-term.

CITY OF MARKHAM
SUMMARY OF CALCULATED ANNUAL PROVISIONS

Service	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Fire Services	\$ -	\$ 15,291	\$ 15,291	\$ 176,739	\$ 176,739	\$ 327,481	\$ 327,481	\$ 591,639	\$ 591,639	\$ 591,639
Library	\$ -	\$ 664,134	\$ 664,134	\$ 664,134	\$ 664,134	\$ 1,404,540	\$ 1,404,540	\$ 1,404,540	\$ 1,404,540	\$ 1,966,279
Park Development	\$ -	\$ 1,303,580	\$ 1,502,134	\$ 1,857,302	\$ 2,160,963	\$ 2,457,442	\$ 2,718,178	\$ 2,987,988	\$ 3,798,115	\$ 4,125,021
Indoor Recreation	\$ -	\$ 1,611,953	\$ 1,611,953	\$ 1,611,953	\$ 2,398,329	\$ 2,398,329	\$ 2,398,329	\$ 2,575,829	\$ 2,575,829	\$ 2,575,829
Public Works	\$ -	\$ 33,997	\$ 211,225	\$ 533,658	\$ 533,658	\$ 533,658	\$ 533,658	\$ 533,658	\$ 533,658	\$ 533,658
Parking	\$ -	\$ -	\$ 18,790	\$ 18,790	\$ 35,907	\$ 35,907	\$ 70,681	\$ 70,681	\$ 74,190	\$ 74,190
Waste Management	\$ -	\$ 7,873	\$ 40,614	\$ 83,770	\$ 120,559	\$ 155,305	\$ 193,580	\$ 266,896	\$ 303,768	\$ 303,768
CWH	\$ -	\$ 1,189,651	\$ 2,486,770	\$ 3,845,800	\$ 5,773,433	\$ 7,238,867	\$ 8,872,317	\$ 10,001,828	\$ 10,859,878	\$ 12,669,573
Total	\$ -	\$ 4,826,478	\$ 6,550,911	\$ 8,792,145	\$ 11,863,722	\$ 14,551,528	\$ 16,518,763	\$ 18,433,058	\$ 20,141,618	\$ 22,839,958

IX DEVELOPMENT CHARGES ADMINISTRATION

A. DEVELOPMENT CHARGES POLICIES AND PRACTICES

- Some changes are recommended to the City's current development charge calculation. Through discussions with staff, and considering the requirements of the *DCA*, the following recommendations were made:
 - For non-residential development, the calculated development charges rates are to be based on a gross floor area (GFA) of building space. Historically, the City has levied the CWS non-residential development charges on a GFA basis and the CWH non-residential charges on a land area (per net developable hectare) basis.
 - Through discussions with staff and Council it was determined that both the CWS and CWH non-residential charges should be levied on a GFA basis. However, for area-specific charges, the rates are proposed to continue to be calculated and levied on a per net hectare basis.
- It is recommended that present practices regarding collection of development charges and by-law administration continue to the extent possible, having regard to any requirements of the *DCA*.
- As required under the *DCA*, the City should codify any rules regarding application of the by-laws and exemptions within the development charges by-laws proposed for adoption.

It is recommended that the City continue to actively encourage the use of front-ending agreements or developer agreements (and services-in-lieu arrangements), whichever are practical and desirable by the development industry and the City.

- It is recommended that the by-laws permit the payment of development charges in cash or through services-in-lieu agreements. The municipality is not obligated to enter into services-in-lieu agreements.
- It is recommended that Council adopt the development-related capital forecast for City-wide and area-specific services included in this Background Study, subject to annual review through the City's normal capital budget process.

B. DEVELOPMENT CHARGES BY-LAW PROVISIONS

The City is proposing to modify current the development charges by-laws. The proposed draft by-laws will be made available, under separate cover, a minimum of two weeks in advance of the statutory public meeting.

APPENDIX A

DEVELOPMENT FORECAST

APPENDIX A

DEVELOPMENT FORECAST

This appendix provides the details of the development forecast used to prepare the 2017 Development Charges (DC) Background Study for the City of Markham. The forecast method and key assumptions are discussed. The results of the forecasts are presented in the following tables:

Historical Development

Table 1	Historical Population, Occupied Dwellings and Employment Summary
Table 2	Historical Annual Housing Completions (CMHC)
Table 3	Historical Annual Residential Building Permits
Table 4	Historical Households by Period of Construction Showing Household Size
Table 5	Historical Place of Work Employment

Forecast Development

Table 6	Forecast Population, Household and Employment Growth Summary
Table 7	Forecast of Occupied Households by Unit Type
Table 8	Growth in Households by Unit Type
Table 9	Forecast Population in New Households by Unit Type
Table 10	Forecast of Place of Work Employment
Table 11	Forecast Non-Residential Space (Square Metres of Gross Floor Area)

The forecasts of population, households and employment are based on the 2031 targets for the City as identified in the Region of York 2016 Development Charges Background Study, which reflects a 45 per cent intensification scenario. The residential and non-residential forecasts incorporate recent historical data and has been informed through discussions with City staff.

A. FORECAST APPROACH AND KEY ASSUMPTIONS

The *Development Charges Act (DCA)* requires the City to estimate “the anticipated amount, type and location of development” for which development charges may be imposed. The development forecast must cover both residential and non-residential development and be specific enough with regards to quantum, type, location and

timing of development to allow the City to prepare a reasonable development-related capital program.

A “Census-based” definition of population is used for the purpose of the development charges study. This definition does not include the Census net undercoverage, which is typically included in the definition of “total” population commonly used in municipal planning documents.

The forecast is based on Census years and is translated into the time periods required for DC purposes, generally pro-rating the census periods to the DC time period. A ten-year development forecast, from mid-year 2017 to mid-year 2026, has been used for all the development charge eligible City-wide soft services in the City. The planning period from mid-year 2017 to mid-year 2031 (or Official Plan built-out) has been utilized for the City-wide hard services.

B. HISTORICAL DEVELOPMENT THE CITY

Historical growth and development figures presented here are based on Statistics Canada Census data, Canada Mortgage Housing Corporation (CMHC) housing market information, and City building permit and development application data. For development charges purposes, the ten-year period of 2007 to 2016 is used for calculating historical service levels.

The City of Markham has experienced steady population and household growth over the last ten years. As shown in Table 1, the City’s population increased from 261,570 people in 2006 to 328,970 in 2016 which represents an increase of 26 per cent. The number of occupied dwelling units in the City also experienced a steady increase during the ten-year historical period, increasing from 77,200 in 2006 to 102,680 occupied households in 2016 – a 33 per cent increase. 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 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. The employment figures used for development charge calculations include workers with no fixed place of work, but exclude *work at home* employment. As shown in Table 1, the City experienced modest employment growth

over the 2006 to 2011 Census period – a trend seen across most municipalities in Ontario as a result of the economic slowdown. Since 2011, employment growth has occurred at a much greater rate. Over the ten-year historical period, employment in the City has grown from 132,230 employees in 2006 to 149,780 employees in 2016 which represents an increase of 13 per cent. While the City’s activity rate (the ratio of employment to population) did decline in the initial years of the historical ten-year period as a result of the economic slowdown, in recent years, the ratio has been increasing and as of 2016 was at approximately 46 per cent.

Details on historical housing unit growth in the City are provided in Tables 2 (housing completions) and 3 (building permits issued). The information in Table 2 is sourced from Canada Mortgage and Housing Corporation *Housing Market Information*. Overall, the dominant type of housing in Markham constructed since 2006 has historically been single and semi-detached housing (43 per cent). This is closely followed by apartment dwelling units (39 per cent) and finally, rows and other multiple dwellings (18 per cent).

Table 4 provides details on historical occupancy patterns in the City. The overall average occupancy level in Markham for recently constructed single and semi-detached units, constructed between 2001 and 2011, is 3.84 persons per housing unit (PPU). Occupancy levels for recently constructed units, between 2001 and 2011, are higher than the overall average and are used in the development charges calculation since it better reflects the number of people that are likely to reside in new developments. Average PPUs for recently constructed row housing and apartments (excluding duplexes) are 2.94 and 1.99, respectively.

Table 5 summarizes the growth in historical employment by place of work by retail, institutional and employment sector in the City of Markham between 2006 and 2016. The decline in the employment land sector from 2006 to 2011 is largely attributable to significant employment losses in the industrial sector due to the global recession. Employment in this sector is growing again and is forecasted to continue to increase into the future.

C. FORECAST RESULTS

This section describes the method used to establish the development forecast for the periods of 2017 to 2026 and 2017 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 growth¹ as well as the population in new housing 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 occupies new dwelling 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 unit of gross floor area (GFA). The non-residential forecast includes both a projection of employment growth as well as a projection of the floor space associated with employment growth in the City.

1. Residential Development Forecast

The residential development forecast is based on forecasts of population and households, consistent with the York Region 45 per cent intensification scenario used in the Region's 2016 Development Charge Background Study update. The population and household growth determines the need for additional facilities and provides the foundation for the development-related capital program. Tables 6, 7 and 8 summarize the population and household growth forecast. The tables show that the City's population is forecast to increase by roughly 73,160 over the ten-year planning period, and approximately 115,630 to 2031. The number of occupied dwellings will increase by 26,480 over the ten-year period and 42,170 to 2031.

In addition to the net population forecast, a forecast of "population in new units" that will result from the addition of new housing units has been made (see Table 9). Population growth in new units is estimated by applying the following PPU's to the housing unit forecast: 3.84 for single and semi-detached units; 2.94 for rows and other multiples; and 2.00 for apartments. The forecasted persons in newly constructed units are based upon the historical time series of population growth in housing in the last ten-year census period (2001-2011). In total, 75,380 is the forecasted population in new dwelling units over the ten-year planning period and 120,440 is forecasted to 2031.

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

2. Non-Residential Development Forecast

Non-residential development charges are calculated on a per unit of gross floor area (GFA) basis. Therefore, as per the *DCA*, a forecast of non-residential building space has been developed. As with the residential forecast, a ten year development forecast, from mid-year 2017 to mid-year 2026, has been used for all the development charge eligible City-wide soft services. The planning period from mid-year 2017 to mid-year 2031 (or Official Plan built-out) has been utilized for the City-wide hard services.

Employment densities have been used to convert the employment forecast into building space estimates. The following densities, by employment type, have been utilized in this study:

Retail:	40.0 square metres per employee
Mixed-Use Retail:	40.0 square metres per employee
Institutional:	66.7 square metres per employee
Industrial Employment Land:	80.0 square metres per employee
Office:	25.0 square metres per employee

The GFA forecasts are provided in Table 11. The total GFA growth is forecast at 2.00 million square metres over the ten-year period with an accompanying employment growth of 41,470 (excluding work at home employment). Over the longer planning period to 2031, it is forecasted that 66,020 new employees will be accommodated in 3.18 million square metres of new non-residential GFA.

**APPENDIX A - TABLE 1
CITY OF MARKHAM
HISTORICAL POPULATION, OCCUPIED DWELLINGS & EMPLOYMENT SUMMARY**

Mid-Year	Census Population	Annual Growth	Occupied Households	Annual Growth	Av. Household Size (PPU)	Place of Work Employment	Annual Growth	Activity Rate
2006	261,573		77,200		3.39	132,233	1,136	50.6%
2007	269,149	7,576	79,700	2,500	3.38	132,184	-49	49.1%
2008	276,944	7,795	82,281	2,581	3.37	132,225	41	47.7%
2009	284,965	8,021	84,945	2,664	3.35	132,360	135	46.4%
2010	293,218	8,253	87,696	2,751	3.34	132,593	233	45.2%
2011	301,709	8,491	90,535	2,839	3.33	132,925	332	44.1%
2012	306,973	5,264	92,843	2,308	3.31	136,151	3,226	44.4%
2013	312,329	5,356	95,209	2,366	3.28	139,447	3,296	44.6%
2014	317,779	5,450	97,636	2,427	3.25	142,816	3,369	44.9%
2015	323,324	5,545	100,125	2,489	3.23	146,260	3,444	45.2%
2016	328,966	5,642	102,676	2,551	3.20	149,779	3,519	45.5%
Growth 2007-2016		67,393		25,476			17,546	

Source: Statistics Canada, Census of Canada

APPENDIX A - TABLE 2
CITY OF MARKHAM
HISTORICAL ANNUAL HOUSING COMPLETIONS (CMHC)

Year	CMHC Annual Housing Completions				Shares by Unit Type			
	Singles/Semis	Rows	Apts.	Total	Singles/Semis	Rows	Apts.	Total
2006	2,403	686	661	3,750	64%	18%	18%	100%
2007	1,242	494	892	2,628	47%	19%	34%	100%
2008	1,777	365	889	3,031	59%	12%	29%	100%
2009	996	359	572	1,927	52%	19%	30%	100%
2010	644	124	942	1,710	38%	7%	55%	100%
2011	1,045	374	883	2,302	45%	16%	38%	100%
2012	1,511	857	18	2,386	63%	36%	1%	100%
2013	1,426	776	720	2,922	49%	27%	25%	100%
2014	962	476	2,287	3,725	26%	13%	61%	100%
2015	800	464	1,751	3,015	27%	15%	58%	100%
2016	208	93	782	1,083	19%	9%	72%	100%
Growth 2007-2016	10,611	4,382	9,736	24,729	43%	18%	39%	100%

Source: Canada Mortgage and Housing Corporation (CMHC), Housing Market Information

**APPENDIX A - TABLE 3
CITY OF MARKHAM
HISTORICAL ANNUAL RESIDENTIAL BUILDING PERMITS**

Year	Building Permits				Building Permits			
	Singles/Semis	Rows	Apts.	Total	Singles/Semis	Rows	Apts.	Total
2006	1,340	748	1,184	3,272	41%	23%	36%	100%
2007	1,578	546	1,445	3,569	44%	15%	40%	100%
2008	1,533	384	438	2,355	65%	16%	19%	100%
2009	599	389	233	1,221	49%	32%	19%	100%
2010	748	278	457	1,483	50%	19%	31%	100%
2011	1,637	629	931	3,197	51%	20%	29%	100%
2012	1,458	1,272	2,261	4,991	29%	25%	45%	100%
2013	1,187	434	1,081	2,702	44%	16%	40%	100%
2014	843	444	1,466	2,753	31%	16%	53%	100%
2015	434	645	690	1,769	25%	36%	39%	100%
2016	295	625	1,433	2,353	13%	27%	61%	100%
Growth 2007-2016	10,312	5,646	10,435	26,393	39%	21%	40%	100%

Source: Statistics Canada

APPENDIX A - TABLE 4
CITY OF MARKHAM
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	1981-1985	1986-1990	1991-1995	1996-2000	2001-2005	2006-2011	Pre-2001	2001-2011	Total
Singles and Semis													
Household Population	1,465	4,070	12,545	25,265	32,525	30,075	16,135	28,010	49,050	28,080	150,090	77,130	227,220
Households	585	1,475	4,310	7,990	9,370	8,020	4,135	7,210	12,635	7,460	43,095	20,095	63,190
Household Size	2.50	2.76	2.91	3.16	3.47	3.75	3.90	3.88	3.88	3.76	3.48	3.84	3.60
Rows													
Household Population	65	150	1,255	5,290	935	790	1,220	6,060	9,740	6,625	15,765	16,365	32,130
Households	25	50	450	1,940	370	280	405	2,065	3,200	2,375	5,585	5,575	11,160
Household Size	2.60	3.00	2.79	2.73	2.53	2.82	3.01	2.93	3.04	2.79	2.82	2.94	2.88
Apartments (excl. Duplexes): Bachelor or 1BR													
Household Population	0	210	285	650	275	320	305	235	1,010	2,975	2,280	3,985	6,265
Households	0	135	220	420	190	215	210	160	595	1,775	1,550	2,370	3,920
Household Size	n/a	1.56	1.30	1.55	1.45	1.49	1.45	1.47	1.70	1.68	1.47	1.68	1.60
Apartments (excl. Duplexes): 2BR or more													
Household Population	90	135	785	2,625	1,135	2,075	1,345	790	1,725	3,700	8,980	5,425	14,405
Households	45	60	390	1,255	540	985	570	400	735	1,625	4,245	2,360	6,605
Household Size	2.00	2.25	2.01	2.09	2.10	2.11	2.36	1.98	2.35	2.28	2.12	2.30	2.18
Apartments (excl. Duplexes) - Total													
Household Population	90	345	1,070	3,275	1,410	2,395	1,650	1,025	2,735	6,675	11,260	9,410	20,670
Households	45	195	610	1,675	730	1,200	780	560	1,330	3,400	5,795	4,730	10,525
Household Size	2.00	1.77	1.75	1.96	1.93	2.00	2.12	1.83	2.06	1.96	1.94	1.99	1.96
Duplexes													
Household Population	175	285	630	1,905	3,210	5,190	2,505	3,375	1,425	345	17,275	1,770	19,045
Households	95	95	235	570	820	1,355	725	890	440	105	4,785	545	5,330
Household Size	1.84	3.00	2.68	3.34	3.91	3.83	3.46	3.79	3.24	3.29	3.61	3.25	3.57
All Units													
Household Population	1,795	4,850	15,500	35,735	38,080	38,450	21,510	38,470	62,950	41,725	194,390	104,675	299,065
Households	750	1,815	5,605	12,175	11,290	10,855	6,045	10,725	17,605	13,340	59,260	30,945	90,205
Household Size	2.39	2.67	2.77	2.94	3.37	3.54	3.56	3.59	3.58	3.13	3.28	3.38	3.32

Note: Population and household values in this table are based on National Household Survey response rates and may differ from Census values
Source: Statistics Canada, 2011 National Household Survey Special Run.

**APPENDIX A - TABLE 5
CITY OF MARKHAM
HISTORICAL PLACE OF WORK EMPLOYMENT**

Mid-Year	Retail		Industrial/Office/Institutional (I.O.I.)					Rural		
	Retail	Annual Growth	Institutional	Annual Growth	Emp. Land (Industrial)	Annual Growth	Office	Annual Growth	Rural	Annual Growth
2006	20,412		8,704		55,117		47,674		326	
2007	20,421	9	9,381	677	53,845	(1,272)	48,237	563	300	(26)
2008	20,430	9	10,110	729	52,603	(1,242)	48,806	569	276	(24)
2009	20,439	9	10,896	786	51,389	(1,214)	49,382	576	254	(22)
2010	20,448	9	11,743	847	50,203	(1,186)	49,965	583	234	(20)
2011	20,456	8	12,655	912	49,045	(1,158)	50,555	590	214	(20)
2012	21,255	799	13,121	466	49,852	807	51,709	1,154	214	(0)
2013	22,068	813	13,604	483	50,672	820	52,889	1,180	214	0
2014	22,895	827	14,105	501	51,506	834	54,096	1,207	214	0
2015	23,737	842	14,624	519	52,354	848	55,331	1,235	214	0
2016	24,593	856	15,162	538	53,216	862	56,594	1,263	214	0
Growth 2007-2016		4,181		6,458		(1,901)		8,920		(112)

Mid-Year	Total For DC Study	Annual Growth	Work at Home	Annual Growth	Total w/ Work At Home	Annual Growth
2006	132,233		10,685		142,918	
2007	132,184	(49)	10,706	21	142,890	(28)
2008	132,225	41	10,727	21	142,952	62
2009	132,360	135	10,748	21	143,108	156
2010	132,593	233	10,769	21	143,362	254
2011	132,925	332	10,790	21	143,715	353
2012	136,151	3,226	11,063	273	147,214	3,499
2013	139,447	3,296	11,343	280	150,790	3,576
2014	142,816	3,369	11,630	287	154,446	3,656
2015	146,260	3,444	11,925	295	158,185	3,739
2016	149,779	3,519	12,227	302	162,006	3,821
Growth 2007-2016		17,546		1,542		19,088

Note: Employment Values Include No Fixed Place of Work Employment
Source: Statistics Canada, Census of Canada

APPENDIX A - TABLE 6

CITY OF MARKHAM

FORECAST POPULATION, HOUSEHOLD & EMPLOYMENT GROWTH SUMMARY

Mid-Year	Census Population	Annual Growth	Total Occupied Dwellings	Annual Growth	Av. Household Size (PPU)	Place of Work Employment	Annual Growth	Activity Rate
2011	301,709		90,535		3.33	132,925		
2012	306,973	5,264	92,843	2,308	3.31	136,151	3,226	44.4%
2013	312,329	5,356	95,209	2,366	3.28	139,447	3,296	44.6%
2014	317,779	5,450	97,636	2,427	3.25	142,816	3,369	44.9%
2015	323,324	5,545	100,125	2,489	3.23	146,260	3,444	45.2%
2016	328,966	5,642	102,676	2,551	3.20	149,779	3,519	45.5%
2017	335,639	6,673	105,059	2,383	3.19	153,518	3,739	45.7%
2018	342,447	6,808	107,497	2,438	3.19	157,340	3,822	45.9%
2019	349,393	6,946	109,992	2,495	3.18	161,250	3,910	46.2%
2020	356,480	7,087	112,545	2,553	3.17	165,250	4,000	46.4%
2021	363,711	7,231	115,157	2,612	3.16	169,341	4,091	46.6%
2022	371,089	7,378	117,829	2,672	3.15	173,525	4,184	46.8%
2023	378,616	7,527	120,563	2,734	3.14	177,805	4,280	47.0%
2024	386,296	7,680	123,361	2,798	3.13	182,185	4,380	47.2%
2025	394,132	7,836	126,224	2,863	3.12	186,664	4,479	47.4%
2026	402,127	7,995	129,153	2,929	3.11	191,246	4,582	47.6%
2027	410,284	8,157	132,150	2,997	3.10	195,935	4,689	47.8%
2028	418,606	8,322	135,217	3,067	3.10	200,732	4,797	48.0%
2029	427,097	8,491	138,355	3,138	3.09	205,641	4,909	48.1%
2030	435,760	8,663	141,566	3,211	3.08	210,664	5,023	48.3%
2031	444,600	8,840	144,850	3,284	3.07	215,800	5,136	48.5%
Growth 2017-2026		73,161		26,477			41,467	
Growth 2017-2031		115,634		42,174			66,021	

Source: York Region 2017 DC Study (45% Intensification Scenario), Hemson Consulting 2017

APPENDIX A - TABLE 7

CITY OF MARKHAM

FORECAST OF OCCUPIED HOUSEHOLDS BY UNIT TYPE

Mid-Year	Occupied Households				Shares By Unit Type			
	Singles/Semis	Rows	Apartments	Total	Singles/Semis	Rows	Apartments	Total
2011	63,135	10,935	16,465	90,535	70%	12%	18%	100%
2012	64,592	11,782	16,469	92,843	70%	13%	18%	100%
2013	65,635	12,485	17,089	95,209	69%	13%	18%	100%
2014	65,733	12,791	19,112	97,636	67%	13%	20%	100%
2015	66,209	13,184	20,732	100,125	66%	13%	21%	100%
2016	66,974	13,939	21,763	102,676	65%	14%	21%	100%
2017	67,699	14,634	22,726	105,059	64%	14%	22%	100%
2018	68,450	15,334	23,713	107,497	64%	14%	22%	100%
2019	69,228	16,040	24,724	109,992	63%	15%	22%	100%
2020	70,035	16,751	25,760	112,545	62%	15%	23%	100%
2021	70,871	17,466	26,820	115,157	62%	15%	23%	100%
2022	71,736	18,187	27,906	117,829	61%	15%	24%	100%
2023	72,633	18,912	29,018	120,563	60%	16%	24%	100%
2024	73,562	19,642	30,157	123,361	60%	16%	24%	100%
2025	74,524	20,376	31,324	126,224	59%	16%	25%	100%
2026	75,520	21,114	32,519	129,153	58%	16%	25%	100%
2027	76,551	21,856	33,743	132,150	58%	17%	26%	100%
2028	77,618	22,602	34,997	135,217	57%	17%	26%	100%
2029	78,723	23,351	36,281	138,355	57%	17%	26%	100%
2030	79,866	24,104	37,596	141,566	56%	17%	27%	100%
2031	81,048	24,859	38,943	144,850	56%	17%	27%	100%

APPENDIX A - TABLE 8

CITY OF MARKHAM

GROWTH IN HOUSEHOLDS BY UNIT TYPE

Mid-Year	Annual Growth in Occupied Households				Shares By Unit Type			
	Singles/Semis	Rows & Other Multiples	Apartments	Total	Singles/Semis	Rows & Other Multiples	Apartments	Total
2011								
2012	1,457	847	4	2,308	63%	37%	0%	100%
2013	1,043	703	620	2,366	44%	30%	26%	100%
2014	98	306	2023	2,427	4%	13%	83%	100%
2015	476	393	1620	2,489	19%	16%	65%	100%
2016	765	755	1031	2,551	30%	30%	40%	100%
2017	724	695	964	2,383	30%	29%	40%	100%
2018	751	700	987	2,438	31%	29%	40%	100%
2019	778	706	1011	2,495	31%	28%	41%	100%
2020	807	711	1035	2,553	32%	28%	41%	100%
2021	836	716	1060	2,612	32%	27%	41%	100%
2022	866	720	1086	2,672	32%	27%	41%	100%
2023	897	725	1112	2,734	33%	27%	41%	100%
2024	929	730	1139	2,798	33%	26%	41%	100%
2025	962	734	1167	2,863	34%	26%	41%	100%
2026	996	738	1195	2,929	34%	25%	41%	100%
2027	1,031	742	1224	2,997	34%	25%	41%	100%
2028	1,067	746	1254	3,067	35%	24%	41%	100%
2029	1,105	749	1284	3,138	35%	24%	41%	100%
2030	1,143	753	1315	3,211	36%	23%	41%	100%
2031	1,182	755	1346	3,284	36%	23%	41%	100%
2017-2026	8,546	7,175	10,757	26,477	32%	27%	41%	100%
2017-2031	14,074	10,920	17,180	42,174	33%	26%	41%	100%

Source: York Region 2017 DC Study (45% Intensification Scenario), Hemson Consulting 2017

APPENDIX A - TABLE 9

CITY OF MARKHAM

FORECAST POPULATION IN NEW HOUSEHOLD BY UNIT TYPE

Mid-Year	Singles/Semis	Rows & Other Multiples	Apartments	Total	Singles/Semis	Rows & Other Multiples	Apartments	Population in New Dwellings
2016	3.84	2.94	2.00	2.83	2,937	2,217	2,061	7,215
2017	3.84	2.94	2.00	2.83	2,781	2,040	1,927	6,748
2018	3.84	2.94	2.00	2.83	2,882	2,055	1,974	6,911
2019	3.84	2.94	2.00	2.84	2,988	2,071	2,022	7,081
2020	3.84	2.94	2.00	2.84	3,097	2,086	2,071	7,254
2021	3.84	2.94	2.00	2.84	3,208	2,101	2,121	7,430
2022	3.84	2.94	2.00	2.85	3,323	2,115	2,172	7,610
2023	3.84	2.94	2.00	2.85	3,442	2,128	2,224	7,794
2024	3.84	2.94	2.00	2.85	3,566	2,142	2,279	7,987
2025	3.84	2.94	2.00	2.86	3,692	2,155	2,334	8,181
2026	3.84	2.94	2.00	2.86	3,822	2,167	2,390	8,379
2027	3.84	2.94	2.00	2.86	3,957	2,178	2,448	8,583
2028	3.84	2.94	2.00	2.87	4,097	2,190	2,508	8,795
2029	3.84	2.94	2.00	2.87	4,240	2,200	2,568	9,008
2030	3.84	2.94	2.00	2.87	4,388	2,209	2,630	9,227
2031	3.84	2.94	2.00	2.88	4,538	2,217	2,693	9,448
2017-2026	3.84	2.94	2.00	2.85	32,801	21,060	21,514	75,375
2017-2031	3.84	2.94	2.00	2.86	54,021	32,054	34,361	120,436

APPENDIX A - TABLE 10
CITY OF MARKHAM
FORECAST PLACE OF WORK EMPLOYMENT

Mid-Year	Retail				Industrial/Office/Institutional (I.O.I.)						Rural	
	Retail	Annual Growth	Mixed-Use	Annual Growth	Institutional	Annual Growth	Emp. Land Industrial	Annual Growth	Office	Annual Growth	Rural	Annual Growth
2016	23,363	813	1,230	43	15,162	538	53,216	862	56,594	1,263	214	0
2017	24,325	962	1,280	51	15,720	558	54,092	876	57,886	1,292	214	0
2018	25,307	982	1,332	52	16,298	578	54,982	890	59,207	1,321	214	0
2019	26,308	1,001	1,385	53	16,898	600	55,887	905	60,558	1,351	214	0
2020	27,330	1,022	1,438	54	17,520	622	56,807	920	61,940	1,382	214	0
2021	28,373	1,043	1,493	55	18,165	645	57,742	935	63,354	1,414	214	0
2022	29,437	1,064	1,549	56	18,833	668	58,692	950	64,800	1,446	214	0
2023	30,522	1,085	1,606	57	19,526	693	59,658	966	66,279	1,479	214	0
2024	31,629	1,107	1,665	58	20,245	719	60,640	982	67,792	1,513	214	0
2025	32,759	1,130	1,724	59	20,990	745	61,638	998	69,339	1,547	214	0
2026	33,911	1,153	1,785	61	21,762	772	62,652	1,014	70,922	1,583	214	0
2027	35,087	1,176	1,847	62	22,563	801	63,683	1,031	72,541	1,619	214	0
2028	36,287	1,200	1,910	63	23,393	830	64,731	1,048	74,197	1,656	214	0
2029	37,511	1,224	1,974	64	24,254	861	65,796	1,065	75,891	1,694	214	0
2030	38,760	1,249	2,040	66	25,147	893	66,879	1,083	77,623	1,732	214	0
2031	40,035	1,275	2,107	67	26,070	923	67,978	1,099	79,395	1,772	214	0
2017-2026		10,548		555		6,600		9,436		14,328		0
2017-2031		16,672		877		10,908		14,762		22,801		0

Mid-Year	Total for DC Study	Annual Growth	Work at Home Total Emp	Annual Growth	Total with Work at Home	Annual Growth
2016	149,779	3,519	12,227	302	162,006	3,821
2017	153,518	3,739	12,537	310	166,055	4,049
2018	157,340	3,822	12,855	318	170,195	4,140
2019	161,250	3,910	13,181	326	174,431	4,236
2020	165,250	4,000	13,515	334	178,765	4,334
2021	169,341	4,091	13,858	343	183,199	4,434
2022	173,525	4,184	14,209	351	187,734	4,535
2023	177,805	4,280	14,569	360	192,374	4,640
2024	182,185	4,380	14,938	369	197,123	4,749
2025	186,664	4,479	15,317	379	201,981	4,858
2026	191,246	4,582	15,705	388	206,951	4,970
2027	195,935	4,689	16,103	398	212,038	5,087
2028	200,732	4,797	16,511	408	217,243	5,205
2029	205,641	4,909	16,929	418	222,570	5,327
2030	210,664	5,023	17,358	429	228,022	5,452
2031	215,800	5,136	17,800	442	233,600	5,578
2017-2026		41,467		3,478		44,945
2017-2031		66,021		5,573		71,594

Source: York Region 2017 DC Study (45% Intensification Scenario), Hemson Consulting 2017

APPENDIX A - TABLE 11

CITY OF MARKHAM

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

Employment Density	
Retail	40.0 m ² per employee
Mixed-Use	40.0 m ² per employee
Institutional	66.7 m ² per employee
Emp. Land Industrial	80.0 m ² per employee
Office	25.0 m ² per employee
Rural	0.0 m ² per employee

Mid-Year	Retail		Industrial/Office/Institutional (I.O.I)			Rural	Total for DC Study
	Retail	Mixed-Use	Institutional	Industrial	Office		
2011							
2012	30,358	1,598	31,068	64,557	28,855	0	156,436
2013	30,888	1,626	32,200	65,600	29,500	0	159,814
2014	31,430	1,654	33,400	66,720	30,175	0	163,379
2015	31,978	1,683	34,600	67,840	30,875	0	166,976
2016	32,538	1,713	35,867	68,960	31,575	0	170,653
2017	38,483	2,025	37,200	70,080	32,300	0	180,088
2018	39,262	2,066	38,533	71,200	33,025	0	184,086
2019	40,058	2,108	40,000	72,400	33,775	0	188,341
2020	40,871	2,151	41,467	73,600	34,550	0	192,639
2021	41,701	2,195	43,000	74,800	35,350	0	197,046
2022	42,549	2,239	44,533	76,000	36,150	0	201,471
2023	43,408	2,285	46,200	77,280	36,975	0	206,148
2024	44,291	2,331	47,933	78,560	37,825	0	210,940
2025	45,190	2,378	49,667	79,840	38,675	0	215,750
2026	46,107	2,427	51,467	81,120	39,575	0	220,696
2027	47,042	2,476	53,400	82,480	40,475	0	225,873
2028	47,993	2,526	55,333	83,840	41,400	0	231,092
2029	48,968	2,577	57,400	85,200	42,350	0	236,495
2030	49,960	2,629	59,533	86,640	43,300	0	242,062
2031	50,980	2,683	61,561	87,947	44,304	0	247,475
2017-2026	421,920	22,205	440,000	754,880	358,200	0	1,997,205
2017-2031	666,863	35,096	727,227	1,180,987	570,029	0	3,180,202

APPENDIX B

SOFT SERVICES

TECHNICAL APPENDIX

APPENDIX B

SOFT SERVICES TECHNICAL APPENDIX INTRODUCTION AND OVERVIEW

The following appendix provides the detailed analysis undertaken to establish the development charge rates for each of the soft services in the City of Markham. Eight soft services have been analysed as part of the development charges study:

Appendix B.1	General Government
Appendix B.2	Library
Appendix B.3	Fire Services
Appendix B.4	Indoor Recreation
Appendix B.5	Park Development and Facilities
Appendix B.6	Public Works
Appendix B.7	Parking
Appendix B.8	Waste Management Services

Every service 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 *O. Reg. 82/98* require that development charges be set at a level no higher than the average service level provided in the City 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 has been defined as 2007 to 2016.

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 City 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. This information is generally based on historical records and experience with costs to acquire or construct similar facilities, equipment and infrastructure.

The final page of Table 1 shows the calculation of the maximum allowable funding envelope, net of uncommitted excess capacity and the legislated ten per cent reduction (for all applicable services). The maximum allowable funding envelope is defined as the ten-year historical service level (expressed as either \$/capita or \$/population & employment) multiplied by the forecast increase in net population growth, or net population and employment growth, over the planning period. The resulting figure is the value of capital infrastructure that must be constructed for that particular service so that the ten-year historical service level is maintained.

There is also a requirement in the *DCA* to consider “excess capacity” within the City’s existing infrastructure that may be available to partially meet the future servicing requirements. If Council has expressed its intent before or at the time the capacity was created to recoup 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. Should uncommitted excess capacity exist, it is determined whether or not this capacity will be available to service new development and, if so, deductions to maximum allowable funding envelope are required.

**TABLE 2 2017 – 2026 DEVELOPMENT-RELATED CAPITAL PROGRAM &
CALCULATION OF THE UNADJUSTED DEVELOPMENT CHARGE**

The *DCA* requires that Council express its intent to provide future capital facilities to support future growth. Based on the development forecasts presented in Appendix A, Hemson Consulting in collaboration with City staff has developed a development-related capital program which sets out the projects required to service anticipated growth for the ten-year period from 2017 to 2026.

To determine the share of the program that is eligible for recovery through development charges, the project costs are reduced by any anticipated grants, “replacement” shares and the legislated “ten per cent reduction” for any eligible services.

A replacement share occurs when a new facility 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.

When calculating development charges, the development-related net capital cost must be reduced by ten per cent for all services except protection services and engineered services (*DCA* s.5.(1)8.). The ten per cent discount is therefore applied to all soft services considered in this appendix with the exception of Fire Services and Public Works. As with replacement shares, the ten per cent mandatory reduction must be funded from non-development charge sources.

The capital program less any replacement or benefit to existing shares, ten per cent discount, yields the development-related costs. Although deemed development-related, not all of the net development-related capital program may be recoverable from development charges in the period from 2017 to 2026. For some of the services, a portion of the capital program will service growth that will not occur until after 2026. This portion of the capital program is either deemed “pre-built” service capacity to be considered as committed excess capacity to be recovered under future development, or is a service level increase.

The remaining portion of the net capital program represents the development-related cost that may be included in the development charge. In all cases, this amount is equal to or less than the maximum allowable capital amount as calculated on the final page of Table 1. The result is the discounted development-related net capital cost that is eligible for recovery against development over the period from 2017 to 2026.

Calculation of the Unadjusted Development Charge 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 when determining the unadjusted development charge rate is to allocate the development-related net capital cost between the residential and non-residential sectors. For all soft services with the exception of Library, Indoor Recreation, Park Development and Facilities, and Waste Management, the development-related costs have been apportioned as 65 per cent residential and 35 per cent non-residential. This apportionment is based on the anticipated shares of population in new units and employment growth over the ten-year forecast period.

The development-related costs associated with the Library, Indoor Recreation, Park Development and Facilities, and Waste Management have been allocated 100 per cent to the residential sector because the need for these services is generally driven by residential development.

The residential share of the 2017-2026 DC eligible costs are then divided by the forecast population growth in new units. This gives the unadjusted residential development charge per capita. The non-residential development-related net capital costs are divided by the forecast increase in non-residential gross floor area (GFA). This yields a charge per square metre of new non-residential GFA.

TABLE 3 CASH FLOW ANALYSIS

A cash flow analysis is also undertaken to account for the timing of projects and receipt of development charges. Interest earnings or borrowing costs are, therefore, accounted for in the calculation as allowed under the *DCA*. Based on the growth forecast, the analysis calculates the development charges rate that is required to finance the net development-related capital spending plan including provisions for any borrowing costs or interest earnings on the reserve funds. 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 charges 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 3.5 per cent is used for positive opening balances, and a rate of 5.5 per cent is used for negative opening 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

GENERAL GOVERNMENT

APPENDIX B.1
GENERAL GOVERNMENT

The *DCA* allows the cost of development-related studies to be included in the calculation of the development charges as long as they are permitted under the legislation. Consistent with s.5(1)7 of the *DCA*, the eligible development-related capital costs for the provision of studies and permitted general government expenditures are reduced by ten per cent when calculating the development charges.

TABLE 1 2007-2016 HISTORICAL SERVICE LEVELS

Table 1 provides a summary of the historical service level for the provision of general government (development-related studies). The service level is based on actual expenditures for development-related studies over the last ten years (2007-2016).

Table 1 identifies a ten-year average service level for the provision of development-related studies of \$1.77 million per year. Based on this average service level, \$17.70 million is the maximum allowable that can be included in the development charges calculation.

**TABLE 2 2017 – 2026 DEVELOPMENT-RELATED CAPITAL PROGRAM AND
CALCULATION OF THE UNADJUSTED DEVELOPMENT CHARGES**

As shown on Table 2, the 2017–2026 development-related gross cost for General Government is \$28.46 million. This provides for the annual provision of \$1.77 million for various studies per year (based on ten-year historical average). The General Government capital program also recovers for the negative reserve fund balance, which as of December 31, 2016, was in a negative position of \$10.75 million. The negative DC reserve fund balance for General Government has not been reduced by ten per cent, as this adjustment was made in prior DC by-laws.

The legislated ten per cent reduction of \$1.77 million is discounted from the capital costs. Another \$8.98 million, has been deemed as a post-period benefit and has been removed from the development charges calculation.

The remaining amount of \$17.70 million is eligible for development charges funding in the ten-year planning period. This amount is allocated 64.5 per cent, or \$11.42 million

to the residential sector and 35.5 per cent, or \$6.28 million to the non-residential sector based on shares of ten-year growth in population in new units and employment. The resulting unadjusted per capita residential charge is \$151.49 before cash flow adjustments. The non-residential unadjusted charge is further allocated between retail, industrial/office/institutional charges and mixed-uses. The unadjusted retail rate is \$3.89 per square metre, the industrial/office/institutional (I.O.I.) amounts to \$2.96 per square metre and the unadjusted mixed-use charge is \$1.89 per square metre.

TABLE 3 CASH FLOW ANALYSIS

After cash flow analysis, the residential charge increases to \$173.90 per capita. The non-residential retail charge increases to \$4.46 per square metre, while the industrial/office/institutional charge increases to \$3.40 per square metre, and mixed used increases to \$2.17 per square metre. This is a reflection of the timing of the capital program and development charges revenues.

The following table summarizes the calculation of the General Government development charge.

2017 - 2026		GENERAL GOVERNMENT SUMMARY							
		Unadjusted Development Charge			Adjusted Development Charge				
Development-Related Capital Program	Residential	Retail	I.O.I.	Mixed-Use	Residential	Retail	I.O.I.	Mixed-Use	
Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/sq.m	\$/sq.m	\$/capita	\$/sq.m	\$/sq.m	\$/sq.m
\$28,455,530	\$17,700,700	\$151.49	\$3.89	\$2.96	\$1.89	\$173.90	\$4.46	\$3.40	\$2.17

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APPENDIX B.1
TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
GENERAL GOVERNMENT

Growth-Related Studies Description	\$ Amount Spent										Total
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Various Studies	\$1,307,910	\$1,454,225	\$2,231,421	\$989,200	\$2,016,081	\$1,846,020	\$1,837,998	\$2,184,412	\$1,238,505	\$1,956,426	\$17,062,198
Development Charges Studies	\$0	\$112,000	\$50,000	\$0	\$0	\$316,530	\$135,000	\$0	\$25,000	\$0	\$638,530
Total (\$000)	\$1,307.9	\$1,566.2	\$2,281.4	\$989.2	\$2,016.1	\$2,162.6	\$1,973.0	\$2,184.4	\$1,263.5	\$1,956.4	

CALCULATION OF SERVICE LEVELS
SERVICE LEVEL (\$/year)

Average
Service
Level

Growth-Related Studies	\$1,307.91	\$1,566.22	\$2,281.42	\$989.20	\$2,016.08	\$2,162.55	\$1,973.00	\$2,184.41	\$1,263.50	\$1,956.43	\$1,770.07
Total (\$000)	\$1,307.91	\$1,566.22	\$2,281.42	\$989.20	\$2,016.08	\$2,162.55	\$1,973.00	\$2,184.41	\$1,263.50	\$1,956.43	\$1,770.07

CITY OF MARKHAM
CALCULATION OF MAXIMUM ALLOWABLE
GENERAL GOVERNMENT

10-Year Funding Envelope Calculation	
10 Year Average Service Level 2007 - 2016	\$1,770.07
10-year 2017 - 2026 Planning Period	10
Maximum Allowable Funding Envelope	\$17,700,700

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APPENDIX B.1
TABLE 2
CITY OF MARKHAM
DEVELOPMENT-RELATED CAPITAL PROGRAM
GENERAL GOVERNMENT

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs			
					Replacement & BTE Shares	10% Reduction		Prior Growth	Available DC Reserves	2017-2026	Post 2026
1.0 GENERAL GOVERNMENT											
1.1 Recovery of Negative Reserve Fund Balance											
1.1.1 Balance as at December 31, 2016	2017	\$ 10,754,830	\$ -	\$ 10,754,830	\$ -	\$ -	\$ 10,754,830	\$ -	\$ -	\$ 10,754,830	\$ -
Subtotal Recovery of Negative Reserve Fund Balance		\$ 10,754,830	\$ -	\$ 10,754,830	\$ -	\$ -	\$ 10,754,830	\$ -	\$ -	\$ 10,754,830	\$ -
1.2 Development-Related Studies											
1.2.1 Various Studies	2017	\$ 1,770,070	\$ -	\$ 1,770,070	\$ -	\$ 177,007	\$ 1,593,063	\$ -	\$ -	\$ 1,593,063	\$ -
1.2.2 Various Studies	2018	\$ 1,770,070	\$ -	\$ 1,770,070	\$ -	\$ 177,007	\$ 1,593,063	\$ -	\$ -	\$ 1,593,063	\$ -
1.2.3 Various Studies	2019	\$ 1,770,070	\$ -	\$ 1,770,070	\$ -	\$ 177,007	\$ 1,593,063	\$ -	\$ -	\$ 1,593,063	\$ -
1.2.4 Various Studies	2020	\$ 1,770,070	\$ -	\$ 1,770,070	\$ -	\$ 177,007	\$ 1,593,063	\$ -	\$ -	\$ 1,593,063	\$ -
1.2.5 Various Studies	2021	\$ 1,770,070	\$ -	\$ 1,770,070	\$ -	\$ 177,007	\$ 1,593,063	\$ -	\$ -	\$ 573,618	\$ 1,019,445
1.2.6 Various Studies	2022	\$ 1,770,070	\$ -	\$ 1,770,070	\$ -	\$ 177,007	\$ 1,593,063	\$ -	\$ -	\$ -	\$ 1,593,063
1.2.7 Various Studies	2023	\$ 1,770,070	\$ -	\$ 1,770,070	\$ -	\$ 177,007	\$ 1,593,063	\$ -	\$ -	\$ -	\$ 1,593,063
1.2.8 Various Studies	2024	\$ 1,770,070	\$ -	\$ 1,770,070	\$ -	\$ 177,007	\$ 1,593,063	\$ -	\$ -	\$ -	\$ 1,593,063
1.2.9 Various Studies	2025	\$ 1,770,070	\$ -	\$ 1,770,070	\$ -	\$ 177,007	\$ 1,593,063	\$ -	\$ -	\$ -	\$ 1,593,063
1.2.10 Various Studies	2026	\$ 1,770,070	\$ -	\$ 1,770,070	\$ -	\$ 177,007	\$ 1,593,063	\$ -	\$ -	\$ -	\$ 1,593,063
Subtotal Development-Related Studies		\$ 17,700,700	\$ -	\$ 17,700,700	\$ -	\$ 1,770,070	\$ 15,930,630	\$ -	\$ -	\$ 6,945,870	\$ 8,984,760
TOTAL GENERAL GOVERNMENT		\$ 28,455,530	\$ -	\$ 28,455,530	\$ -	\$ 1,770,070	\$ 26,685,460	\$ -	\$ -	\$ 17,700,700	\$ 8,984,760

Residential Development Charge Calculation		
Residential Share of 2017 - 2026 DC Eligible Costs	64.5%	\$11,418,737
10-Year Growth in Population in New Units		75,375
Unadjusted Development Charge Per Capita		\$151.49
Non-Residential Development Charge Calculation		
Non-Residential Share of 2017 - 2026 DC Eligible Costs	35.5%	\$6,281,963
10-Year Growth in Square Metres		1,997,205
Unadjusted Development Charge Per Square Metre		\$3.15

2017 - 2026 Net Funding Envelope	\$17,700,700
Reserve Fund Balance	(\$10,754,830)

Non-Residential Development Charge Calculation		
Retail		
Non-Residential Share of 2017 - 2026 DC Eligible Costs	9.3%	\$ 1,639,997.1
10-Year Growth in Square Metres		\$ 421,920.0
Unadjusted Development Charge Per Square Metre		\$3.89
Industrial/Office/Institutional		
Non-Residential Share of 2017 - 2026 DC Eligible Costs	26.0%	\$ 4,599,914.3
10-Year Growth in Square Metres		\$ 1,553,080.0
Unadjusted Development Charge Per Square Metre		\$2.96
Mixed-Use		
Non-Residential Share of 2017 - 2026 DC Eligible Costs	0.2%	\$ 42,051.2
10-Year Growth in Square Metres		\$ 22,205.0
Unadjusted Development Charge Per Square Metre		\$1.89

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APPENDIX B.1
TABLE 3

**CITY OF MARKHAM
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
GENERAL GOVERNMENT
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)**

GENERAL GOVERNMENT	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	\$0.00	(\$6,978.96)	(\$7,182.09)	(\$7,361.49)	(\$7,513.96)	(\$6,911.74)	(\$5,805.22)	(\$4,571.44)	(\$3,199.52)	(\$1,679.46)	
2017 - 2026 RESIDENTIAL FUNDING REQUIREMENTS											
- General Government: Non Inflated	\$7,965.6	\$1,027.7	\$1,027.7	\$1,027.7	\$370.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$11,418.7
- General Government: Inflated	\$7,965.6	\$1,048.2	\$1,069.2	\$1,090.6	\$400.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$11,574.2
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	6,748	6,911	7,081	7,254	7,430	7,610	7,794	7,987	8,181	8,379	75,375
REVENUE											
- DC Receipts: Inflated	\$1,173.5	\$1,225.8	\$1,281.1	\$1,338.7	\$1,398.6	\$1,461.1	\$1,526.4	\$1,595.4	\$1,666.9	\$1,741.4	\$14,408.7
INTEREST											
- Interest on Opening Balance	\$0.0	(\$383.8)	(\$395.0)	(\$404.9)	(\$413.3)	(\$380.1)	(\$319.3)	(\$251.4)	(\$176.0)	(\$92.4)	(\$2,816.2)
- Interest on In-year Transactions	(\$186.8)	\$3.1	\$3.7	\$4.3	\$17.5	\$25.6	\$26.7	\$27.9	\$29.2	\$30.5	(\$18.3)
TOTAL REVENUE	\$986.7	\$845.1	\$889.8	\$938.1	\$1,002.8	\$1,106.5	\$1,233.8	\$1,371.9	\$1,520.1	\$1,679.5	\$11,574.2
CLOSING CASH BALANCE	(\$6,979.0)	(\$7,182.1)	(\$7,361.5)	(\$7,514.0)	(\$6,911.7)	(\$5,805.2)	(\$4,571.4)	(\$3,199.5)	(\$1,679.5)	\$0.0	

2017 Adjusted Charge Per Capita

\$173.90

Allocation of Capital Program

Residential Sector	64.5%
Non-Residential Sector	35.5%

Rates for 2017

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

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APPENDIX B.1
TABLE 3

**CITY OF MARKHAM
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
GENERAL GOVERNMENT
RETAIL NON-RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)**

GENERAL GOVERNMENT	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	\$0.00	(\$999.28)	(\$1,025.82)	(\$1,049.50)	(\$1,069.91)	(\$982.59)	(\$823.60)	(\$647.21)	(\$452.09)	(\$236.85)	
2017 - 2026 NON-RESIDENTIAL FUNDING REQUIREMENTS											
- General Government: Non Inflated	\$1,144.1	\$147.6	\$147.6	\$147.6	\$53.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1,640.0
- General Government: Inflated	\$1,144.1	\$150.6	\$153.6	\$156.6	\$57.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1,662.3
NON-RESIDENTIAL SPACE GROWTH - RETAIL											
- Growth in Square Metres	38,483	39,262	40,058	40,871	41,701	42,549	43,408	44,291	45,190	46,107	421,920
REVENUE											
- DC Receipts: Inflated	\$171.5	\$178.5	\$185.7	\$193.3	\$201.2	\$209.4	\$217.9	\$226.7	\$236.0	\$245.6	\$2,065.8
INTEREST											
- Interest on Opening Balance	\$0.0	(\$55.0)	(\$56.4)	(\$57.7)	(\$58.8)	(\$54.0)	(\$45.3)	(\$35.6)	(\$24.9)	(\$13.0)	(\$400.8)
- Interest on In-year Transactions	(\$26.7)	\$0.5	\$0.6	\$0.6	\$2.5	\$3.7	\$3.8	\$4.0	\$4.1	\$4.3	(\$2.7)
TOTAL REVENUE	\$144.8	\$124.0	\$129.9	\$136.2	\$144.8	\$159.0	\$176.4	\$195.1	\$215.2	\$236.9	\$1,662.3
CLOSING CASH BALANCE	(\$999.3)	(\$1,025.8)	(\$1,049.5)	(\$1,069.9)	(\$982.6)	(\$823.6)	(\$647.2)	(\$452.1)	(\$236.9)	\$0.0	

2017 Adjusted Charge Per Square Metre	\$4.46
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Allocation of Capital Program	
Retail Sector	9.3%
Industrial/Office/Institutional Sector	26.0%
Mixed-Use	0.2%
Rates for 2017	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

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APPENDIX B.1
TABLE 3

**CITY OF MARKHAM
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
GENERAL GOVERNMENT
INDUSTRIAL/OFFICE/INSTITUTIONAL NON-RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)**

GENERAL GOVERNMENT	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	\$0.00	(\$2,809.61)	(\$2,890.18)	(\$2,961.40)	(\$3,022.16)	(\$2,779.20)	(\$2,333.74)	(\$1,837.13)	(\$1,285.35)	(\$674.52)	
2017 - 2026 NON-RESIDENTIAL FUNDING REQUIREMENTS											
- General Government: Non Inflated	\$3,208.9	\$414.0	\$414.0	\$414.0	\$149.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$4,599.9
- General Government: Inflated	\$3,208.9	\$422.3	\$430.7	\$439.3	\$161.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$4,662.5
NON-RESIDENTIAL SPACE GROWTH - I.O.I.											
- Growth in Square Metres	139,580	142,758	146,175	149,617	153,150	156,683	160,455	164,318	168,182	172,162	1,553,080
REVENUE											
- DC Receipts: Inflated	\$474.5	\$495.0	\$516.9	\$539.7	\$563.5	\$588.0	\$614.2	\$641.6	\$669.8	\$699.4	\$5,802.6
INTEREST											
- Interest on Opening Balance	\$0.0	(\$154.5)	(\$159.0)	(\$162.9)	(\$166.2)	(\$152.9)	(\$128.4)	(\$101.0)	(\$70.7)	(\$37.1)	(\$1,132.6)
- Interest on In-year Transactions	(\$75.2)	\$1.3	\$1.5	\$1.8	\$7.0	\$10.3	\$10.7	\$11.2	\$11.7	\$12.2	(\$7.4)
TOTAL REVENUE	\$399.3	\$341.7	\$359.5	\$378.6	\$404.3	\$445.5	\$496.6	\$551.8	\$610.8	\$674.5	\$4,662.5
CLOSING CASH BALANCE	(\$2,809.6)	(\$2,890.2)	(\$2,961.4)	(\$3,022.2)	(\$2,779.2)	(\$2,333.7)	(\$1,837.1)	(\$1,285.4)	(\$674.5)	\$0.0	

2017 Adjusted Charge Per Square Metre	\$3.40
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Allocation of Capital Program	
Retail Sector	9.3%
Industrial/Office/Institutional Sector	26.0%
Mixed-Use	0.2%
Rates for 2017	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

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APPENDIX B.1
TABLE 3

**CITY OF MARKHAM
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
GENERAL GOVERNMENT
MIXED-USE NON-RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)**

GENERAL GOVERNMENT	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	\$0.00	(\$25.62)	(\$26.30)	(\$26.91)	(\$27.44)	(\$25.20)	(\$21.12)	(\$16.60)	(\$11.59)	(\$6.07)	
2017 - 2026 NON-RESIDENTIAL FUNDING REQUIREMENTS											
- General Government: Non Inflated	\$29.3	\$3.8	\$3.8	\$3.8	\$1.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$42.1
- General Government: Inflated	\$29.3	\$3.9	\$3.9	\$4.0	\$1.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$42.6
NON-RESIDENTIAL SPACE GROWTH - I.O.I.											
- Growth in Square Metres	2,025	2,066	2,108	2,151	2,195	2,239	2,285	2,331	2,378	2,427	22,205
REVENUE											
- DC Receipts: Inflated	\$4.4	\$4.6	\$4.8	\$5.0	\$5.2	\$5.4	\$5.6	\$5.8	\$6.1	\$6.3	\$53.0
INTEREST											
- Interest on Opening Balance	\$0.0	(\$1.4)	(\$1.4)	(\$1.5)	(\$1.5)	(\$1.4)	(\$1.2)	(\$0.9)	(\$0.6)	(\$0.3)	(\$10.3)
- Interest on In-year Transactions	(\$0.7)	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	(\$0.1)
TOTAL REVENUE	\$3.7	\$3.2	\$3.3	\$3.5	\$3.7	\$4.1	\$4.5	\$5.0	\$5.5	\$6.1	\$42.6
CLOSING CASH BALANCE	(\$25.6)	(\$26.3)	(\$26.9)	(\$27.4)	(\$25.2)	(\$21.1)	(\$16.6)	(\$11.6)	(\$6.1)	\$0.0	

2017 Adjusted Charge Per Square Metre	\$2.17
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Allocation of Capital Program	
Retail Sector	9.3%
Industrial/Office/Institutional Sector	26.0%
Mixed-Use	0.2%
Rates for 2017	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

APPENDIX B.2

LIBRARY

APPENDIX B.2
LIBRARY SERVICES

The Markham Public Library provides library services from seven branches. The library offers a wide array of adult and children's services, library programs and room rentals. Each branch has a variety of collection materials available for the community's use.

TABLE 1 2007-2016 HISTORICAL SERVICE LEVELS

Table 1 displays the Library's ten-year historical inventory for buildings, land, materials, and furniture and equipment (excluding computer equipment). The building space amounts to 146,051 square feet which is valued at \$63.88 million. The library buildings occupy approximately 6.14 hectares of land worth \$58.29 million. The collection materials are valued at \$21.27 million and furniture and equipment associated with the branch is valued at \$8.92 million.

The 2016 full replacement value of the inventory of capital assets amounts to \$152.36 million and the ten-year historical average service level is \$466.52 per capita.

The historical service level multiplied by the ten-year forecast of net population growth results in a ten-year maximum allowable funding envelope of \$34.13 million (73,161 net population growth X historical service level of \$466.52). No excess capacity has been identified for this service.

Library must be reduced by ten per cent as required under the *DCA*. The resulting net maximum allowable funding envelope brought forward to the development charges calculation is reduced to \$30.72 million.

**TABLE 2 2017 – 2026 DEVELOPMENT-RELATED CAPITAL PROGRAM &
CALCULATION OF THE UNADJUSTED DEVELOPMENT CHARGE**

The first project in the Library capital program is for the recovery of the negative reserve fund balance. The negative DC reserve fund balance for Library amounts to \$1.67 million. This amount has not been reduced by ten per cent, as this reduction was made in prior DC by-laws.

The remainder of the Library capital program provides for the construction of three new library branches in Markham. The Aaniin Community Centre and Library, expected to open in 2017, requires the purchase of \$0.87 million in land, as well as \$9.66 million in building costs. These costs relate to the Library portion of the proposed facility. Furniture and equipment add another \$1.22 million in costs, while collection materials cost \$2.99 million. Approximately \$8.70 million has already been collected for this project and is considered a prior growth share and is not included in the development charge eligible costs over the 2017-2026 planning period. The second new library, Markham Centre, is slated to be constructed in 2021. Buildings for this library amounts to \$9.66 million and the associated land is valued at \$1.42 million. Furniture and equipment amount to \$1.44 million and collection materials add an additional \$2.99 million. Finally, a provision for a future library branch is slated to be constructed in 2025, and will cost \$7.24 million to build and \$1.42 million in land. The cost of furniture and equipment for this library is \$1.08 million, and collection materials are \$2.24 million.

The total gross cost of the Library DC capital program is \$43.91 million. No grants, subsidies, or other recoveries are anticipated to fund any shares of the above mentioned projects and as such, the net cost to the municipality remains at \$43.91 million. No shares of the projects are deemed to be a replacement as they are net additions to the current Library service level. As such, no shares are deducted for replacement or benefit to existing. As required by the *DCA*, a ten per cent reduction has been applied to the new projects which amounts to \$4.22 million. The net municipal cost of this program is then reduced to \$39.69 million and this amount is deemed to be DC eligible. A portion of these costs, \$8.70 million, relates to prior growth shares of projects and is removed from the 2017-2026 recoverable costs. In addition, a portion of the Library capital program, \$0.27 million, is deemed as a post-2026 benefit and will not be recovered under this development charges by-law, but will be considered in future development charge studies, subject to service level restrictions.

After these adjustments, the 2017–2026 DC costs eligible for recovery amounts to \$30.72 million which is allocated entirely against future residential development in the City of Markham. This results in an unadjusted development charge of \$407.54 per capita.

TABLE 3 CASH FLOW AND RESERVE FUND ANALYSIS

After cash flow, the residential calculated charge increases to \$415.29 per capita. The increase reflects the front-ended nature of the capital program.

The following table summarizes the calculation of the Library development charge:

LIBRARY SUMMARY										
10-year Hist.	2017 - 2026		Unadjusted Development Charge				Adjusted Development Charge			
Service Level	Development-Related Capital Program		Residential	Retail	I.O.I.	Mixed-Use	Residential	Retail	I.O.I.	Mixed-Use
per capita	Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/sq.m	\$/sq.m	\$/capita	\$/sq.m	\$/sq.m	\$/sq.m
\$466.52	\$43,910,042	\$30,717,963	\$407.54	\$0.00	\$0.00	\$0.00	\$415.29	\$0.00	\$0.00	\$0.00

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APPENDIX B.2
TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
LIBRARY

BUILDINGS Branch Name	# of Square Feet										UNIT COST (\$/sq. ft.)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
Angus Glen Library - 3990 Major Mackenzie Drive East, Markham	29,700	29,700	29,700	29,700	29,700	29,700	29,700	29,700	29,700	29,700	29,700	\$483
Cornell Library - 3201 Bur Oak Drive, Markham	-	-	-	-	-	-	23,000	23,000	23,000	23,000	23,000	\$483
Markham Village Library - 6031 Hwy #7, Markham	32,510	32,510	32,510	32,510	32,510	32,510	32,510	32,510	32,510	32,510	32,510	\$483
Milliken Mills Library - Unit 1, 7600 Kennedy Rd., Unionville	16,865	16,865	16,865	16,865	16,865	16,865	16,865	16,865	16,865	16,865	16,865	\$374
Thornhill CC Library - 7755 Bayview Ave., Thornhill	25,053	25,053	25,053	25,053	26,053	26,053	26,053	26,053	26,053	26,053	26,053	\$374
Thornhill Village Library - 10 Colbourne St., Thornhill	4,283	4,283	4,283	4,283	4,283	4,283	4,283	4,283	4,283	4,283	4,283	\$374
Unionville Library - 15 Library Lane, Unionville	13,640	13,640	13,640	13,640	13,640	13,640	13,640	13,640	13,640	13,640	13,640	\$374
Total (sq.ft.)	122,051	122,051	122,051	122,051	123,051	123,051	146,051	146,051	146,051	146,051	146,051	
Total (\$000)	\$52,399.2	\$52,399.2	\$52,399.2	\$52,399.2	\$52,772.8	\$52,772.8	\$63,881.8	\$63,881.8	\$63,881.8	\$63,881.8	\$63,881.8	

LAND Branch Name	# of Hectares										UNIT COST (\$/ha)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
Angus Glen Library - 3990 Major Mackenzie Drive East, Markham	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	\$9,489,000
Cornell Library - 3201 Bur Oak Drive, Markham	-	-	-	-	-	-	0.42	0.42	0.42	0.42	0.42	\$9,489,000
Markham Village Library - 6031 Hwy #7, Markham	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	\$9,489,000
Milliken Mills Library - Unit 1, 7600 Kennedy Rd., Unionville	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	\$9,489,000
Thornhill CC Library - 7755 Bayview Ave., Thornhill	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	\$9,489,000
Thornhill Village Library - 10 Colbourne St., Thornhill	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	\$9,489,000
Unionville Library - 15 Library Lane, Unionville	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	\$9,489,000
Total (ha)	5.72	5.72	5.72	5.72	5.72	5.72	6.14	6.14	6.14	6.14	6.14	
Total (\$000)	\$54,280.9	\$54,280.9	\$54,280.9	\$54,280.9	\$54,280.9	\$54,280.9	\$58,289.1	\$58,289.1	\$58,289.1	\$58,289.1	\$58,289.1	

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APPENDIX B.2
TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
LIBRARY

MATERIALS Type of Collection	# of Collection Materials										UNIT COST (\$/item)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Collection Materials											
- 16 mm Films	27	27	41	-	-	-	-	-	-	-	\$71.44
- Audiocassettes	293	179	-	-	-	-	-	-	-	-	\$12.76
- Talking Books	14,128	14,497	14,446	11,804	13,415	14,169	13,172	12,175	14,990	14,919	\$45.32
- Talking Books (kits)	3,663	4,130	3,794	4,077	4,207	3,552	2,091	629	592	95	\$73.03
- Books	512,885	561,583	559,468	512,551	487,570	556,726	563,300	573,357	583,414	594,797	\$28.00
- Browsing PB	85,574	68,654	63,646	63,800	76,215	80,268	48,209	-	-	-	\$11.10
- CD-ROM Software	6,128	5,761	4,669	2,603	2,611	2,488	1,255	22	5	4	\$41.09
- Compact Discs	22,883	23,206	23,379	19,498	20,927	20,147	17,003	13,859	17,656	17,487	\$18.42
- DVDs	33,882	42,411	49,069	36,919	45,057	50,071	58,571	67,071	91,037	93,801	\$30.10
- Maps	898	400	-	-	-	-	-	-	-	-	\$3.11
- Microfiche	9,062	500	500	500	500	500	500	500	500	500	\$67.75
- Microfilms	3,513	2,727	433	445	457	457	481	493	505	517	\$263.17
- Newspapers	60	60	60	61	61	61	73	85	91	88	\$233.96
- Periodicals	942	942	942	1,070	1,072	1,072	1,059	1,046	1,058	1,034	\$78.10
- Videocassettes	9,677	6,702	3,859	990	990	265	140	15	-	-	\$22.84
- Videogames	328	815	1,139	1,308	1,911	2,079	2,006	1,932	2,092	2,250	\$70.32
- Pedometers	-	-	-	-	-	-	-	87	83	73	\$6.00
- DML Lendable Equipment	-	-	-	-	-	-	-	28	27	26	\$135.65
- Enviropacks	-	-	-	-	-	-	-	24	27	28	\$84.15
- Energy Meters	-	-	-	-	-	-	-	43	43	41	\$54.00
Electronic Resources											
- Electronic Resources	\$253,058	\$380,244	\$370,195	\$359,781	\$426,781	\$359,781	\$338,817	\$367,525	\$350,839	\$345,600	
Total (#)	703,943	732,594	725,445	655,626	654,993	731,855	707,860	671,366	712,120	725,660	
Total (\$000)	\$20,043.26	\$20,820.97	\$20,179.60	\$18,192.87	\$18,098.04	\$20,125.49	\$19,928.25	\$19,704.31	\$20,901.21	\$21,266.70	

FIXTURES, FURNITURE & EQUIPMENT Branch Name	Total Value of Furniture and Equipment (\$)									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Automated Library Collection System	\$1,833,902	\$1,870,580	\$2,298,859	\$2,298,859	\$2,574,577	\$2,974,577	\$3,009,778	\$3,085,673	\$3,133,646	\$3,197,584
Angus Glen Library - 3990 Major Mackenzie Drive East, Markham	\$824,586	\$841,078	\$861,670	\$841,078	\$841,483	\$841,483	\$841,776	\$847,519	\$850,136	\$851,984
Cornell Library - 3201 Bur Oak Ave, Markham	-	-	-	-	-	-	763,586	\$782,840	\$795,011	\$811,232
Markham Village Library - 6031 Hwy #7, Markham	\$707,000	\$721,140	\$721,140	\$721,140	\$722,319	\$722,319	\$734,126	\$735,435	\$738,633	\$753,704
Milliken Mills Library - Unit 1, 7600 Kennedy Rd., Unionville	\$974,734	\$994,229	\$999,639	\$999,639	\$1,000,044	\$1,000,044	\$1,042,992	\$1,046,497	\$1,062,767	\$1,084,451
Thornhill CC Library - 7755 Bayview Ave., Thornhill	\$948,874	\$967,851	\$967,851	\$968,558	\$1,015,323	\$1,015,323	\$978,163	\$980,162	\$995,400	\$1,015,710
Thornhill Village Library - 10 Colbourne St., Thornhill	\$142,684	\$145,538	\$145,538	\$151,280	\$186,325	\$186,325	\$154,693	\$155,862	\$158,285	\$161,515
Unionville Library - 15 Library Lane, Unionville	\$936,574	\$955,305	\$955,305	\$1,011,396	\$1,027,312	\$1,027,312	\$1,019,312	\$1,020,907	\$1,023,420	\$1,044,302
Total (\$000)	\$6,368.4	\$6,495.7	\$6,950.0	\$6,992.0	\$7,367.4	\$7,767.4	\$8,544.4	\$8,654.9	\$8,757.3	\$8,920.5

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APPENDIX B.2
TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
LIBRARY

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Historic Population	269,149	276,944	284,965	293,218	301,709	306,973	312,329	317,779	323,324	328,966

INVENTORY SUMMARY (\$000)

Buildings	\$52,399.2	\$52,399.2	\$52,399.2	\$52,399.2	\$52,772.8	\$52,772.8	\$63,881.8	\$63,881.8	\$63,881.8	\$63,881.8
Land	\$54,280.9	\$54,280.9	\$54,280.9	\$54,280.9	\$54,280.9	\$54,280.9	\$58,289.1	\$58,289.1	\$58,289.1	\$58,289.1
Materials	\$20,043.3	\$20,821.0	\$20,179.6	\$18,192.9	\$18,098.0	\$20,125.5	\$19,928.3	\$19,704.3	\$20,901.2	\$21,266.7
Fixtures, Furniture & Equipment	\$6,368.4	\$6,495.7	\$6,950.0	\$6,992.0	\$7,367.4	\$7,767.4	\$8,544.4	\$8,654.9	\$8,757.3	\$8,920.5
Total (\$000)	\$133,091.8	\$133,996.9	\$133,809.8	\$131,865.0	\$132,519.1	\$134,946.6	\$150,643.5	\$150,530.0	\$151,829.4	\$152,358.0

SERVICE LEVEL (\$/capita)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Average Service Level
Buildings	\$194.68	\$189.21	\$183.88	\$178.70	\$174.91	\$171.91	\$204.53	\$201.03	\$197.58	\$194.19	\$189.06
Land	\$201.68	\$196.00	\$190.48	\$185.12	\$179.91	\$176.83	\$186.63	\$183.43	\$180.28	\$177.19	\$185.75
Materials	\$74.47	\$75.18	\$70.81	\$62.05	\$59.99	\$65.56	\$63.81	\$62.01	\$64.64	\$64.65	\$66.32
Fixtures, Furniture & Equipment	\$23.66	\$23.45	\$24.39	\$23.85	\$24.42	\$25.30	\$27.36	\$27.24	\$27.09	\$27.12	\$25.39
Total (\$/capita)	\$494.49	\$483.84	\$469.57	\$449.72	\$439.23	\$439.60	\$482.32	\$473.69	\$469.59	\$463.14	\$466.52

CITY OF MARKHAM

CALCULATION OF MAXIMUM ALLOWABLE

LIBRARY

10-Year Funding Envelope Calculation	
10 Year Average Service Level 2007 - 2016	\$466.52
Net Population Growth 2017 - 2026	73,161
Maximum Allowable Funding Envelope	\$34,131,070
Less: Uncommitted Excess Capacity	\$0
Less: 10% Legislated Reduction	\$3,413,107
Discounted Maximum Allowable Funding Envelope	\$30,717,963

Excess Capacity Calculation	
Total Value of Inventory in 2016	\$152,358,024
Inventory Using Average Service Level	\$153,469,218
Excess Capacity	\$0
Excess Capacity:	Uncommitted

CITY OF MARKHAM
DEVELOPMENT-RELATED CAPITAL PROGRAM
LIBRARY

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs				
					Replacement & BTE Shares	10% Reduction		Prior Growth	Available DC Reserves	2017-2026	Post 2026	
2.0 LIBRARY												
2.1 Recovery of Negative Reserve Fund Balance												
2.1.1 Balance as at December 31, 2016	2017	\$ 1,667,716	\$ -	\$ 1,667,716	\$ -	\$ -	\$ 1,667,716	\$ -	\$ -	\$ 1,667,716	\$ -	
Subtotal Recovery of Negative Reserve Fund Balance		\$ 1,667,716	\$ -	\$ 1,667,716	\$ -	\$ -	\$ 1,667,716	\$ -	\$ -	\$ 1,667,716	\$ -	
2.2 Library Buildings												
2.2.1 Aaniin Community Centre and Library (20,000 sf)	2017	\$ 9,655,726	\$ -	\$ 9,655,726	\$ -	\$ 965,573	\$ 8,690,154	\$ 7,667,501	\$ -	\$ 1,022,653	\$ -	
2.2.2 Markham Centre (20,000 sf)	2021	\$ 9,655,726	\$ -	\$ 9,655,726	\$ -	\$ 965,573	\$ 8,690,154	\$ -	\$ -	\$ 8,690,154	\$ -	
2.2.3 Future Branch (15,000 sf)	2025	\$ 7,241,795	\$ -	\$ 7,241,795	\$ -	\$ 724,179	\$ 6,517,615	\$ -	\$ -	\$ 6,517,615	\$ -	
Subtotal Library Buildings		\$ 26,553,248	\$ -	\$ 26,553,248	\$ -	\$ 2,655,325	\$ 23,897,923	\$ 7,667,501	\$ -	\$ 16,230,422	\$ -	
2.3 Library Land												
2.3.1 Aaniin Community Centre and Library	2017	\$ 867,769	\$ -	\$ 867,769	\$ -	\$ 86,777	\$ 780,992	\$ -	\$ -	\$ 780,992	\$ -	
2.3.2 Markham Centre	2021	\$ 1,423,350	\$ -	\$ 1,423,350	\$ -	\$ 142,335	\$ 1,281,015	\$ -	\$ -	\$ 1,281,015	\$ -	
2.3.3 Future Branch - 0.15 ha	2025	\$ 1,423,350	\$ -	\$ 1,423,350	\$ -	\$ 142,335	\$ 1,281,015	\$ -	\$ -	\$ 1,281,015	\$ -	
Subtotal Library Land		\$ 3,714,469	\$ -	\$ 3,714,469	\$ -	\$ 371,447	\$ 3,343,022	\$ -	\$ -	\$ 3,343,022	\$ -	
2.4 Library Furniture & Equipment												
2.4.1 Aaniin Community Centre and Library	2017	\$ 1,223,306	\$ -	\$ 1,223,306	\$ -	\$ 122,331	\$ 1,100,975	\$ 1,030,000	\$ -	\$ 70,975	\$ -	
2.4.2 Markham Centre	2021	\$ 1,443,391	\$ -	\$ 1,443,391	\$ -	\$ 144,339	\$ 1,299,052	\$ -	\$ -	\$ 1,299,052	\$ -	
2.4.3 Future Branch	2025	\$ 1,082,543	\$ -	\$ 1,082,543	\$ -	\$ 108,254	\$ 974,289	\$ -	\$ -	\$ 974,289	\$ -	
Subtotal Library Furniture & Equipment		\$ 3,749,241	\$ -	\$ 3,749,241	\$ -	\$ 374,924	\$ 3,374,317	\$ 1,030,000	\$ -	\$ 2,344,317	\$ -	
2.5 Library Collection Materials												
2.5.1 Aaniin Community Centre and Library	2017	\$ 2,991,043	\$ -	\$ 2,991,043	\$ -	\$ 299,104	\$ 2,691,939	\$ -	\$ -	\$ 2,691,939	\$ -	
2.5.2 Markham Centre	2021	\$ 2,991,043	\$ -	\$ 2,991,043	\$ -	\$ 299,104	\$ 2,691,939	\$ -	\$ -	\$ 2,691,939	\$ -	
2.5.3 Future Branch	2025	\$ 2,243,283	\$ -	\$ 2,243,283	\$ -	\$ 224,328	\$ 2,018,954	\$ -	\$ -	\$ 1,748,608	\$ 270,346	
Subtotal Library Collection Materials		\$ 8,225,369	\$ -	\$ 8,225,369	\$ -	\$ 822,537	\$ 7,402,832	\$ -	\$ -	\$ 7,132,486	\$ 270,346	
TOTAL LIBRARY		\$ 43,910,042	\$ -	\$ 43,910,042	\$ -	\$ 4,224,233	\$ 39,685,810	\$ 8,697,501	\$ -	\$ 30,717,963	\$ 270,346	

Residential Development Charge Calculation		
Residential Share of 2017 - 2026 DC Eligible Costs	100%	\$30,717,963
10-Year Growth in Population in New Units		75,375
Unadjusted Development Charge Per Capita		\$407.54
Non-Residential Development Charge Calculation		
Non-Residential Share of 2017 - 2026 DC Eligible Costs	0%	\$0
10-Year Growth in Square Metres		1,997,205
Unadjusted Development Charge Per Square Metre		\$0.00

2017 - 2026 Net Funding Envelope	\$30,717,963
Reserve Fund Balance	(\$1,667,716)

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APPENDIX B.2
TABLE 3

CITY OF MARKHAM
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
LIBRARY
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

LIBRARY	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	\$0.0	(\$3,526.3)	(\$741.5)	\$2,330.7	\$5,665.1	(\$6,233.5)	(\$3,026.0)	\$516.5	\$4,411.3	(\$4,010.8)	
2017 - 2026 RESIDENTIAL FUNDING REQUIREMENTS											
- Library Services: Non Inflated	\$6,234.3	\$0.0	\$0.0	\$0.0	\$13,962.2	\$0.0	\$0.0	\$0.0	\$10,521.5	\$0.0	\$30,718.0
- Library Services: Inflated	\$6,234.3	\$0.0	\$0.0	\$0.0	\$15,113.1	\$0.0	\$0.0	\$0.0	\$12,327.6	\$0.0	\$33,675.0
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	6,748	6,911	7,081	7,254	7,430	7,610	7,794	7,987	8,181	8,379	75,375
REVENUE											
- DC Receipts: Inflated	\$2,802.4	\$2,927.5	\$3,059.5	\$3,196.9	\$3,340.0	\$3,489.3	\$3,645.1	\$3,810.1	\$3,980.7	\$4,158.6	\$34,409.9
INTEREST											
- Interest on Opening Balance	\$0.0	(\$193.9)	(\$40.8)	\$81.6	\$198.3	(\$342.8)	(\$166.4)	\$18.1	\$154.4	(\$220.6)	(\$512.3)
- Interest on In-year Transactions	(\$94.4)	\$51.2	\$53.5	\$55.9	(\$323.8)	\$61.1	\$63.8	\$66.7	(\$229.5)	\$72.8	(\$222.7)
TOTAL REVENUE	\$2,708.0	\$2,784.8	\$3,072.2	\$3,334.4	\$3,214.5	\$3,207.5	\$3,542.5	\$3,894.8	\$3,905.5	\$4,010.8	\$33,675.0
CLOSING CASH BALANCE	(\$3,526.3)	(\$741.5)	\$2,330.7	\$5,665.1	(\$6,233.5)	(\$3,026.0)	\$516.5	\$4,411.3	(\$4,010.8)	\$0.0	

2017 Adjusted Charge Per Capita	\$415.29
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Allocation of Capital Program	
Residential Sector	100.0%
Non-Residential Sector	0.0%
Rates for 2017	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

APPENDIX B.3

FIRE SERVICES

APPENDIX B.3

FIRE SERVICES

The Markham Fire Department operates from nine stations and one training centre. The Department is responsible for fire prevention inspections, public education sessions, communications (including dispatching), and fire suppression.

TABLE 1 2007-2016 HISTORICAL SERVICE LEVELS

The combined area of the fire stations is 90,239 square feet and are valued at \$36.1 million. The land area associated with the buildings is roughly 4.84 hectares and is valued at \$45.91 million. The 51 vehicles associated with the stations have a replacement value of \$16.83 million. Finally, personal firefighting equipment, communications equipment, and other station equipment add another \$11.87 million to value of the inventory.

The current replacement value of the Fire Services capital infrastructure is \$110.72 million. It has provided the City with a ten-year average service level of \$227.68 per population and employment. The calculated maximum allowable funding envelope is \$26.10 million (114,628 net population and employment growth X historical service level of \$227.68).

Fire Services has a calculated excess capacity of \$1.71 million. This amount is uncommitted and as such, has been reduced from the maximum allowable funding envelope calculation. After adjustments, the resulting net maximum allowable funding envelope brought forward to the development charges calculation is reduced to \$24.38 million.

**TABLE 2 2017 – 2026 DEVELOPMENT-RELATED CAPITAL PROGRAM &
CALCULATION OF THE UNADJUSTED DEVELOPMENT CHARGE**

The first project in the Fire Services capital program is for the recovery of the negative reserve fund balance. The negative DC reserve fund balance for Fire Services amounts to \$0.44 million and this full amount is brought forward for recovery through development charges.

The Fire Services capital program recovers for three new fire stations: Markham Centre, Langstaff, and a future facility in the Future Urban Area (FUA) of Markham. All three fire stations, expected to open in the years 2019, 2021, and 2023, each require \$3.80 million for the acquisition of land, as well as costs of \$4.0 million for construction and \$0.39 million for furnishings.

Each of the new stations will require a crew of 21 new fire fighters. The equipment required to service these firefighters amount to \$0.43 million, with each station requiring \$0.14 million. In addition, 20 new firefighters will be added to an existing station at a cost of \$0.14 million for their equipment. Lastly, seven new fire vehicles will be added to the fleet at a cost of \$2.93 million, the mostly costly vehicle being the addition of an aerial truck.

The ten-year capital program for Fire Services amounts to \$28.49 million. No grants, replacement shares or ten per cent discount is identified for this service and as such, the entire program is deemed to be DC eligible. However, a share in the amount of \$4.10 million is deemed to be of post-period benefit and it will be examined for recovery in the next DC by-law update, subject to service level restrictions.

The remaining \$24.38 million is related to development occurring between 2017 and 2026. The ten-year development-related net capital cost is allocated 64.5 per cent, or \$15.73 million, against residential development, and 35.5 per cent, or \$8.65 million, against non-residential development. The allocation between residential and non-residential development is based on shares of forecasted growth. The resulting unadjusted residential development charge is \$208.69 per capita. The non-residential unadjusted charge is allocated between retail, industrial/office/institutional (I.O.I.) and mixed use charges, at rates of \$5.35 per square metre, \$4.08 per square metre, and \$2.61 per square metre respectively.

TABLE 3 CASH FLOW ANALYSIS

After cash flow consideration, the residential charge increases to \$218.33 per capita. The non-residential retail charge increases to \$5.60 per square metre, while the I.O.I. charge increases to \$4.27 per square metre, and the mixed use charge increases to \$2.73 per square metre. The increase reflects the front-ended nature of the capital program.

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

FIRE SERVICES SUMMARY										
10-year Hist.	2017 - 2026		Unadjusted				Adjusted			
	Development-Related Capital Program		Residential	Retail	I.O.I.	Mixed-Use	Residential	Retail	I.O.I.	Mixed-Use
Service Level	Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/sq.m	\$/sq.m	\$/capita	\$/sq.m	\$/sq.m	\$/sq.m
per pop & emp										
\$227.68	\$28,487,091	\$24,383,585	\$208.69	\$5.35	\$4.08	\$2.61	\$218.33	\$5.60	\$4.27	\$2.73

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APPENDIX B.3
TABLE 1

**CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
FIRE SERVICES**

BUILDINGS Station Name	# of Square Feet										UNIT COST (\$/sq. ft.)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
Fire Training Centre - 436 John Street, Thornhill	5,531	5,531	5,531	5,531	5,531	5,531	5,531	5,531	5,531	5,531	5,531	\$400
Firehall 91 - 7801 Bayview Ave., Thornhill	8,348	8,348	8,348	8,348	8,348	8,348	8,348	8,348	8,348	8,348	8,348	\$400
Firehall 92 - 10 Riviera Drive, Markham	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	\$400
Firehall 93 - 2930 Major Mackenzie, Markham	-	-	-	9,990	9,990	9,990	9,990	9,990	9,990	9,990	9,990	\$400
Firehall 94 - 7300 Birchmount, Milliken Mills	7,142	7,142	7,142	7,142	7,142	7,142	7,142	7,142	7,142	7,142	7,142	\$400
Firehall 95 - 316 Main Street, Markham	11,846	11,846	11,846	11,846	11,846	11,846	11,846	11,846	11,846	11,846	11,846	\$400
Firehall 96 - 5567 14th Avenue, Milliken	8,933	8,933	8,933	8,933	8,933	8,933	8,933	8,933	8,933	8,933	8,933	\$400
Firehall 97 - 209 Main Street, Markham	7,669	7,669	7,669	7,669	7,669	7,669	7,669	7,669	7,669	7,669	7,669	\$400
Firehall 98 - 650 Bur Oak Avenue, Markham	9,990	9,990	9,990	9,990	9,990	9,990	9,990	9,990	9,990	9,990	9,990	\$400
Firehall 99 - 3255 Bur Oak (Cornell)	-	-	-	-	-	9,990	9,990	9,990	9,990	9,990	9,990	\$400
Total (sq.ft.)	70,259	70,259	70,259	80,249	80,249	90,239	90,239	90,239	90,239	90,239	90,239	
Total (\$000)	\$28,103.6	\$28,103.6	\$28,103.6	\$32,099.6	\$32,099.6	\$36,095.6	\$36,095.6	\$36,095.6	\$36,095.6	\$36,095.6	\$36,095.6	

LAND Station Name	# of Hectares										UNIT COST (\$/ha)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
Firehall 91 - 7801 Bayview Ave., Thornhill	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	\$9,489,000
Fire Training Centre - 436 John Street, Thornhill	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	\$9,489,000
Firehall 94 - 7300 Birchmount, Milliken Mills	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	\$9,489,000
Firehall 93 - Cathedral	-	-	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	\$9,489,000
Firehall 95 - 316 Main Street, Markham	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	\$9,489,000
Firehall 96 - 5567 14th Avenue, Milliken	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	\$9,489,000
Firehall 97 - 209 Main Street, Markham	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	\$9,489,000
Firehall 92 - 10 Riviera Drive, Markham	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	\$9,489,000
Firehall 98 - 650 Bur Oak Avenue, Markham	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	\$9,489,000
Firehall 99 - Bur Oak (Cornell)	-	-	-	-	0.80	0.80	0.80	0.80	0.80	0.80	0.80	\$9,489,000
Total (ha)	3.64	3.64	4.04	4.04	4.84	4.84	4.84	4.84	4.84	4.84	4.84	
Total (\$000)	\$34,558.9	\$34,558.9	\$38,322.2	\$38,322.2	\$45,913.4	\$45,913.4	\$45,913.4	\$45,913.4	\$45,913.4	\$45,913.4	\$45,913.4	

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APPENDIX B.3
TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
FIRE SERVICES

VEHICLES Vehicle Type	# of Vehicles										UNIT COST (\$/vehicle)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Aerial Truck	2	2	2	2	2	3	3	3	3	3	\$1,200,000
Aerial Platform	-	-	-	-	-	-	-	-	1	1	\$1,453,000
Command Trailer	1	1	1	1	1	1	1	1	1	1	\$144,500
Flashover Simulator	1	1	1	1	1	1	1	1	1	1	\$95,000
Incident Command Simulator (Smokehouse)	1	1	1	1	1	1	1	1	1	1	\$68,000
Mechanical Vehicles	2	2	2	1	1	1	1	1	1	1	\$25,600
Personnel/ Rehabilitation	1	1	1	1	1	1	1	1	1	1	\$126,500
Platoon Chief Vehicle	1	1	1	1	1	1	1	1	1	1	\$105,600
Propane Simulator Props	1	2	2	2	2	2	2	2	2	2	\$38,600
Pumpers	9	9	10	11	11	12	12	12	12	12	\$800,000
Tankers	1	1	1	1	1	1	1	1	1	1	\$469,500
Telesquirts	1	1	1	1	1	-	-	-	-	-	\$975,000
Training Vehicles	2	4	4	4	4	4	4	4	4	4	\$28,400
Fire Prevention Cars	11	13	13	13	13	13	14	14	14	14	\$18,565
Fire Investigation Truck				1	1	1	1	1	1	1	\$28,400
Deputy Fire Chief and Fire Chief Vehicle	3	3	3	3	3	3	3	3	3	3	\$40,300
District Chief Vehicle	1	1	1	1	1	1	1	1	1	1	\$105,200
Supply Van	-	1	1	1	1	1	1	1	1	1	\$39,800
Air Light Truck	-	-	1	1	1	1	1	1	1	1	\$350,000
Hazmat Trailer	-	-	-	1	1	1	1	1	1	1	\$50,000
Total (#)	38	44	46	48	48	49	50	50	51	51	
Total (\$000)	\$12,161.0	\$12,333.3	\$13,483.3	\$14,336.1	\$14,336.1	\$15,361.1	\$15,379.7	\$15,379.7	\$16,832.7	\$16,832.7	

FURNITURE & EQUIPMENT Description	Total Value of Furniture & Equipment (\$)										UNIT COST (\$/outfit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Dispatch Centre	\$1,623,649	\$1,623,649	\$1,623,649	\$1,623,649	\$1,623,649	\$1,623,649	\$1,708,589	\$1,708,589	\$1,708,589	\$1,708,589	
Equipment for vehicles	\$3,138,589	\$3,138,589	\$3,238,589	\$3,338,589	\$3,338,589	\$3,538,589	\$3,644,746	\$3,754,089	\$3,866,711	\$3,982,713	
Other Vehicle Equipment	\$306,004	\$306,004	\$306,004	\$356,004	\$356,004	\$356,004	\$366,684	\$377,684	\$389,015	\$400,685	
Fire Training Centre	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$100,000	\$100,000	\$100,000	\$100,000	
Station 91	\$333,920	\$333,920	\$333,920	\$333,920	\$333,920	\$333,920	\$388,900	\$388,900	\$388,900	\$388,900	
Station 92	\$432,000	\$432,000	\$432,000	\$432,000	\$432,000	\$432,000	\$438,900	\$438,900	\$438,900	\$438,900	
Station 93	\$0	\$0	\$0	\$399,600	\$399,600	\$399,600	\$388,900	\$388,900	\$388,900	\$388,900	
Station 94	\$285,680	\$285,680	\$285,680	\$285,680	\$285,680	\$285,680	\$438,900	\$438,900	\$438,900	\$438,900	
Station 95	\$473,840	\$473,840	\$473,840	\$473,840	\$473,840	\$473,840	\$388,900	\$388,900	\$388,900	\$388,900	
Station 96	\$357,320	\$357,320	\$357,320	\$357,320	\$357,320	\$357,320	\$438,900	\$438,900	\$438,900	\$438,900	
Station 97	\$306,760	\$306,760	\$306,760	\$306,760	\$306,760	\$306,760	\$388,900	\$388,900	\$388,900	\$388,900	
Station 98	\$399,600	\$399,600	\$399,600	\$399,600	\$399,600	\$399,600	\$518,900	\$518,900	\$518,900	\$518,900	
Station 99	\$0	\$0	\$0	\$0	\$0	\$399,600	\$388,900	\$388,900	\$388,900	\$388,900	
Number of Firefighters	230	231	231	258	278	278	278	278	278	278	\$6,841
Total (\$000)	\$9,255.8	\$9,262.7	\$9,362.7	\$10,097.0	\$10,233.8	\$10,833.4	\$11,502.0	\$11,622.3	\$11,746.3	\$11,873.9	

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APPENDIX B.3
TABLE 1

CITY OF MARKHAM
CALCULATION OF SERVICE LEVELS
FIRE SERVICES

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Historic Population	269,149	276,944	284,965	293,218	301,709	306,973	312,329	317,779	323,324	328,966
Historic Employment	<u>132,184</u>	<u>132,225</u>	<u>132,360</u>	<u>132,593</u>	<u>132,925</u>	<u>136,151</u>	<u>139,447</u>	<u>142,816</u>	<u>146,260</u>	<u>149,779</u>
Total Population & Employment	401,333	409,169	417,325	425,811	434,634	443,124	451,776	460,595	469,584	478,745

INVENTORY SUMMARY (\$000)

Buildings	\$28,103.6	\$28,103.6	\$28,103.6	\$32,099.6	\$32,099.6	\$36,095.6	\$36,095.6	\$36,095.6	\$36,095.6	\$36,095.6
Land	\$34,558.9	\$34,558.9	\$38,322.2	\$38,322.2	\$45,913.4	\$45,913.4	\$45,913.4	\$45,913.4	\$45,913.4	\$45,913.4
Furniture & Equipment	\$9,255.8	\$9,262.7	\$9,362.7	\$10,097.0	\$10,233.8	\$10,833.4	\$11,502.0	\$11,622.3	\$11,746.3	\$11,873.9
Vehicles	\$12,161.0	\$12,333.3	\$13,483.3	\$14,336.1	\$14,336.1	\$15,361.1	\$15,379.7	\$15,379.7	\$16,832.7	\$16,832.7
Total (\$000)	\$84,079.4	\$84,258.6	\$89,271.8	\$94,854.9	\$102,582.9	\$108,203.5	\$108,890.7	\$109,011.0	\$110,588.0	\$110,715.6

SERVICE LEVEL (\$/pop & emp)											Average Service Level
Buildings	\$70.03	\$68.68	\$67.34	\$75.38	\$73.85	\$81.46	\$79.90	\$78.37	\$76.87	\$75.40	\$74.73
Land	\$86.11	\$84.46	\$91.83	\$90.00	\$105.64	\$103.61	\$101.63	\$99.68	\$97.77	\$95.90	\$95.66
Furniture & Equipment	\$23.06	\$22.64	\$22.43	\$23.71	\$23.55	\$24.45	\$25.46	\$25.23	\$25.01	\$24.80	\$24.04
Vehicles	\$30.30	\$30.14	\$32.31	\$33.67	\$32.98	\$34.67	\$34.04	\$33.39	\$35.85	\$35.16	\$33.25
Total (\$/pop & emp)	\$209.50	\$205.93	\$213.91	\$222.76	\$236.02	\$244.18	\$241.03	\$236.67	\$235.50	\$231.26	\$227.68

CITY OF MARKHAM
CALCULATION OF MAXIMUM ALLOWABLE
FIRE SERVICES

10-Year Funding Envelope Calculation	
10 Year Average Service Level 2007 - 2016	\$227.68
Net Population & Employment Growth 2017 - 2026	114,628
Maximum Allowable Funding Envelope	\$26,098,546
Less: Uncommitted Excess Capacity	\$1,714,961
Discounted Maximum Allowable Funding Envelope	\$24,383,585

Excess Capacity Calculation	
Total Value of Inventory in 2016	\$110,715,636
Inventory Using Average Service Level	\$109,000,675
Excess Capacity	\$1,714,961
Excess Capacity:	Uncommitted

APPENDIX B.3
TABLE 2

CITY OF MARKHAM
DEVELOPMENT-RELATED CAPITAL PROGRAM
FIRE SERVICES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs			
					Replacement & BTE Shares	0% Reduction		Prior Growth	Available DC Reserves	2017-2026	Post 2026
3.0 FIRE SERVICES											
3.1 Recovery of Negative Reserve Fund Balance											
3.1.1 Balance as at December 31, 2016	2017	\$ 440,774	\$ -	\$ 440,774	\$ -	\$ -	\$ 440,774	\$ -	\$ -	\$ 440,774	\$ -
Subtotal Recovery of Negative Reserve Fund Balance		\$ 440,774	\$ -	\$ 440,774	\$ -	\$ -	\$ 440,774	\$ -	\$ -	\$ 440,774	\$ -
3.2 Fire Buildings											
3.2.1 New Fire Station (10,000 sf) - Markham Centre	2019	\$ 4,000,000	\$ -	\$ 4,000,000	\$ -	\$ -	\$ 4,000,000	\$ -	\$ -	\$ 4,000,000	\$ -
3.2.2 New Fire Station (10,000 sf) - Langstaff	2021	\$ 4,000,000	\$ -	\$ 4,000,000	\$ -	\$ -	\$ 4,000,000	\$ -	\$ -	\$ 4,000,000	\$ -
3.2.3 New Fire Station (10,000 sf) - FUA	2023	\$ 4,000,000	\$ -	\$ 4,000,000	\$ -	\$ -	\$ 4,000,000	\$ -	\$ -	\$ 4,000,000	\$ -
Subtotal Fire Buildings		\$ 12,000,000	\$ -	\$ 12,000,000	\$ -	\$ -	\$ 12,000,000	\$ -	\$ -	\$ 12,000,000	\$ -
3.3 Land for Fire Buildings											
3.3.1 New Fire Station (0.4 ha) - Markham Centre	2019	\$ 3,795,600	\$ -	\$ 3,795,600	\$ -	\$ -	\$ 3,795,600	\$ -	\$ -	\$ 3,795,600	\$ -
3.3.2 New Fire Station (0.4 ha) - Langstaff	2021	\$ 3,795,600	\$ -	\$ 3,795,600	\$ -	\$ -	\$ 3,795,600	\$ -	\$ -	\$ 3,795,600	\$ -
3.3.3 New Fire Station (0.4 ha) - FUA	2023	\$ 3,795,600	\$ -	\$ 3,795,600	\$ -	\$ -	\$ 3,795,600	\$ -	\$ -	\$ 1,993,323	\$ 1,802,277
Subtotal Land for Fire Buildings		\$ 11,386,800	\$ -	\$ 11,386,800	\$ -	\$ -	\$ 11,386,800	\$ -	\$ -	\$ 9,584,523	\$ 1,802,277
3.4 Furniture and Equipment											
3.4.1 New Fire Station - Markham Centre	2019	\$ 388,900	\$ -	\$ 388,900	\$ -	\$ -	\$ 388,900	\$ -	\$ -	\$ 388,900	\$ -
3.4.2 New Fire Station - Langstaff	2021	\$ 388,900	\$ -	\$ 388,900	\$ -	\$ -	\$ 388,900	\$ -	\$ -	\$ 388,900	\$ -
3.4.3 New Fire Station - FUA	2023	\$ 388,900	\$ -	\$ 388,900	\$ -	\$ -	\$ 388,900	\$ -	\$ -	\$ -	\$ 388,900
Subtotal Furniture and Equipment		\$ 1,166,700	\$ -	\$ 1,166,700	\$ -	\$ -	\$ 1,166,700	\$ -	\$ -	\$ 777,800	\$ 388,900
3.5 Firefighter Equipment											
3.5.1 2nd. Crew in existing station (20 firefighters) - Cornell	2017	\$ 136,823	\$ -	\$ 136,823	\$ -	\$ -	\$ 136,823	\$ -	\$ -	\$ 136,823	\$ -
3.5.2 New Fire Station - (21 firefighters) - Markham Centre	2019	\$ 143,665	\$ -	\$ 143,665	\$ -	\$ -	\$ 143,665	\$ -	\$ -	\$ 143,665	\$ -
3.5.3 New Fire Station - (21 firefighters) - Langstaff	2021	\$ 143,665	\$ -	\$ 143,665	\$ -	\$ -	\$ 143,665	\$ -	\$ -	\$ -	\$ 143,665
3.5.4 New Fire Station - (21 firefighters) - FUA	2023	\$ 143,665	\$ -	\$ 143,665	\$ -	\$ -	\$ 143,665	\$ -	\$ -	\$ -	\$ 143,665
Subtotal Firefighter Equipment		\$ 567,817	\$ -	\$ 567,817	\$ -	\$ -	\$ 567,817	\$ -	\$ -	\$ 280,488	\$ 287,329

APPENDIX B.3
TABLE 2

CITY OF MARKHAM
DEVELOPMENT-RELATED CAPITAL PROGRAM
FIRE SERVICES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs				
					Replacement & BTE Shares	0% Reduction		Prior Growth	Available DC Reserves	2017-2026	Post 2026	
3.6 Fire Vehicles												
3.6.1 1 Fire Prevention Car	2017	\$ 25,000	\$ -	\$ 25,000	\$ -	\$ -	\$ 25,000	\$ -	\$ -	\$ 25,000	\$ -	
3.6.2 1 Fire Prevention Car - Deputy Chief (Highlander)	2018	\$ 50,000	\$ -	\$ 50,000	\$ -	\$ -	\$ 50,000	\$ -	\$ -	\$ 50,000	\$ -	
3.6.3 1 Fire Prevention Car	2019	\$ 25,000	\$ -	\$ 25,000	\$ -	\$ -	\$ 25,000	\$ -	\$ -	\$ 25,000	\$ -	
3.6.4 1 Aerial Truck	2019	\$ 1,200,000	\$ -	\$ 1,200,000	\$ -	\$ -	\$ 1,200,000	\$ -	\$ -	\$ 1,200,000	\$ -	
3.6.5 1 Pumper Truck	2021	\$ 800,000	\$ -	\$ 800,000	\$ -	\$ -	\$ 800,000	\$ -	\$ -	\$ -	\$ 800,000	
3.6.6 1 Fire Prevention Car	2023	\$ 25,000	\$ -	\$ 25,000	\$ -	\$ -	\$ 25,000	\$ -	\$ -	\$ -	\$ 25,000	
3.6.7 1 Pumper Truck	2023	\$ 800,000	\$ -	\$ 800,000	\$ -	\$ -	\$ 800,000	\$ -	\$ -	\$ -	\$ 800,000	
Subtotal Fire Vehicles		\$ 2,925,000	\$ -	\$ 2,925,000	\$ -	\$ -	\$ 2,925,000	\$ -	\$ -	\$ 1,300,000	\$ 1,625,000	
TOTAL FIRE SERVICES		\$ 28,487,091	\$ -	\$ 28,487,091	\$ -	\$ -	\$ 28,487,091	\$ -	\$ -	\$ 24,383,585	\$ 4,103,506	

Residential Development Charge Calculation		
Residential Share of 2017 - 2026 DC Eligible Costs	64.5%	\$15,729,873
10-Year Growth in Population in New Units		75,375
Unadjusted Development Charge Per Capita		\$208.69
Non-Residential Development Charge Calculation		
Non-Residential Share of 2017 - 2026 DC Eligible Costs	35.5%	\$8,653,713
10-Year Growth in Square Metres		1,997,205
Unadjusted Development Charge Per Square Metre		\$4.33

2017 - 2026 Net Funding Envelope	\$24,383,585
Reserve Fund Balance	(\$440,774)

Non-Residential Development Charge Calculation		
Retail Commercial		
Non-Residential Share of 2017 - 2026 DC Eligible Costs	9.3%	\$ 2,259,176.6
10-Year Growth in Square Metres		421,920
Unadjusted Development Charge Per Square Metre		\$5.35
Industrial/Office/Institutional		
Non-Residential Share of 2017 - 2026 DC Eligible Costs	26.0%	\$ 6,336,608.3
10-Year Growth in Square Metres		1,553,080
Unadjusted Development Charge Per Square Metre		\$4.08
Mixed-Use		
Non-Residential Share of 2017 - 2026 DC Eligible Costs	0.2%	\$ 57,927.6
10-Year Growth in Square Metres		22,205
Unadjusted Development Charge Per Square Metre		\$2.61

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APPENDIX B.3
TABLE 3

**CITY OF MARKHAM
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
FIRE SERVICES
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)**

FIRE SERVICES	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	\$0.0	\$1,103.6	\$2,674.7	(\$2,167.0)	(\$576.0)	(\$4,675.7)	(\$3,066.3)	(\$5,739.6)	(\$4,017.1)	(\$2,108.6)	
2017 - 2026 RESIDENTIAL FUNDING REQUIREMENTS											
- Fire Services: Non Inflated	\$388.7	\$32.3	\$6,162.8	\$0.0	\$5,279.8	\$0.0	\$3,866.3	\$0.0	\$0.0	\$0.0	\$15,729.9
- Fire Services: Inflated	\$388.7	\$32.9	\$6,411.7	\$0.0	\$5,715.1	\$0.0	\$4,354.1	\$0.0	\$0.0	\$0.0	\$16,902.5
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	6,748	6,911	7,081	7,254	7,430	7,610	7,794	7,987	8,181	8,379	75,375
REVENUE											
- DC Receipts: Inflated	\$1,473.3	\$1,539.1	\$1,608.5	\$1,680.7	\$1,756.0	\$1,834.5	\$1,916.4	\$2,003.1	\$2,092.8	\$2,186.3	\$18,090.7
INTEREST											
- Interest on Opening Balance	\$0.0	\$38.6	\$93.6	(\$119.2)	(\$31.7)	(\$257.2)	(\$168.6)	(\$315.7)	(\$220.9)	(\$116.0)	(\$1,097.0)
- Interest on In-year Transactions	\$19.0	\$26.4	(\$132.1)	\$29.4	(\$108.9)	\$32.1	(\$67.0)	\$35.1	\$36.6	\$38.3	(\$91.2)
TOTAL REVENUE	\$1,492.3	\$1,604.1	\$1,570.0	\$1,591.0	\$1,615.4	\$1,609.4	\$1,680.7	\$1,722.5	\$1,908.5	\$2,108.6	\$16,902.5
CLOSING CASH BALANCE	\$1,103.6	\$2,674.7	(\$2,167.0)	(\$576.0)	(\$4,675.7)	(\$3,066.3)	(\$5,739.6)	(\$4,017.1)	(\$2,108.6)	(\$0.0)	

2017 Adjusted Charge Per Capita	\$218.33
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Allocation of Capital Program	
Residential Sector	64.5%
Non-Residential Sector	35.5%
Rates for 2017	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

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APPENDIX B.3
TABLE 3

**CITY OF MARKHAM
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
FIRE SERVICES
RETAIL NON-RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)**

FIRE SERVICES	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	\$0.00	\$162.32	\$391.24	(\$301.62)	(\$71.23)	(\$658.98)	(\$427.72)	(\$812.69)	(\$567.68)	(\$297.41)	
2017 - 2026 NON-RESIDENTIAL FUNDING REQUIREMENTS											
- Fire Services: Non Inflated	\$55.8	\$4.6	\$885.1	\$0.0	\$758.3	\$0.0	\$555.3	\$0.0	\$0.0	\$0.0	\$2,259.2
- Fire Services: Inflated	\$55.8	\$4.7	\$920.9	\$0.0	\$820.8	\$0.0	\$625.3	\$0.0	\$0.0	\$0.0	\$2,427.6
NON-RESIDENTIAL SPACE GROWTH - RETAIL											
- Growth in Square Metres	38,483	39,262	40,058	40,871	41,701	42,549	43,408	44,291	45,190	46,107	421,920
REVENUE											
- DC Receipts: Inflated	\$215.4	\$224.1	\$233.2	\$242.7	\$252.6	\$262.9	\$273.6	\$284.7	\$296.3	\$308.4	\$2,593.9
INTEREST											
- Interest on Opening Balance	\$0.0	\$5.7	\$13.7	(\$16.6)	(\$3.9)	(\$36.2)	(\$23.5)	(\$44.7)	(\$31.2)	(\$16.4)	(\$153.2)
- Interest on In-year Transactions	\$2.8	\$3.8	(\$18.9)	\$4.2	(\$15.6)	\$4.6	(\$9.7)	\$5.0	\$5.2	\$5.4	(\$13.2)
TOTAL REVENUE	\$218.2	\$233.6	\$228.0	\$230.4	\$233.1	\$231.3	\$240.4	\$245.0	\$270.3	\$297.4	\$2,427.6
CLOSING CASH BALANCE	\$162.3	\$391.2	(\$301.6)	(\$71.2)	(\$659.0)	(\$427.7)	(\$812.7)	(\$567.7)	(\$297.4)	\$0.0	

2017 Adjusted Charge Per Square Metre	\$5.60
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Allocation of Capital Program	
Retail Sector	9.3%
Industrial/Office/Institutional Sector	26.0%
Mixed-Use	0.2%
Rates for 2017	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

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APPENDIX B.3
TABLE 3

**CITY OF MARKHAM
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
FIRE SERVICES
INDUSTRIAL/OFFICE/INSTITUTIONAL NON-RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)**

FIRE SERVICES	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	\$0.00	\$446.79	\$1,081.28	(\$867.89)	(\$226.14)	(\$1,877.18)	(\$1,229.20)	(\$2,306.63)	(\$1,613.84)	(\$846.90)	
2017 - 2026 NON-RESIDENTIAL FUNDING REQUIREMENTS											
- Fire Services: Non Inflated	\$156.6	\$13.0	\$2,482.6	\$0.0	\$2,126.9	\$0.0	\$1,557.5	\$0.0	\$0.0	\$0.0	\$6,336.6
- Fire Services: Inflated	\$156.6	\$13.3	\$2,582.9	\$0.0	\$2,302.2	\$0.0	\$1,754.0	\$0.0	\$0.0	\$0.0	\$6,809.0
NON-RESIDENTIAL SPACE GROWTH - I.O.I.											
- Growth in Square Metres	139,580	142,758	146,175	149,617	153,150	156,683	160,455	164,318	168,182	172,162	1,553,080
REVENUE											
- DC Receipts: Inflated	\$595.7	\$621.5	\$649.1	\$677.6	\$707.5	\$738.3	\$771.2	\$805.6	\$841.0	\$878.1	\$7,285.5
INTEREST											
- Interest on Opening Balance	\$0.0	\$15.6	\$37.8	(\$47.7)	(\$12.4)	(\$103.2)	(\$67.6)	(\$126.9)	(\$88.8)	(\$46.6)	(\$439.7)
- Interest on In-year Transactions	\$7.7	\$10.6	(\$53.2)	\$11.9	(\$43.9)	\$12.9	(\$27.0)	\$14.1	\$14.7	\$15.4	(\$36.8)
TOTAL REVENUE	\$603.4	\$647.7	\$633.7	\$641.8	\$651.2	\$648.0	\$676.6	\$692.8	\$766.9	\$846.9	\$6,809.0
CLOSING CASH BALANCE	\$446.8	\$1,081.3	(\$867.9)	(\$226.1)	(\$1,877.2)	(\$1,229.2)	(\$2,306.6)	(\$1,613.8)	(\$846.9)	\$0.0	

2017 Adjusted Charge Per Square Metre	\$4.27
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Allocation of Capital Program	
Retail Sector	9.3%
Industrial/Office/Institutional Sector	26.0%
Mixed-Use	0.2%
Rates for 2017	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

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APPENDIX B.3
TABLE 3

CITY OF MARKHAM
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
FIRE SERVICES
MIXED-USE NON-RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

FIRE SERVICES	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	\$0.00	\$4.16	\$10.03	(\$7.74)	(\$1.83)	(\$16.90)	(\$10.97)	(\$20.84)	(\$14.56)	(\$7.63)	
2017 - 2026 NON-RESIDENTIAL FUNDING REQUIREMENTS											
- Fire Services: Non Inflated	\$1.4	\$0.1	\$22.7	\$0.0	\$19.4	\$0.0	\$14.2	\$0.0	\$0.0	\$0.0	\$57.9
- Fire Services: Inflated	\$1.4	\$0.1	\$23.6	\$0.0	\$21.0	\$0.0	\$16.0	\$0.0	\$0.0	\$0.0	\$62.2
NON-RESIDENTIAL SPACE GROWTH - I.O.I.											
- Growth in Square Metres	2,025	2,066	2,108	2,151	2,195	2,239	2,285	2,331	2,378	2,427	22,205
REVENUE											
- DC Receipts: Inflated	\$5.5	\$5.7	\$6.0	\$6.2	\$6.5	\$6.7	\$7.0	\$7.3	\$7.6	\$7.9	\$66.5
INTEREST											
- Interest on Opening Balance	\$0.0	\$0.1	\$0.4	(\$0.4)	(\$0.1)	(\$0.9)	(\$0.6)	(\$1.1)	(\$0.8)	(\$0.4)	(\$3.9)
- Interest on In-year Transactions	\$0.1	\$0.1	(\$0.5)	\$0.1	(\$0.4)	\$0.1	(\$0.2)	\$0.1	\$0.1	\$0.1	(\$0.3)
TOTAL REVENUE	\$5.6	\$6.0	\$5.8	\$5.9	\$6.0	\$5.9	\$6.2	\$6.3	\$6.9	\$7.6	\$62.2
CLOSING CASH BALANCE	\$4.2	\$10.0	(\$7.7)	(\$1.8)	(\$16.9)	(\$11.0)	(\$20.8)	(\$14.6)	(\$7.6)	\$0.0	

2017 Adjusted Charge Per Square Metre \$2.73

Allocation of Capital Program	
Retail Sector	9.3%
Industrial/Office/Institutional Sector	26.0%
Mixed-Use	0.2%
Rates for 2017	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

APPENDIX B.4

INDOOR RECREATION

APPENDIX B.4

INDOOR RECREATION

The City of Markham Recreation Department is responsible for the indoor recreation and leisure needs of the community, including the provision and maintenance of arenas, facilities, recreation services and programs to the residents of Markham.

TABLE 1 2007-2016 HISTORICAL SERVICE LEVELS

Table 1 displays the Indoor Recreation ten-year historical inventory for buildings, land, and equipment. The building space, which is categorized by Halls and Meeting Rooms, Ice Pads, Indoor Soccer, Indoor Pools, Fitness Centres, Gymnasiums, Senior Centres, and Common Space in Major Community Centres, includes almost 1.13 million square feet of Indoor Recreation space, which is valued at \$459.86 million. The land associated with the buildings amount to 42.93 hectares and is valued at \$407.38 million. The equipment found in the facilities has a total value of \$9.45 million. A portion of the Markham Pan Am Centre is related to the Indoor Recreation negative DC reserve fund balance included for recovery in the capital program. As such, a portion of the facility, including buildings, land and equipment has been removed from the historical inventory calculated.

After the adjustment for the Markham Pan Am Centre, the 2016 full replacement value of the inventory of capital assets for Indoor Recreation amounts to \$886.06 million and the ten-year historical average service level is \$2,504.97 per capita.

The historical service level multiplied by the ten-year forecast of net population growth results in a ten-year maximum allowable funding envelope of \$183.27 million (73,161 net population growth X historical service level of \$2,504.97). Excess capacity in the amount \$62.01 million has been identified for this service and has been reduced from the total maximum allowable funding envelope.

Indoor Recreation must be reduced by ten per cent as required under the *DCA*. The resulting net maximum allowable funding envelope brought forward to the development charges calculation is reduced to \$109.13 million.

**TABLE 2 2017 – 2026 DEVELOPMENT-RELATED CAPITAL PROGRAM &
CALCULATION OF THE UNADJUSTED DEVELOPMENT CHARGE**

The first project in the Indoor Recreation capital program is for the recovery of the negative reserve fund balance. The negative DC reserve fund balance for Indoor Recreation amounts to \$49.53 million. This amount has not been reduced by ten per cent, as this reduction was made in prior DC by-laws. The second project in the capital program includes \$20.00 million in principle costs related to the recovery of past commitments for the Aaniin Community Centre.

The Aaniin Community Centre, a 101,000 square foot building, is expected to open in 2017 with a total construction cost of \$48.76 million and an additional \$4.38 million in land acquisition costs. Approximately \$38.80 million in development charges has already been collected and applied to the project and is therefore removed from the total DC eligible costs. Fixtures, furniture and equipment add another \$6.18 million to the project cost.

The capital program also includes a provision for a 10,000 square feet future facility expansion in order to meet the increased need for service arising from new development over the planning period. The expansion is slated for completion in 2023 and includes an estimated construction cost of \$4.83 million and additional furniture and equipment valued at \$400,000.

In addition, the capital program includes a provision for a new Indoor Recreation facility in the Future Urban Area (FUA) that is approximately 25,000 square feet. The exact location and size of this facility will be determined through future studies and staff review. The construction of the building amounts to \$7.5 million and the land acquisition is estimated at \$14.23 million. Furniture and equipment add another \$1.0 million to the project cost.

In total, the Indoor Recreation capital program is \$156.81 million. No grants, subsidies, or other recoveries are anticipated to fund any shares of the above mentioned projects and as such, the net cost to the municipality remains at \$156.81 million. No replacement or benefit to existing shares have been identified for this service. The ten per cent reduction shares amount to \$8.73 million and will have to be funded from non-DC sources. Another portion of the program is deemed to benefit development beyond 2026, and \$0.15 million will be examined for recovery in subsequent DC studies, subject to service level restrictions.

The 2017-2026 DC costs eligible for recovery amount to \$109.13 million which is allocated entirely against future residential development in the City of Markham. This results in an unadjusted development charge of \$1,447.83 per capita.

TABLE 3 CASH FLOW AND RESERVE FUND ANALYSIS

After cash flow consideration, the residential calculated charge increases to \$1,569.20 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 indoor recreation development charge:

INDOOR RECREATION SUMMARY										
10-year Hist. Service Level per capita	2017 - 2026		Residential \$/capita	Unadjusted Development Charge			Residential \$/capita	Adjusted Development Charge		
	Development-Related Total	Capital Program Net DC Recoverable		Retail \$/sq.m	I.O.I. \$/sq.m	Mixed-Use \$/sq.m		Retail \$/sq.m	I.O.I. \$/sq.m	Mixed-Use \$/sq.m
\$2,504.97	\$156,812,299	\$109,130,227	\$1,447.83	\$0.00	\$0.00	\$0.00	\$1,569.20	\$0.00	\$0.00	\$0.00

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APPENDIX B.4
TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
INDOOR RECREATION

HALLS AND MEETING ROOMS Facility Name	# of Square Feet										UNIT COST (\$/sq. ft.)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Angus Glen Community Centre	12,498	12,498	12,498	12,498	12,498	12,498	12,498	12,498	12,498	12,498	\$483
Angus Glen Tennis Centre	-	-	-	-	-	350	350	350	350	350	\$400
Armadale Community Centre	5,460	5,460	5,460	5,460	5,460	5,460	5,460	5,460	5,460	5,460	\$300
Box Grove Community Centre	5,920	5,920	5,920	5,920	5,920	5,920	5,920	5,920	5,920	5,920	\$300
Buttonville Women's Institute	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	5,360	\$300
Cedar Grove Community Centre	3,562	3,562	3,562	3,562	3,562	3,562	3,562	3,562	3,562	3,562	\$300
Centennial Community Centre	6,188	6,188	9,173	9,173	9,173	9,173	9,173	9,173	9,173	9,173	\$483
Cornell Community Centre	-	-	-	-	-	-	20,868	20,868	20,868	20,868	\$483
Crosby Memorial Community Centre	5,521	5,521	5,521	5,521	5,521	5,521	5,521	5,521	5,521	5,521	\$300
German Mills Community Centre	1,983	1,983	1,983	1,983	1,983	1,983	1,983	1,983	1,983	1,983	\$300
Heintzman House	14,266	14,266	14,266	14,266	14,266	14,266	14,266	14,266	14,266	14,266	\$451
Rouge River Community Centre	12,160	12,160	12,160	12,160	12,160	12,160	12,160	12,160	12,160	12,160	\$300
Main St. Markham Craft Guild	3,702	3,702	3,702	3,702	3,702	3,702	3,702	3,702	3,702	3,702	\$300
Markham Community Centre	6,568	6,568	6,568	6,568	6,568	6,568	6,568	6,568	6,568	6,568	\$300
Markham Train Station	2,262	2,262	2,262	2,262	2,262	2,262	2,262	2,262	2,262	2,262	\$386
Markham Pan Am Centre	-	-	-	-	-	-	-	-	5,618	5,618	\$483
<i>Markham Pan Am Centre (excess capacity)</i>	-	-	-	-	-	-	-	-	(2,809)	(2,809)	\$483
Museum Education Building	1,167	1,167	1,167	1,167	1,167	1,167	1,167	1,167	1,167	1,167	\$300
McKay House	3,116	3,116	3,116	3,116	3,116	3,116	3,116	3,116	3,116	3,116	\$300
Milliken Mills Community Centre	9,956	9,956	9,956	9,956	9,956	9,956	9,956	9,956	9,956	9,956	\$483
Old Unionville Library Community Centre	3,369	3,369	3,369	3,369	3,369	3,369	3,369	3,369	3,369	3,369	\$300
Thornhill Community Centre	16,158	16,158	16,158	16,158	20,808	20,808	20,808	20,808	20,808	20,808	\$483
Unionville Stiver Mill Community Centre	-	-	-	-	-	-	-	4,715	4,715	4,715	\$351
Unionville Train Station	1,514	1,514	1,514	1,514	1,514	1,514	1,514	1,514	1,514	1,514	\$386
Varley Art Gallery (meeting room)	1,695	1,695	1,695	1,695	1,695	1,695	1,695	1,695	1,695	1,695	\$386
Victoria Square Community Centre	8,774	8,774	8,774	8,774	8,774	8,774	8,774	8,774	8,774	8,774	\$300
Warden House	5,296	5,296	5,296	5,296	5,296	5,296	5,296	5,296	5,296	5,296	\$386
YMCA	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	\$446
Total (sq.ft.)	156,495	156,495	159,480	159,480	164,130	164,480	185,348	190,063	192,872	192,872	
Total (\$000)	\$61,141.4	\$61,141.4	\$62,583.2	\$62,583.2	\$64,829.1	\$64,969.1	\$75,048.4	\$76,701.1	\$78,057.8	\$78,057.8	

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APPENDIX B.4
TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
INDOOR RECREATION

ICE PADS Facility Name	# of Square Feet										UNIT COST (\$/sq. ft.)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
Angus Glen Community Centre	69,126	69,126	69,126	69,126	69,126	69,126	69,126	69,126	69,126	69,126	69,126	\$483
Centennial Community Centre	45,187	45,187	45,187	45,187	45,187	45,187	45,187	45,187	45,187	45,187	45,187	\$483
Crosby Memorial Community Centre	26,166	26,166	26,166	26,166	26,166	26,166	26,166	26,166	26,166	26,166	26,166	\$232
Markham Community Centre	28,889	28,889	28,889	28,889	28,889	28,889	28,889	28,889	28,889	28,889	28,889	\$232
Milliken Mills Community Centre	33,054	33,054	33,054	33,054	33,054	33,054	33,054	33,054	33,054	33,054	33,054	\$483
Mt. Joy Community Centre	29,309	29,309	29,309	29,309	29,309	29,309	29,309	29,309	29,309	29,309	29,309	\$232
R.J. Clatworthy Arena	32,329	32,329	32,329	32,329	32,329	32,329	32,329	32,329	32,329	32,329	32,329	\$232
Thornhill Community Centre	68,520	68,520	68,520	68,520	68,520	68,520	68,520	68,520	68,520	68,520	68,520	\$483
Total (sq.ft.)	332,580	332,580	332,580	332,580	332,580	332,580	332,580	332,580	332,580	332,580	332,580	
Total (\$000)	\$131,327.5	\$131,327.5	\$131,327.5	\$131,327.5	\$131,327.5	\$131,327.5	\$131,327.5	\$131,327.5	\$131,327.5	\$131,327.5	\$131,327.5	

INDOOR SOCCER Facility Name	# of Square Feet										UNIT COST (\$/sq. ft.)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
Milliken Soccer Dome	29,651	29,651	29,651	29,651	29,651	29,651	29,651	29,651	29,651	29,651	29,651	\$105
Mt. Joy Community Centre	24,178	24,178	24,178	24,178	24,178	24,178	24,178	24,178	24,178	24,178	24,178	\$232
St. Robert Catholic High School	-	-	-	-	-	-	27,000	27,000	27,000	27,000	27,000	\$129
Total (sq.ft.)	53,829	53,829	53,829	53,829	53,829	53,829	80,829	80,829	80,829	80,829	80,829	
Total (\$000)	\$8,705.7	\$8,705.7	\$8,705.7	\$8,705.7	\$8,705.7	\$8,705.7	\$12,188.3	\$12,188.3	\$12,188.3	\$12,188.3	\$12,188.3	

Indoor Pool Facility Name	# of Square Feet										UNIT COST (\$/sq. ft.)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
Angus Glen Community Centre	24,364	24,364	24,364	24,364	24,364	24,364	24,364	24,364	24,364	24,364	24,364	\$564
Centennial Community Centre	19,062	19,062	19,062	19,062	19,062	19,062	19,062	19,062	19,062	19,062	19,062	\$407
Cornell Community Centre	-	-	-	-	-	-	26,303	26,303	26,303	26,303	26,303	\$564
Markham Pan Am Centre	-	-	-	-	-	-	-	-	45,803	45,803	45,803	\$1,132
<i>Markham Pan Am Centre (excess capacity)</i>	-	-	-	-	-	-	-	-	(22,902)	(22,902)	(22,902)	\$1,132
Milliken Mills Community Centre	23,950	23,950	23,950	23,950	23,950	23,950	23,950	23,950	23,950	23,950	23,950	\$564
Thornlea Pool	16,352	16,352	16,352	16,352	16,352	16,352	16,352	16,352	16,352	16,352	16,352	\$407
Total (sq.ft.)	83,728	83,728	83,728	83,728	83,728	83,728	110,031	110,031	132,933	132,933	132,933	
Total (\$000)	\$41,669.8	\$41,669.8	\$41,669.8	\$41,669.8	\$41,669.8	\$41,669.8	\$56,508.5	\$56,508.5	\$82,423.5	\$82,423.5	\$82,423.5	

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APPENDIX B.4
TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
INDOOR RECREATION

Fitness Centres Facility Name	# of Square Feet										UNIT COST (\$/sq. ft.)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Centennial Community Centre	8,229	8,229	9,229	9,229	9,229	9,229	9,229	9,229	9,229	9,229	\$483
Cornell Community Centre	-	-	-	-	-	-	8,616	8,616	8,616	8,616	\$400
Markham Pan Am Centre	-	-	-	-	-	-	-	-	5,564	5,564	\$483
<i>Markham Pan Am Centre (excess capacity)</i>	-	-	-	-	-	-	-	-	(2,782)	(2,782)	\$483
Thornhill Community Centre	16,932	16,932	16,932	16,932	16,932	16,932	16,932	16,932	16,932	16,932	\$483
Total (sq.ft.)	25,161	25,161	26,161	26,161	26,161	26,161	34,777	34,777	37,559	37,559	
Total (\$000)	\$12,152.8	\$12,152.8	\$12,635.8	\$12,635.8	\$12,635.8	\$12,635.8	\$16,082.2	\$16,082.2	\$17,425.9	\$17,425.9	

Gymnasium Facility Name	# of Square Feet										UNIT COST (\$/sq. ft.)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Angus Glen Community Centre	9,598	9,598	9,598	9,598	9,598	9,598	9,598	9,598	9,598	9,598	\$310
Angus Glen Tennis Centre	-	-	-	-	-	21,000	21,000	21,000	21,000	21,000	\$310
Armadale Community Centre	10,858	10,858	10,858	10,858	10,858	10,858	10,858	10,858	10,858	10,858	\$310
Centennial Community Centre	-	-	3,890	3,890	3,890	3,890	3,890	3,890	3,890	3,890	\$310
Cornell Community Centre	-	-	-	-	-	-	13,000	13,000	13,000	13,000	\$310
Flowervale Public School	4,060	4,060	4,060	4,060	4,060	4,060	4,060	4,060	4,060	4,060	\$310
Markham Pan Am Centre	-	-	-	-	-	-	-	-	33,727	33,727	\$310
<i>Markham Pan Am Centre (excess capacity)</i>	-	-	-	-	-	-	-	-	(16,864)	(16,864)	\$310
Thornhill Community Centre	3,809	3,809	3,809	3,809	3,809	3,809	3,809	3,809	3,809	3,809	\$310
Reesor Park Public School	3,320	3,320	3,320	3,320	3,320	3,320	3,320	3,320	3,320	3,320	\$310
Total (sq.ft.)	31,645	31,645	35,535	35,535	35,535	56,535	69,535	69,535	86,399	86,399	
Total (\$000)	\$9,822.9	\$9,822.9	\$11,030.3	\$11,030.3	\$11,030.3	\$17,548.9	\$21,584.2	\$21,584.2	\$26,818.8	\$26,818.8	

Senior Centres Facility Name	# of Square Feet										UNIT COST (\$/sq. ft.)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Cornell Community Centre	-	-	-	-	-	-	1,055	1,055	1,055	1,055	\$206
Markham Seniors Activity Centre	14,139	14,139	14,139	14,139	14,139	14,139	14,139	14,139	14,139	14,139	\$206
Thornhill Seniors Centre	6,720	6,720	6,720	6,720	6,720	6,720	6,720	6,720	6,720	6,720	\$206
Total (sq.ft.)	20,859	20,859	20,859	20,859	20,859	20,859	21,914	21,914	21,914	21,914	
Total (\$000)	\$4,298.6	\$4,298.6	\$4,298.6	\$4,298.6	\$4,298.6	\$4,298.6	\$4,516.0	\$4,516.0	\$4,516.0	\$4,516.0	

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APPENDIX B.4
TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
INDOOR RECREATION

Common Space - Major Community Centres Facility Name	# of Square Feet										UNIT COST (\$/sq. ft.)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Angus Glen Community Centre	33,905	33,905	33,905	33,905	33,905	33,905	33,905	33,905	33,905	33,905	\$483
Angus Glen Tennis Centre	-	-	-	-	-	10,500	10,500	10,500	10,500	10,500	\$400
Armadale Community Centre	7,239	7,239	7,239	7,239	7,239	7,239	7,239	7,239	7,239	7,239	\$231
Centennial Community Centre	11,096	11,096	26,406	26,406	26,406	26,406	26,406	26,406	26,406	26,406	\$483
Cornell Community Centre	-	-	-	-	-	-	58,118	58,118	58,118	58,118	\$483
Crosby Community Centre	2,606	2,606	2,606	2,606	2,606	2,606	2,606	2,606	2,606	2,606	\$231
Heintzman House	1,660	1,660	1,660	1,660	1,660	1,660	1,660	1,660	1,660	1,660	\$451
Markham Community Centre	11,096	11,096	11,096	11,096	11,096	11,096	11,096	11,096	11,096	11,096	\$231
Markham Pan Am Centre	-	-	-	-	-	-	-	-	56,288	56,288	\$483
<i>Markham Pan Am Centre (excess capacity)</i>	-	-	-	-	-	-	-	-	<i>(28,144)</i>	<i>(28,144)</i>	\$483
Milliken Mills Community Centre	19,613	19,613	19,613	19,613	19,613	19,613	19,613	19,613	19,613	19,613	\$483
Mount Joy Community Centre	4,295	4,295	4,295	4,295	4,295	4,295	4,295	4,295	4,295	4,295	\$231
Rouge River Community Centre	6,180	6,180	6,180	6,180	6,180	6,180	6,180	6,180	6,180	6,180	\$297
St. Robert Catholic High School	-	-	-	-	-	-	2,500	2,500	2,500	2,500	\$128
Thornhill Community Centre	28,770	28,770	28,770	28,770	28,770	28,770	28,770	28,770	28,770	28,770	\$483
Total (sq.ft.)	126,460	126,460	141,770	141,770	141,770	152,270	212,888	212,888	241,032	241,032	
Total (\$000)	\$53,526.5	\$53,526.5	\$60,921.2	\$60,921.2	\$60,921.2	\$65,121.2	\$93,512.8	\$93,512.8	\$107,106.3	\$107,106.3	

Parking Structures Facility Name	# of Parking Spaces										UNIT COST (\$/space)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Cornell Community Centre	-	-	-	-	-	-	305	305	305	305	\$ 30,714
Total (#)	-	-	-	-	-	-	305	305	305	305	
Total (\$000)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$9,367.7	\$9,367.7	\$9,367.7	\$9,367.7	

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APPENDIX B.4
TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
INDOOR RECREATION

Land Facility Name	# of Hectares										UNIT COST (\$/ha)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Angus Glen Community Centre	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80	\$9,489,000
Armadale Community Centre	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	\$9,489,000
Box Grove Community Centre	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	\$9,489,000
Buttonville Women's Institute	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	\$9,489,000
Cedar Grove Community Centre	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	\$9,489,000
Centennial Community Centre	4.86	4.86	4.86	4.86	4.86	4.86	4.86	4.86	4.86	4.86	\$9,489,000
Cornell Community Centre	-	-	-	-	-	-	2.22	2.22	2.22	2.22	\$9,489,000
Crosby Memorial Community Centre	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	\$9,489,000
German Mills Community Centre	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	\$9,489,000
Heintzman House	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	\$9,489,000
Rouge River Community Centre	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	\$9,489,000
Markham Community Centre	2.34	2.34	2.34	2.34	2.34	2.34	2.34	2.34	2.34	2.34	\$9,489,000
Markham Pan Am Centre	-	-	-	-	-	-	-	-	3.10	3.10	\$9,489,000
<i>Markham Pan Am Centre (excess capacity)</i>	-	-	-	-	-	-	-	-	(1.55)	(1.55)	\$9,489,000
Markham Seniors Activity Centre	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	\$9,489,000
Markham Train Station	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	\$9,489,000
McKay House	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	\$9,489,000
Milliken Mills Community Centre	3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74	\$9,489,000
Milliken Soccer Dome	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	\$9,489,000
Mt. Joy Community Centre	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	\$9,489,000
Museum Education Building	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	\$9,489,000
Old Unionville Library Community Centre	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	\$9,489,000
R.J. Clatworthy Arena	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	\$9,489,000
St. Robert Catholic High School	-	-	-	-	-	-	1.54	1.54	1.54	1.54	\$9,489,000
Thornhill Community Centre	2.96	2.96	2.96	2.96	2.96	2.96	2.96	2.96	2.96	2.96	\$9,489,000
Unionville Stiver Mill Community Centre	-	-	-	-	-	-	-	0.28	0.28	0.28	\$9,489,000
Unionville Train Station	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	\$9,489,000
Varley Art Gallery (Meeting room)	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	\$9,489,000
Victoria Square Community Centre	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	\$9,489,000
Warden House	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	\$9,489,000
Total (ha)	37.34	37.34	37.34	37.34	37.34	37.34	41.10	41.38	42.93	42.93	
Total (\$000)	\$354,359.7	\$354,359.7	\$354,359.7	\$354,359.7	\$354,359.7	\$354,359.7	\$390,015.6	\$392,672.5	\$407,380.5	\$407,380.5	

APPENDIX B.4
TABLE 1CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
INDOOR RECREATION

Furniture & Equipment Facility Name	Total Value of Furniture & Equipment (\$)									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Angus Glen Community Centre	\$1,213,493	\$1,213,493	\$1,209,476	\$1,209,018	\$1,207,088	\$1,147,951	\$1,170,910	\$1,194,328	\$1,218,215	\$1,242,579
Armadale Community Centre	\$73,376	\$73,376	\$150,253	\$150,253	\$157,739	\$191,003	\$194,823	\$198,720	\$202,694	\$206,748
Box Grove Community Centre	\$4,100	\$4,100	\$4,100	\$4,100	\$4,100	\$4,100	\$4,182	\$4,266	\$4,351	\$4,438
Buttonville Women's Institute	\$9,300	\$9,300	\$6,100	\$6,100	\$6,100	\$6,100	\$6,222	\$6,346	\$6,473	\$6,603
Cedar Grove Community Centre	\$32,700	\$32,700	\$32,700	\$32,700	\$32,700	\$32,700	\$33,354	\$34,021	\$34,702	\$35,396
Centennial Community Centre	\$687,716	\$679,716	\$890,008	\$888,863	\$970,193	\$945,096	\$963,998	\$983,278	\$1,002,943	\$1,023,002
Cornell Community Centre	-	-	-	-	-	-	\$2,339,524	\$2,339,524	\$2,339,524	\$2,339,524
Crosby Memorial Community Centre	\$610,617	\$610,617	\$200,785	\$202,987	\$202,987	\$209,200	\$213,384	\$217,652	\$222,005	\$226,445
German Mills Community Centre	\$10,800	\$10,800	\$10,800	\$10,800	\$10,800	\$10,800	\$11,016	\$11,236	\$11,461	\$11,690
Heintzman House	\$32,300	\$32,300	\$32,300	\$32,300	\$32,300	\$32,300	\$32,946	\$33,605	\$34,277	\$34,963
Markham Community Centre	\$285,252	\$285,252	\$285,252	\$286,672	\$289,330	\$288,392	\$294,160	\$300,043	\$306,044	\$312,165
Markham Pan Am Centre	-	-	-	-	-	-	-	-	\$1,522,000	\$1,522,000
<i>Markham Pan Am Centre (excess capacity)</i>	-	-	-	-	-	-	-	-	<i>(\$761,000)</i>	<i>(\$761,000)</i>
Milliken Mills Community Centre	\$462,116	\$462,116	\$646,378	\$651,376	\$670,274	\$651,868	\$664,905	\$678,203	\$691,768	\$705,603
Mount Joy Community Centre	\$661,967	\$661,967	\$661,967	\$662,082	\$662,082	\$657,610	\$670,762	\$684,177	\$697,861	\$711,818
Old Unionville Library Community Centre	\$14,000	\$14,000	\$33,700	\$33,700	\$33,700	\$33,700	\$34,374	\$35,061	\$35,763	\$36,478
R.J. Clatworthy Arena	\$235,000	\$235,000	\$235,000	\$235,000	\$235,000	\$235,000	\$239,700	\$244,494	\$249,384	\$254,372
Rouge River Community Centre	\$71,112	\$71,112	\$117,562	\$117,562	\$135,113	\$104,046	\$106,127	\$108,249	\$110,414	\$112,623
St. Robert Catholic High School	\$0	\$0	\$0	\$0	\$0	\$0	\$44,198	\$44,198	\$44,198	\$44,198
Thornhill Community Centre	\$848,880	\$848,880	\$864,631	\$907,031	\$922,056	\$895,183	\$913,087	\$931,348	\$949,975	\$968,975
Thornlea Pool	\$101,300	\$101,300	\$79,000	\$84,316	\$68,747	\$85,048	\$86,749	\$88,484	\$90,254	\$92,059
Unionville Stiver Mill Community Centre	-	-	-	-	-	-	-	\$4,454	\$4,454	\$4,454
Unionville Train Station	\$2,700	\$4,700	\$4,700	\$4,700	\$4,700	\$4,700	\$4,794	\$4,890	\$4,988	\$5,087
Victoria Square	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000	\$9,180	\$9,364	\$9,551	\$9,742
Warden House	\$24,590	\$24,590	\$32,660	\$33,992	\$33,992	\$32,096	\$32,738	\$33,393	\$34,061	\$34,742
Water Street Seniors Centre	\$52,712	\$77,090	\$73,497	\$69,135	\$66,101	\$61,865	\$63,102	\$64,364	\$65,652	\$66,965
Other	\$183,143	\$182,996	\$184,996	\$184,996	\$184,855	\$181,317	\$184,943	\$188,642	\$192,415	\$196,263
Total (\$000)	\$5,626.2	\$5,644.4	\$5,764.9	\$5,816.7	\$5,939.0	\$5,819.1	\$8,319.2	\$8,442.3	\$9,324.4	\$9,447.9

APPENDIX B.4
TABLE 1CITY OF MARKHAM
CALCULATION OF SERVICE LEVELS
INDOOR RECREATION

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Historic Population	269,149	276,944	284,965	293,218	301,709	306,973	312,329	317,779	323,324	328,966

INVENTORY SUMMARY (\$000)

Halls And Meeting Rooms	\$61,141.4	\$61,141.4	\$62,583.2	\$62,583.2	\$64,829.1	\$64,969.1	\$75,048.4	\$76,701.1	\$78,057.8	\$78,057.8
Ice Pads	\$131,327.5	\$131,327.5	\$131,327.5	\$131,327.5	\$131,327.5	\$131,327.5	\$131,327.5	\$131,327.5	\$131,327.5	\$131,327.5
Indoor Soccer	\$8,705.7	\$8,705.7	\$8,705.7	\$8,705.7	\$8,705.7	\$8,705.7	\$12,188.3	\$12,188.3	\$12,188.3	\$12,188.3
Indoor Pool	\$41,669.8	\$41,669.8	\$41,669.8	\$41,669.8	\$41,669.8	\$41,669.8	\$56,508.5	\$56,508.5	\$82,423.5	\$82,423.5
Fitness Centres	\$12,152.8	\$12,152.8	\$12,635.8	\$12,635.8	\$12,635.8	\$12,635.8	\$16,082.2	\$16,082.2	\$17,425.9	\$17,425.9
Gymnasium	\$9,822.9	\$9,822.9	\$11,030.3	\$11,030.3	\$11,030.3	\$17,548.9	\$21,584.2	\$21,584.2	\$26,818.8	\$26,818.8
Senior Centres	\$4,298.6	\$4,298.6	\$4,298.6	\$4,298.6	\$4,298.6	\$4,298.6	\$4,516.0	\$4,516.0	\$4,516.0	\$4,516.0
Common Space - Major Community Centres	\$53,526.5	\$53,526.5	\$60,921.2	\$60,921.2	\$60,921.2	\$65,121.2	\$93,512.8	\$93,512.8	\$107,106.3	\$107,106.3
Parking Structures	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$9,367.7	\$9,367.7	\$9,367.7	\$9,367.7
Land	\$354,359.7	\$354,359.7	\$354,359.7	\$354,359.7	\$354,359.7	\$354,359.7	\$390,015.6	\$392,672.5	\$407,380.5	\$407,380.5
Furniture & Equipment	\$5,626.2	\$5,644.4	\$5,764.9	\$5,816.7	\$5,939.0	\$5,819.1	\$8,319.2	\$8,442.3	\$9,324.4	\$9,447.9
Total (\$000)	\$682,631.2	\$682,649.4	\$693,296.9	\$693,348.7	\$695,716.9	\$706,455.6	\$818,470.4	\$822,903.2	\$885,936.8	\$886,060.3

SERVICE LEVEL (\$/capita)

Average
Service
Level

Halls And Meeting Rooms	\$227.17	\$220.77	\$219.62	\$213.44	\$214.87	\$211.64	\$240.29	\$241.37	\$241.42	\$237.28	\$226.79
Ice Pads	\$487.94	\$474.20	\$460.85	\$447.88	\$435.28	\$427.81	\$420.48	\$413.27	\$406.18	\$399.21	\$437.31
Indoor Soccer	\$32.35	\$31.43	\$30.55	\$29.69	\$28.85	\$28.36	\$39.02	\$38.35	\$37.70	\$37.05	\$33.34
Indoor Pool	\$154.82	\$150.46	\$146.23	\$142.11	\$138.11	\$135.74	\$180.93	\$177.82	\$254.93	\$250.55	\$173.17
Fitness Centres	\$45.15	\$43.88	\$44.34	\$43.09	\$41.88	\$41.16	\$51.49	\$50.61	\$53.90	\$52.97	\$46.85
Gymnasium	\$36.50	\$35.47	\$38.71	\$37.62	\$36.56	\$57.17	\$69.11	\$67.92	\$82.95	\$81.52	\$54.35
Senior Centres	\$15.97	\$15.52	\$15.08	\$14.66	\$14.25	\$14.00	\$14.46	\$14.21	\$13.97	\$13.73	\$14.59
Common Space - Major Community Centres	\$198.87	\$193.28	\$213.78	\$207.77	\$201.92	\$212.14	\$299.40	\$294.27	\$331.27	\$325.58	\$247.83
Parking Structures	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$29.99	\$29.48	\$28.97	\$28.48	\$11.69
Land	\$1,316.59	\$1,279.54	\$1,243.52	\$1,208.52	\$1,174.51	\$1,154.37	\$1,248.73	\$1,235.68	\$1,259.98	\$1,238.37	\$1,235.98
Furniture & Equipment	\$20.90	\$20.38	\$20.23	\$19.84	\$19.68	\$18.96	\$26.64	\$26.57	\$28.84	\$28.72	\$23.08
Total (\$/capita)	\$2,536.26	\$2,464.94	\$2,432.92	\$2,364.62	\$2,305.92	\$2,301.36	\$2,620.54	\$2,589.55	\$2,740.09	\$2,693.47	\$2,504.97

CITY OF MARKHAM
CALCULATION OF MAXIMUM ALLOWABLE
INDOOR RECREATION

10-Year Funding Envelope Calculation

10 Year Average Service Level 2007 - 2016	\$2,504.97
Net Population Growth 2017 - 2026	73,161
Maximum Allowable Funding Envelope	\$183,266,110
Less: Uncommitted Excess Capacity	\$62,010,303
Less: 10% Legislated Reduction	\$12,125,581
Discounted Maximum Allowable Funding Envelope	\$109,130,227

Excess Capacity Calculation

Total Value of Inventory in 2016	\$886,060,264
Inventory Using Average Service Level	\$824,049,961
Excess Capacity	\$62,010,303
Excess Capacity:	Uncommitted

CITY OF MARKHAM
DEVELOPMENT-RELATED CAPITAL PROGRAM
INDOOR RECREATION

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs			
					Replacement & BTE Shares	10% Reduction		Prior Growth	Available DC Reserves	2017-2026	Post 2026
4.0 INDOOR RECREATION											
4.1 Recovery of Negative Reserve Fund Balance											
4.1.1 Balance as at December 31, 2016	2017	\$ 49,529,591	\$ -	\$ 49,529,591	\$ -	\$ -	\$ 49,529,591	\$ -	\$ -	\$ 49,529,591	\$ -
Subtotal Recovery of Negative Reserve Fund Balance		\$ 49,529,591	\$ -	\$ 49,529,591	\$ -	\$ -	\$ 49,529,591	\$ -	\$ -	\$ 49,529,591	\$ -
4.2 Recovery of Past Commitments											
4.2.1 Principle Payment Aaniin Community Centre and Library	2017	\$ 1,768,855	\$ -	\$ 1,768,855	\$ -	\$ -	\$ 1,768,855	\$ -	\$ -	\$ 1,768,855	\$ -
4.2.2 Principle Payment Aaniin Community Centre and Library	2018	\$ 1,816,614	\$ -	\$ 1,816,614	\$ -	\$ -	\$ 1,816,614	\$ -	\$ -	\$ 1,816,614	\$ -
4.2.3 Principle Payment Aaniin Community Centre and Library	2019	\$ 1,865,662	\$ -	\$ 1,865,662	\$ -	\$ -	\$ 1,865,662	\$ -	\$ -	\$ 1,865,662	\$ -
4.2.4 Principle Payment Aaniin Community Centre and Library	2020	\$ 1,916,035	\$ -	\$ 1,916,035	\$ -	\$ -	\$ 1,916,035	\$ -	\$ -	\$ 1,916,035	\$ -
4.2.5 Principle Payment Aaniin Community Centre and Library	2021	\$ 1,967,768	\$ -	\$ 1,967,768	\$ -	\$ -	\$ 1,967,768	\$ -	\$ -	\$ 1,967,768	\$ -
4.2.6 Principle Payment Aaniin Community Centre and Library	2022	\$ 2,020,898	\$ -	\$ 2,020,898	\$ -	\$ -	\$ 2,020,898	\$ -	\$ -	\$ 2,020,898	\$ -
4.2.7 Principle Payment Aaniin Community Centre and Library	2023	\$ 2,075,462	\$ -	\$ 2,075,462	\$ -	\$ -	\$ 2,075,462	\$ -	\$ -	\$ 2,075,462	\$ -
4.2.8 Principle Payment Aaniin Community Centre and Library	2024	\$ 2,131,500	\$ -	\$ 2,131,500	\$ -	\$ -	\$ 2,131,500	\$ -	\$ -	\$ 2,131,500	\$ -
4.2.9 Principle Payment Aaniin Community Centre and Library	2025	\$ 2,189,050	\$ -	\$ 2,189,050	\$ -	\$ -	\$ 2,189,050	\$ -	\$ -	\$ 2,189,050	\$ -
4.2.10 Principle Payment Aaniin Community Centre and Library	2026	\$ 2,248,155	\$ -	\$ 2,248,155	\$ -	\$ -	\$ 2,248,155	\$ -	\$ -	\$ 2,248,155	\$ -
Subtotal Recovery of Past Commitments		\$ 20,000,000	\$ -	\$ 20,000,000	\$ -	\$ -	\$ 20,000,000	\$ -	\$ -	\$ 20,000,000	\$ -
4.3 Major Facilities											
4.3.1 Aaniin Community Centre and Library (101,000 sf)	2017	\$ 48,761,419	\$ -	\$ 48,761,419	\$ -	\$ 4,876,142	\$ 43,885,277	\$ 38,802,202	\$ -	\$ 5,083,075	\$ -
4.3.2 Future Facility Expansion (10,000 sf)	2023	\$ 4,827,863	\$ -	\$ 4,827,863	\$ -	\$ 482,786	\$ 4,345,077	\$ -	\$ -	\$ 4,345,077	\$ -
4.3.3 Future Facility - FUA (25,000 sf)	2026	\$ 7,500,000	\$ -	\$ 7,500,000	\$ -	\$ 750,000	\$ 6,750,000	\$ -	\$ -	\$ 6,750,000	\$ -
Subtotal Major Facilities		\$ 61,089,282	\$ -	\$ 61,089,282	\$ -	\$ 6,108,928	\$ 54,980,354	\$ 38,802,202	\$ -	\$ 16,178,152	\$ -
4.4 Land for Major Facilities											
4.4.1 Aaniin Community Centre and Library	2017	\$ 4,382,231	\$ -	\$ 4,382,231	\$ -	\$ 438,223	\$ 3,944,008	\$ -	\$ -	\$ 3,944,008	\$ -
4.4.2 Future Indoor Recreation Facility - FUA	2026	\$ 14,233,500	\$ -	\$ 14,233,500	\$ -	\$ 1,423,350	\$ 12,810,150	\$ -	\$ -	\$ 12,810,150	\$ -
Subtotal Land for Major Facilities		\$ 18,615,731	\$ -	\$ 18,615,731	\$ -	\$ 1,861,573	\$ 16,754,158	\$ -	\$ -	\$ 16,754,158	\$ -
4.5 Furniture & Equipment											
4.5.1 Aaniin Community Centre and Library	2020	\$ 6,177,694	\$ -	\$ 6,177,694	\$ -	\$ 617,769	\$ 5,559,925	\$ -	\$ -	\$ 5,559,925	\$ -
4.5.2 Future Facility Expansion	2023	\$ 400,000	\$ -	\$ 400,000	\$ -	\$ 40,000	\$ 360,000	\$ -	\$ -	\$ 360,000	\$ -
4.5.3 Future Indoor Recreation Facility - FUA	2026	\$ 1,000,000	\$ -	\$ 1,000,000	\$ -	\$ 100,000	\$ 900,000	\$ -	\$ -	\$ 748,401	\$ 151,599
Subtotal Furniture & Equipment		\$ 7,577,694	\$ -	\$ 7,577,694	\$ -	\$ 757,769	\$ 6,819,925	\$ -	\$ -	\$ 6,668,325	\$ 151,599
TOTAL INDOOR RECREATION		\$ 156,812,299	\$ -	\$ 156,812,299	\$ -	\$ 8,728,271	\$ 148,084,028	\$ 38,802,202	\$ -	\$ 109,130,227	\$ 151,599

Residential Development Charge Calculation		
Residential Share of 2017 - 2026 DC Eligible Costs	100%	\$109,130,227
10-Year Growth in Population in New Units		75,375
Unadjusted Development Charge Per Capita		\$1,447.83
Non-Residential Development Charge Calculation		
Non-Residential Share of 2017 - 2026 DC Eligible Costs	0%	\$0
10-Year Growth in Square Metres		1,997,205
Unadjusted Development Charge Per Square Metre		\$0.00

2017 - 2026 Net Funding Envelope	\$109,130,227
Reserve Fund Balance	(\$49,529,591)

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APPENDIX B.4
TABLE 3

CITY OF MARKHAM
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
INDOOR RECREATION
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

INDOOR RECREATION	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	\$0.0	(\$51,644.3)	(\$45,570.2)	(\$38,655.3)	(\$36,836.1)	(\$28,364.3)	(\$18,853.3)	(\$13,612.4)	(\$2,058.6)	\$10,785.6	
2017 - 2026 RESIDENTIAL FUNDING REQUIREMENTS											
- Indoor Recreation: Non Inflated	\$58,556.67	\$0.0	\$0.0	\$5,559.9	\$0.0	\$0.0	\$4,705.1	\$0.0	\$0.0	\$20,308.6	\$89,130.2
- Aaniin Community Centre and Library Borrowed Funds	\$1,768.9	\$1,816.6	\$1,865.7	\$1,916.0	\$1,967.8	\$2,020.9	\$2,075.5	\$2,131.5	\$2,189.1	\$2,248.2	\$20,000.0
- Indoor Recreation: Inflated(1)	\$60,325.53	\$1,816.6	\$1,865.7	\$7,816.3	\$1,967.8	\$2,020.9	\$7,374.1	\$2,131.5	\$2,189.1	\$26,518.8	\$114,026.2
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	6,748	6,911	7,081	7,254	7,430	7,610	7,794	7,987	8,181	8,379	75,375
REVENUE											
- DC Receipts: Inflated	\$10,589.0	\$11,061.6	\$11,560.4	\$12,079.7	\$12,620.3	\$13,184.5	\$13,773.4	\$14,396.7	\$15,041.3	\$15,713.5	\$130,020.5
INTEREST											
- Interest on Opening Balance	\$0.0	(\$2,840.4)	(\$2,506.4)	(\$2,126.0)	(\$2,026.0)	(\$1,560.0)	(\$1,036.9)	(\$748.7)	(\$113.2)	\$377.5	(\$12,580.2)
- Interest on In-year Transactions	(\$1,367.8)	\$161.8	\$169.7	\$74.6	\$186.4	\$195.4	\$112.0	\$214.6	\$224.9	(\$297.1)	(\$325.5)
- Interest on Aaniin Community Centre and Library Borrowed Funds	(\$540.0)	(\$492.2)	(\$443.2)	(\$392.8)	(\$341.1)	(\$288.0)	(\$233.4)	(\$177.4)	(\$119.8)	(\$60.7)	(\$3,088.5)
TOTAL REVENUE	\$8,681.2	\$7,890.8	\$8,780.5	\$9,635.5	\$10,439.6	\$11,531.9	\$12,615.0	\$13,685.3	\$15,033.2	\$15,733.1	\$114,026.2
CLOSING CASH BALANCE	(\$51,644.3)	(\$45,570.2)	(\$38,655.3)	(\$36,836.1)	(\$28,364.3)	(\$18,853.3)	(\$13,612.4)	(\$2,058.6)	\$10,785.6	\$0.0	

Note 1: Borrowed funds are not inflated.

2017 Adjusted Charge Per Capita	\$1,569.20
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Allocation of Capital Program	
Residential Sector	100.0%
Non-Residential Sector	0.0%
Rates for 2017	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

APPENDIX B.5

PARK DEVELOPMENT AND FACILITIES

APPENDIX B.5

PARK DEVELOPMENT AND FACILITIES

The City of Markham Parks Department is responsible for the recreation and leisure needs of the community, including the provision and maintenance of parks, to the residents of Markham. The City offers over 680 hectares of developed parkland and an array of parks facilities including playgrounds, soccer fields, and baseball diamonds.

TABLE 1 2007-2016 HISTORICAL SERVICE LEVELS

Table 1 displays the Parks ten-year historical inventory for sports fields, developed parkland, park buildings and parks fleet. The sports fields amount to \$129.27 million, outdoor buildings are valued at \$75.32 million, and developed parkland, a main component of the parks service level, add \$242.60 million to the inventory. Finally, bridges, illumination, landscaping and parking lots add another \$37.34 million.

The 2016 full replacement value of the inventory of capital assets for the Park Development and Facilities amounts to \$484.53 million and the ten-year historical average service level is \$1,478.02 per capita.

The historical service level multiplied by the ten-year forecast of net population growth results in a ten-year maximum allowable funding envelope of \$108.13 million (73,161 net population X historical service level of \$1,478.02). No excess capacity has been identified in this service.

Parks is a service for which development-related capital costs must be reduced by ten per cent as required under the *DCA*. As a result, \$10.81 million is deducted from the funding envelope calculation. The resulting net maximum allowable funding envelope brought forward to the development charges calculation is reduced to \$97.32 million.

TABLE 2 2017 – 2026 DEVELOPMENT-RELATED CAPITAL PROGRAM & CALCULATION OF THE UNADJUSTED DEVELOPMENT CHARGE

The 2017–2026 gross development-related capital program for the Parks department amounts to \$149.93 million.

The Park Development and Facilities capital program is a very detailed list of development-related capital projects by type, and location. The type of facilities included in the capital program include; major soccer pitches, major diamonds, cricket pitches, tennis courts, minor soccer pitches, mini soccer pitches, basketball courts, waterplay facilities, playgrounds, gazebos/shelters, washrooms and other park buildings, field houses and worksheds, concrete plaza spaces, concrete pathways, pathways, bridges, parking lots, lighting, irrigation for sports fields and parks, skate parks, and park development.

No grants or replacement shares have been identified for this service as the capital program only includes net new facilities. The ten per cent reduction shares amount to \$14.99 million and must be financed through non-DC revenue sources. There is \$36.60 million currently in the Parks DC reserve fund balance and this has been applied to the capital projects occurring in the initial years of the program. A portion of the program, \$1.02 million, is deemed to be post-period benefit and will be examined for recovery in subsequent DC by-law updates.

The 2017–2026 DC costs eligible for recovery amount to \$97.32 million which is allocated entirely against future residential development in the City of Markham. This results in an unadjusted development charge of \$1,291.15 per capita.

TABLE 3 CASH FLOW AND RESERVE FUND ANALYSIS

After cash flow and reserve fund consideration, the residential calculated charge decreases to \$1,289.04 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 indoor recreation development charge:

PARK DEVELOPMENT & FACILITIES SUMMARY											
10-year Hist. Service Level per capita	2017 - 2026		Residential \$/capita	Unadjusted Development Charge			Residential \$/capita	Adjusted Development Charge			
	Development-Related Total	Capital Program Net DC Recoverable		Retail \$/sq.m	I.O.I. \$/sq.m	Mixed-Use \$/sq.m		Retail \$/sq.m	I.O.I. \$/sq.m	Mixed-Use \$/sq.m	
\$1,478.02	\$149,930,381	\$97,320,079	\$1,291.15	\$0.00	\$0.00	\$0.00	\$1,289.04	\$0.00	\$0.00	\$0.00	

APPENDIX B.5
TABLE 1CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
SPORTS FIELDS

Major Soccer - Artificial Turf Park Name	# of Lighted Major Soccer Fields										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
BILL CROTHERS S.S.	-	-	2	2	2	2	2	2	2	2	\$882,000
MOUNT JOY C.C. AND PARK	1	1	1	1	1	1	1	1	1	1	\$882,000
ST ROBERT CHS	-	-	-	-	1	1	1	1	1	1	\$882,000
Total (#)	1	1	3	3	4	4	4	4	4	4	
Total (\$000)	\$882.0	\$882.0	\$2,646.0	\$2,646.0	\$3,528.0	\$3,528.0	\$3,528.0	\$3,528.0	\$3,528.0	\$3,528.0	\$3,528.0

Major Soccer - Lighted Park Name	# of Lighted Major Soccer Fields										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
BERCZY PARK NORTH	1	1	1	1	1	1	1	1	1	1	\$588,000
BILL CROTHERS S.S.	-	-	1	1	1	1	1	1	1	1	\$588,000
BISHOP'S CROSS PARK	1	1	1	1	1	1	1	1	1	1	\$588,000
BROTHER ANDRE CHS	1	1	1	1	1	1	1	1	1	1	\$588,000
CENTENNIAL PARK	1	1	1	1	1	1	1	1	1	1	\$588,000
GORDON STOLLERY PARK	-	1	1	1	1	1	1	1	1	1	\$588,000
HUNTINGTON PARK	1	1	1	1	1	1	1	1	1	1	\$588,000
MILLIKEN HIGH SCHOOL	1	1	1	1	1	1	1	1	1	1	\$588,000
MILLIKEN MILLS COMMUNITY PARK	1	1	1	1	1	1	1	1	1	1	\$588,000
Total (#)	7	8	9	9	9	9	9	9	9	9	
Total (\$000)	\$4,116.0	\$4,704.0	\$5,292.0	\$5,292.0	\$5,292.0	\$5,292.0	\$5,292.0	\$5,292.0	\$5,292.0	\$5,292.0	\$5,292.0

APPENDIX B.5
TABLE 1CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
SPORTS FIELDS

Major Soccer - Unlighted Park Name	# of Unlighted Major Soccer Fields										UNIT COST (\$/ha)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
ALDERGROVE PARK	1	1	1	1	1	1	1	1	1	1	\$310,000
ARMSTRONG PARK	1	1	1	1	1	1	1	1	1	1	\$310,000
ASHTON MEADOWS PARK	1	1	1	1	1	1	1	1	1	1	\$310,000
BAYVIEW RESERVOIR	2	2	2	2	2	2	2	2	2	2	\$310,000
BENJAMIN MARR PARK - NORTH	1	1	1	1	1	1	1	1	1	1	\$310,000
BENJAMIN MARR PARK - SOUTH	1	1	1	1	1	1	1	1	1	1	\$310,000
BERCZY PARK NORTH	2	2	2	2	2	2	2	2	2	2	\$310,000
BERCZY PARK SOUTH	-	-	-	-	-	1	1	1	1	1	\$310,000
BROTHER ANDRE CHS	1	1	1	1	1	1	1	1	1	1	\$310,000
BUR OAK SS	-	-	1	1	1	1	1	1	1	1	\$310,000
CALVERT PARK	1	1	1	1	1	1	1	1	1	1	\$310,000
CARLTON PARK	1	1	1	1	1	1	1	1	1	1	\$310,000
CENTRAL PARK	1	1	1	1	1	1	1	1	1	1	\$310,000
COLTY CORNERS	1	1	1	1	1	1	1	1	1	1	\$310,000
COPPARD PARK	1	1	1	1	1	1	1	1	1	1	\$310,000
CROSBY PARK	1	1	1	1	1	1	1	1	1	1	\$310,000
ELSON PARK	1	1	1	1	1	1	1	1	1	1	\$310,000
FATHER MCGIVNEY CA	1	1	1	1	1	1	1	1	1	1	\$310,000
FRANKLIN CARMICHAEL PARK	1	1	1	1	1	1	1	1	1	1	\$310,000
GREEN LANE PARK	1	1	1	1	1	1	1	1	1	1	\$310,000
HENRY WHITE PARK	1	1	1	1	1	1	1	1	1	1	\$310,000
HIGHGATE PARK	1	1	1	1	1	1	1	1	1	1	\$310,000
INNIS MACDONALD PARK	-	1	1	1	1	1	1	1	1	1	\$310,000
JAMES EDWARD PARK	1	1	1	1	1	1	1	1	1	1	\$310,000
JOHN BUTTON PARK	1	1	1	1	1	1	1	1	1	1	\$310,000
MARKHAM DISTRICT HS	3	3	-	-	-	2	2	2	2	2	\$310,000
MARKVILLE SS	1	1	1	1	1	1	1	1	1	1	\$310,000

APPENDIX B.5
TABLE 1CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
SPORTS FIELDS

Major Soccer - Unlighted Cont'd Park Name	# of Unlighted Major Soccer Fields										UNIT COST (\$/ha)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
MIDDLEFIELD CI	1	1	1	1	1	1	1	1	1	1	\$310,000
MINTLEAF PARK	1	1	1	1	1	1	1	1	1	1	\$310,000
PIERRE ELLIOT TRUDEAU HS	1	1	1	1	1	1	1	1	1	1	\$310,000
RANDALL PARK	1	1	1	1	1	1	1	1	1	1	\$310,000
RAYBECK PARK	1	1	1	1	1	1	1	1	1	1	\$310,000
RIVERWALK PARK	-	-	-	-	1	1	1	1	1	1	\$310,000
SADDLECREEK PARK	-	-	-	-	-	-	-	1	1	1	\$310,000
SENECA COLLEGE	-	-	1	1	1	1	1	1	1	1	\$310,000
SIMONSTON PARK	1	1	1	1	1	1	1	1	1	1	\$310,000
SOUTH UNIONVILLE PARK	1	1	1	1	1	1	1	1	1	1	\$310,000
SPEIGHT PARK	-	-	-	-	1	1	1	1	1	1	\$310,000
SPRINGDALE PARK	1	1	1	1	1	1	1	1	1	1	\$310,000
ST AUGUSTINE CHS	1	1	1	1	1	1	1	1	1	1	\$310,000
ST ROBERT CHS	1	1	1	1	1	1	1	1	1	1	\$310,000
THORNHILL PSS	2	2	2	2	2	2	2	2	2	2	\$310,000
THORNLEA PSS	1	1	1	1	1	1	1	1	1	1	\$310,000
UNIONVILLE HS	2	2	2	2	2	2	2	2	2	2	\$310,000
Total (#)	43	44	43	43	45	48	48	49	49	49	
Total (\$000)	\$13,330.0	\$13,640.0	\$13,330.0	\$13,330.0	\$13,950.0	\$14,880.0	\$14,880.0	\$15,190.0	\$15,190.0	\$15,190.0	

APPENDIX B.5
TABLE 1CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
SPORTS FIELDS

Minor Soccer - Unlighted Park Name	# of Unlighted Minor Soccer Fields										UNIT COST (\$/ha)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
ALDERGROVE PARK	2	2	2	2	2	2	2	2	2	2	2	\$160,000
ALMA WALKER PARK	2	2	2	2	2	2	2	2	2	2	2	\$160,000
ARMADALE PARK	2	2	2	2	2	2	2	2	2	2	2	\$160,000
LEITCHCROFT PARK	1	1	1	1	1	1	1	1	1	1	1	\$160,000
MILLIKEN MILLS COMMUNITY PARK	3	3	3	3	3	3	4	4	4	4	4	\$160,000
MILLIKEN MILLS PES	1	1	1	1	1	1	1	1	1	1	1	\$160,000
MONARCH PARK	1	1	1	1	1	1	1	1	1	1	1	\$160,000
MOUNT JOY PARK	-	3	3	3	3	3	3	3	3	3	3	\$160,000
QUANTZTOWN PARK	1	1	1	1	1	1	1	1	1	1	1	\$160,000
REESOR PARK	-	-	-	-	2	2	2	2	2	2	2	\$160,000
SIMONSTON PARK	1	1	1	1	1	1	1	1	1	1	1	\$160,000
SIR RICAHRD SCOTT	1	1	1	1	1	1	1	1	1	1	1	\$160,000
THORNLEA PSS	1	1	1	1	1	1	1	1	1	1	1	\$160,000
TOMLINSON PARK	1	1	1	1	1	1	1	1	1	1	1	\$160,000
WILCLAY PARK	1	1	1	1	1	1	1	1	1	1	1	\$160,000
WISMER PARK	-	4	4	4	4	4	4	4	4	4	4	\$160,000
Total (#)	18	25	25	25	27	27	28	28	28	28	28	
Total (\$000)	\$2,880.0	\$4,000.0	\$4,000.0	\$4,000.0	\$4,320.0	\$4,320.0	\$4,480.0	\$4,480.0	\$4,480.0	\$4,480.0	\$4,480.0	

APPENDIX B.5
TABLE 1CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
SPORTS FIELDS

Mini Soccer - Unlighted Park Name	# of Unlighted Mini Soccer Fields										UNIT COST (\$/unit)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
ARMSTRONG PARK	1	1	1	1	1	1	1	1	1	1	1	\$98,000
ASHTON MEADOWS PARK	1	1	2	2	2	2	2	2	2	2	2	\$98,000
BAYVIEW RESERVOIR	3	3	3	3	3	3	3	3	3	3	2	\$98,000
DENISON PARK	1	1	1	1	1	1	1	1	1	1	1	\$98,000
FINCHAM PARK	8	8	8	8	8	8	8	8	8	8	8	\$98,000
GRANDVIEW PARK	1	1	1	1	1	1	1	1	1	1	1	\$98,000
HAROLD HUMPHREYS PARK	2	2	2	2	2	2	2	2	2	2	2	\$98,000
HUNTINGTON PARK	2	2	2	2	2	2	2	2	2	2	2	\$98,000
JOHN CANNING PARK	1	1	1	1	1	1	1	1	1	1	1	\$98,000
MIDDLEFIELD CI	1	1	1	1	1	1	1	1	1	1	1	\$98,000
MINTLEAF PARK	13	13	13	13	13	13	13	13	13	13	13	\$98,000
POMONA MILLS PARK	2	2	2	2	2	2	2	2	2	2	2	\$98,000
REESOR PARK	3	3	3	3	-	-	-	-	-	-	-	\$98,000
ROXBURY PARK	1	1	1	1	1	1	1	1	1	1	1	\$98,000
THORNHILL PSS	1	1	1	1	1	1	1	1	1	1	1	\$98,000
UPPER CORNELL PARK	-	1	1	1	1	1	1	1	1	1	1	\$98,000
VILLAGE PARK	2	2	2	2	2	2	2	2	2	2	2	\$98,000
Total (#)	43	44	45	45	42	42	42	42	42	42	41	
Total (\$000)	\$4,214.0	\$4,312.0	\$4,410.0	\$4,410.0	\$4,116.0	\$4,116.0	\$4,116.0	\$4,116.0	\$4,116.0	\$4,116.0	\$4,018.0	

APPENDIX B.5
TABLE 1CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
SPORTS FIELDS

Major Diamond - Lighted Park Name	# of Lighted Major Diamonds										UNIT COST (\$/unit)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
ASHTON MEADOWS PARK	1	1	1	1	1	1	1	1	1	1	1	\$490,000
BAYVIEW RESERVOIR	1	1	1	1	1	1	1	1	1	1	1	\$490,000
BERCZY PARK SOUTH	-	1	1	1	1	1	1	1	1	1	1	\$490,000
BISHOP'S CROSS PARK	2	2	2	2	2	2	2	2	2	2	2	\$490,000
CARLTON PARK	1	1	1	1	1	1	1	1	1	1	1	\$490,000
CEDAR GROVE PARK	1	1	1	1	1	1	1	1	1	1	1	\$490,000
CENTENNIAL PARK	2	2	2	2	2	2	2	2	2	2	2	\$490,000
CROSBY PARK	1	1	1	1	1	1	1	1	1	1	1	\$490,000
GRANDVIEW PARK	1	1	1	1	1	1	1	1	1	1	1	\$490,000
HIGHGATE PARK	1	1	1	1	1	1	1	1	1	1	1	\$490,000
HUNTINGTON PARK	1	1	1	1	1	1	1	1	1	1	1	\$490,000
MILLIKEN MILLS COMMUNITY PARK	5	5	5	5	5	5	5	5	5	5	5	\$490,000
MINTLEAF PARK	1	1	1	1	1	1	1	1	1	1	1	\$490,000
MONARCH PARK	1	1	1	1	1	1	1	1	1	1	1	\$490,000
MORGAN PARK	1	1	1	1	1	1	1	1	1	1	1	\$490,000
VICTORIA SQUARE PARK	1	1	1	1	1	1	1	1	1	1	1	\$490,000
Total (#)	21	22	22	22	22	22	22	22	22	22	22	
Total (\$000)	\$10,290.0	\$10,780.0	\$10,780.0	\$10,780.0	\$10,780.0	\$10,780.0	\$10,780.0	\$10,780.0	\$10,780.0	\$10,780.0	\$10,780.0	

APPENDIX B.5
TABLE 1CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
SPORTS FIELDS

Major Diamond - Unlighted Park Name	# of Unlighted Major Diamonds										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
ALDERGROVE PARK	1	1	1	1	1	1	1	1	1	1	\$294,000
ARMADALE PARK	1	1	1	1	1	1	1	1	1	1	\$294,000
BAYVIEW GLEN PARK	1	1	1	1	1	1	1	1	1	1	\$294,000
BAYVIEW LANE PARK	1	1	1	1	1	1	1	1	1	1	\$294,000
CALVERT PARK	1	1	1	1	1	1	1	1	1	1	\$294,000
COLEDALE PARK	1	1	1	1	1	1	1	1	1	1	\$294,000
COLTY CORNERS	1	1	1	1	1	1	1	1	1	1	\$294,000
DENISON PARK	1	1	1	1	1	1	1	1	1	1	\$294,000
DUNCAN PARK	1	1	1	1	1	1	1	1	1	1	\$294,000
ELSON PARK	1	1	1	1	1	1	1	1	1	1	\$294,000
FEATHERSTONE PARK	1	1	1	1	1	1	1	1	1	1	\$294,000
JAMES EDWARD PARK	1	1	1	1	1	1	1	1	1	1	\$294,000
JOHN BUTTON PARK	1	1	1	1	1	1	1	1	1	1	\$294,000
LEGACY PARK	2	2	2	2	2	2	2	2	2	2	\$294,000
LINCOLN PARK	1	1	1	1	1	1	1	1	1	1	\$294,000
RANDALL PARK	1	1	1	1	1	1	1	1	1	1	\$294,000
RAYBECK PARK	1	1	1	1	1	1	1	1	1	1	\$294,000
REESOR PARK	1	1	1	1	1	1	1	1	1	1	\$294,000
RISEBROUGH PARK	1	1	1	1	1	1	1	1	1	1	\$294,000
ROXBURY PARK	1	1	1	1	1	1	1	1	1	1	\$294,000
STARGELL PARK	1	1	1	1	1	1	1	1	1	1	\$294,000
TOMLINSON PARK	1	1	1	1	1	1	1	1	1	1	\$294,000
VICTORIA SQUARE PARK	1	1	1	1	1	1	1	1	1	1	\$294,000
WILCLAY PARK	1	1	1	1	1	1	1	1	1	1	\$294,000
Total (#)	25	25	25	25	25	25	25	25	25	25	
Total (\$000)	\$7,350.0	\$7,350.0	\$7,350.0	\$7,350.0	\$7,350.0	\$7,350.0	\$7,350.0	\$7,350.0	\$7,350.0	\$7,350.0	

APPENDIX B.5
TABLE 1CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
SPORTS FIELDS

Minor Diamonds Park Name	# of Minor Diamonds										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
ARMSTRONG PARK	1	1	1	1	-	-	-	-	-	-	\$147,000
ASHTON MEADOWS PARK	1	1	1	1	1	1	1	1	1	1	\$147,000
BAYTHORN PES	2	2	2	2	2	2	2	2	2	2	\$147,000
BAYVIEW RESERVOIR	1	1	1	1	1	1	1	1	1	1	\$147,000
CROSBY PARK	1	1	1	1	1	1	1	1	1	1	\$147,000
DOREEN QUIRK PARK	1	1	1	1	1	1	1	1	1	1	\$147,000
GLENCREST PARK	1	1	-	-	-	-	-	-	-	-	\$147,000
GRANDVIEW PARK	1	1	1	1	1	1	1	1	1	1	\$147,000
GREEN LANE PARK	1	1	1	1	1	1	-	-	-	-	\$147,000
JOHN XXIII CES	1	1	1	1	1	1	1	1	1	1	\$147,000
JOHNSVIEW VILLAGE PES	1	1	1	1	1	1	1	1	1	1	\$147,000
LINCOLN PARK	1	1	1	1	1	1	-	-	-	-	\$147,000
MOTHER TERESA CES	-	-	-	-	-	-	1	1	1	1	\$147,000
PADDOCK PARK	1	1	1	1	1	1	1	1	1	-	\$147,000
PARKVIEW PES							1	1	1	1	\$147,000
RISEBROUGH PARK	1	1	1	1	1	1	1	1	1	1	\$147,000
ROBINSON PARK	2	2	2	2	2	2	2	2	2	2	\$147,000
UNIONVILLE PES	1	1	1	1	1	1	1	1	1	1	\$147,000
WILLIAM BERCZY PES	1	1	1	1	1	1	1	1	1	1	\$147,000
Total (#)	19	19	18	18	17	17	17	17	17	16	
Total (\$000)	\$2,793.0	\$2,793.0	\$2,646.0	\$2,646.0	\$2,499.0	\$2,499.0	\$2,499.0	\$2,499.0	\$2,499.0	\$2,352.0	

APPENDIX B.5
TABLE 1CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
SPORTS FIELDS

Tennis Courts - Lighted Park Name	# of Lighted Tennis Courts										UNIT COST (\$/unit)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
ARMADALE PARK	4	4	4	4	4	4	4	4	4	4	4	\$85,750
BOX GROVE C.C.	2	2	2	2	2	2	2	2	2	2	2	\$85,750
CARLTON PARK	9	9	9	9	9	9	9	9	9	9	9	\$85,750
DUNCAN PARK	3	3	3	3	3	3	3	3	3	3	3	\$85,750
HENDERSON PUBLIC SCHOOL	2	2	2	2	2	2	2	2	2	2	2	\$85,750
HIGHGATE PARK	3	3	3	3	3	3	3	3	3	3	3	\$85,750
JOHNSVIEW PARK	2	2	2	2	2	2	2	2	2	2	2	\$85,750
MORGAN PARK	2	2	2	2	2	2	2	2	2	2	2	\$85,750
POMONA MILLS PARK	6	6	6	6	6	6	6	6	6	6	6	\$85,750
REESOR PARK	6	6	6	6	6	6	6	6	6	6	6	\$85,750
SIMONSTON PARK	4	4	4	4	4	4	4	4	4	4	4	\$85,750
SOUTH UNIONVILLE PARK WEST	-	-	-	-	-	-	-	-	-	-	2	\$85,750
TOOGOOD PARK	2	2	2	2	2	2	2	2	2	2	2	\$85,750
Total (#)	45	45	45	45	45	45	45	45	45	45	47	
Total (\$000)	\$3,858.8	\$3,858.8	\$3,858.8	\$3,858.8	\$3,858.8	\$3,858.8	\$3,858.8	\$3,858.8	\$3,858.8	\$3,858.8	\$4,030.3	

Tennis Courts - Unlighted Park Name	# of Unlighted Tennis Courts										UNIT COST (\$/unit)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
BAYVIEW GLEN PARK	2	2	2	2	2	2	2	2	2	2	2	\$73,500
BERCZY PARK NORTH	-	-	-	-	2	2	2	2	2	2	2	\$73,500
BERCZY PARK SOUTH	-	-	-	-	-	2	2	2	2	2	2	\$73,500
FRISBY PARK	-	-	-	-	-	-	-	-	-	-	2	\$73,500
HENRY WHITE PARK	-	2	2	2	2	2	2	2	2	2	2	\$73,500
ROBINSON PARK	2	2	2	2	2	2	2	2	2	2	2	\$73,500
SADDLECREEK PARK	-	-	-	-	-	-	-	2	2	2	2	\$73,500
THORNLEA PSS	4	4	4	4	4	4	4	4	4	4	4	\$73,500
WISMER PARK	-	2	2	2	2	2	2	2	2	2	2	\$73,500
Total (#)	8	12	12	12	14	16	16	18	18	18	20	
Total (\$000)	\$588.0	\$882.0	\$882.0	\$882.0	\$1,029.0	\$1,176.0	\$1,176.0	\$1,323.0	\$1,323.0	\$1,323.0	\$1,470.0	

APPENDIX B.5
TABLE 1CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
SPORTS FIELDS

Bocce Courts Park Name	# of Bocce Courts										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
DENISON	1	1	1	1	1	1	1	-	-	-	\$58,800
MILLIKEN MILLS COMMUNITY PARK	3	3	3	3	3	3	-	-	-	-	\$58,800
Total (#)	4	4	4	4	4	4	1	-	-	-	
Total (\$000)	\$235.2	\$235.2	\$235.2	\$235.2	\$235.2	\$235.2	\$58.8	\$0.0	\$0.0	\$0.0	

Basketball Courts Park Name	# of Basketball Courts										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Half Court											
ARMADALE C.C.	1	1	1	1	1	1	1	1	1	1	\$34,300
ASHTON MEADOWS PARK	1	1	1	1	1	1	1	1	1	1	\$34,300
BOX GROVE C.C.	1	1	1	1	1	1	1	1	1	1	\$34,300
CENTENNIAL PARK	1	1	1	1	1	1	1	1	1	1	\$34,300
ELSON PARK	1	1	1	1	1	1	1	1	1	1	\$34,300
HENRY WHITE PARK	-	1	1	1	1	1	1	1	1	1	\$34,300
HIGHGATE PARK	-	-	1	1	1	1	-	-	-	-	\$34,300
JOHN CANNING PARK	1	1	1	1	1	1	1	1	1	1	\$34,300
MILLIKEN MILLS COMMUNITY PARK	1	1	1	1	1	1	1	1	1	1	\$34,300
MONARCH CATHEDRALTOWN NORTH PARK	-	-	-	-	-	-	-	-	-	1	\$34,300
RAY STREET PARK	-	-	-	-	-	-	-	1	1	1	\$34,300
SABLEWOOD PARK	1	1	1	1	1	1	1	1	1	1	\$34,300
Full Court											
BAYVIEW LANE PARK	1	1	1	1	1	1	1	1	1	1	\$63,700
BERCZY PARK SOUTH	-	-	-	-	-	1	1	1	1	1	\$63,700
DENISON PARK	1	1	1	1	1	1	1	1	1	1	\$63,700
GORDON STOLLERY PARK	-	-	-	-	-	-	-	-	-	2	\$63,700
HIGHGATE PARK	-	-	-	-	-	-	1	1	1	1	\$63,700
JOHNSVIEW PARK	-	-	-	-	-	-	1	1	1	1	\$63,700
LEGACY PARK	1	1	1	1	1	1	1	1	1	1	\$63,700
LEIGHLAND PARK	1	1	1	1	1	1	1	1	1	1	\$63,700
MILLIKEN MILLS C.C. AND LIBRARY	1	1	1	1	1	1	1	1	1	1	\$63,700
SADDELCREEK PARK	-	-	-	-	-	-	-	1	1	1	\$63,700
WISMER PARK	-	1	1	1	1	1	1	1	1	1	\$63,700
Total (#)	13	15	16	16	16	17	18	20	20	23	
Total (\$000)	\$592.9	\$690.9	\$725.2	\$725.2	\$725.2	\$788.9	\$882.0	\$980.0	\$980.0	\$1,141.7	

APPENDIX B.5
TABLE 1CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
SPORTS FIELDS

Cricket Pitch Park Name	# of Cricket Pitches										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
MCCOWAN RESERVOIR	2	2	2	2	2	2	2	2	2	2	\$650,000
YARL CEDARWOOD PARK	-	1	1	1	1	1	1	1	1	1	\$650,000
Total (#)	2	3	3	3	3	3	3	3	3	3	
Total (\$000)	\$1,300.0	\$1,950.0	\$1,950.0	\$1,950.0	\$1,950.0	\$1,950.0	\$1,950.0	\$1,950.0	\$1,950.0	\$1,950.0	\$1,950.0

Rugby Pitch Park Name	# of Rugby Pitches										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
AUSTIN DRIVE	2	2	2	2	2	2	2	2	2	2	\$310,000
Total (#)	2	2	2	2	2	2	2	2	2	2	
Total (\$000)	\$620.0	\$620.0	\$620.0	\$620.0	\$620.0	\$620.0	\$620.0	\$620.0	\$620.0	\$620.0	\$620.0

Outdoor Pools Park Name	# of Outdoor Pools										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
MORGAN PARK	1	1	1	1	1	1	1	1	1	1	\$2,200,000
ROUGE RIVER C.C. AND POOL	1	1	1	1	1	1	1	1	1	1	\$980,000
Total (#)	2	2	2	2	2	2	2	2	2	2	
Total (\$000)	\$3,180.0	\$3,180.0	\$3,180.0	\$3,180.0	\$3,180.0	\$3,180.0	\$3,180.0	\$3,180.0	\$3,180.0	\$3,180.0	\$3,180.0

Skate Parks Park Name	# of Skate Parks										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Major											
CENTENNIAL	-	1	1	1	1	1	1	1	1	1	\$882,000
BERCZY PARK SOUTH	-	-	-	-	-	-	-	-	-	1	\$882,000
Minor											
GORDON STOLLERY PARK	-	-	-	-	-	-	-	-	-	1	\$196,000
RAY STREET PARK	-	-	-	-	-	-	-	1	1	1	\$196,000
SADDLECREEK PARK	-	-	-	-	-	-	-	1	1	1	\$196,000
Total (#)	-	1	1	1	1	1	1	3	3	5	
Total (\$000)	\$0.0	\$882.0	\$882.0	\$882.0	\$882.0	\$882.0	\$882.0	\$1,274.0	\$1,274.0	\$2,352.0	

APPENDIX B.5
TABLE 1CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
SPORTS FIELDS

Playgrounds - Senior Park Name	# of Senior Playgrounds										UNIT COST (\$/unit)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
ALMA WALKER PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
AMBER GLEN PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
ARMSTRONG PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
AUSTIN DRIVE RUGBY	1	1	1	1	1	1	1	1	1	1	1	\$196,000
AVOCA PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
BAYVIEW LANE PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
BAYVIEW RESERVOIR	1	1	1	1	1	1	1	1	1	1	1	\$196,000
BEAUPRE PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
BERCZY PARK SOUTH	1	1	1	1	1	1	1	1	1	1	1	\$196,000
BIANCA PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
BISHOP'S CROSS PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
CABOTO TRAIL PARKETTE	-	-	1	1	1	1	1	1	1	1	1	\$196,000
CAKEBREAD PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
CEDAR GROVE PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
CENTENNIAL PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
CENTRAL PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
CLARENCE CHANT PARK	-	1	1	1	1	1	1	1	1	1	1	\$196,000
COLEDALE PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
COLTY CORNERS	1	1	1	1	1	1	1	1	1	1	1	\$196,000
COPPARD PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
DRAKE PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
DUNCAN PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
ELSON PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
FEATHERSTONE PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
FINCHAM PARK	2	2	2	2	2	2	2	2	2	2	2	\$196,000
FREDERICK PETERSON PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
GEORGE COUPERWAITE PARK	-	-	-	-	1	1	1	1	1	1	1	\$196,000
GORDON STOLLERY PARK	-	-	-	-	-	-	-	-	-	-	1	\$196,000
GLENCREST PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000

APPENDIX B.5
TABLE 1CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
SPORTS FIELDS

Playgrounds - Senior Cont'd Park Name	# of Senior Playgrounds										UNIT COST (\$/unit)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
GRAND CORNELL PARK	-	-	-	-	1	1	1	1	1	1	1	\$196,000
GRANDVIEW PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
GREEN LANE PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
HIGHGATE PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
HUNTINGTON PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
INNIS MACDONALD PARK	-	1	1	1	1	1	1	1	1	1	1	\$196,000
JAMES EDWARD PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
JAMES THOMAS PARK	-	1	1	1	1	1	1	1	1	1	1	\$196,000
JOHN BAIRD WOODS	-	-	-	-	-	-	-	-	-	-	1	\$196,000
JOHN PAYNE PARK	-	1	1	1	1	1	1	1	1	1	1	\$196,000
JOHNSVIEW PARK	2	2	2	2	2	2	2	2	2	2	2	\$196,000
JOSEPH ELLERBY PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
LEGACY PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
LEITCHCROFT PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
LINCOLN PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
MATTHEW RAE PARK	-	1	1	1	1	1	1	1	1	1	1	\$196,000
MCCOWAN FREEMAN PARKETTE	-	-	-	-	-	-	-	-	1	1	1	\$196,000
MCCREIGHT PARKETTE	-	-	-	1	1	1	1	1	1	1	1	\$196,000
MIDDLETON PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
MILLENNIUM PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
MILLIKEN MILLS COMMUNITY PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
MILTON FIERHELLER PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
MINTLEAF PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
MONARCH PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
NAPIER SIMPSON PARK	-	-	-	-	-	-	-	-	1	1	1	\$196,000
PADDOCK PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
PEACE PARK	-	-	1	1	1	1	1	1	1	1	1	\$196,000
PERSONNA PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000
PIONEER PARK	1	1	1	1	1	1	1	1	1	1	1	\$196,000

APPENDIX B.5
TABLE 1CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
SPORTS FIELDS

Playgrounds - Senior Cont'd Park Name	# of Senior Playgrounds										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
POMONA MILLS PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
QUANTZTOWN PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
RANDALL PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
RAY STREET PARK	-	-	-	-	-	-	-	1	1	1	\$196,000
RAYBECK PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
READ'S CORNER PARK	-	-	-	-	-	-	-	-	-	1	\$196,000
REESOR PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
REEVE PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
ROBERT GRUNDY PARKETTE	1	1	1	1	1	1	1	1	1	1	\$196,000
ROMFIELD PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
ROSS BROWN PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
ROXBURY PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
ROY WALKER PARKETTE	1	1	1	1	1	1	1	1	1	1	\$196,000
SABLEWOOD PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
SINCLAIR HOLDEN PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
SOUTH UNIONVILLE PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
SPARTA WOODS PARK	-	-	-	1	1	1	1	1	1	1	\$196,000
SPRINGDALE PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
STARGELL PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
STONEFARM PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
SUMMERDALE PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
VANHORN PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
VETESE PARK	-	-	-	-	-	-	-	-	-	1	\$196,000
VICTORIA SQUARE PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
WINDFIELDS PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
WINDY HILL PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
Total (#)	68	73	75	77	79	79	79	82	82	86	
Total (\$000)	\$13,328.0	\$14,308.0	\$14,700.0	\$15,092.0	\$15,484.0	\$15,484.0	\$15,484.0	\$16,072.0	\$16,072.0	\$16,856.0	

APPENDIX B.5
TABLE 1CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
SPORTS FIELDS

Playgrounds - Junior Park Name	# of Junior Playgrounds										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
ALMA WALKER PARK	1	1	1	1	1	1	1	1	1	1	\$147,000
APPLE CREEK PARK	1	1	1	1	1	1	-	-	-	-	\$147,000
AVOCA PARK	1	1	1	1	1	1	1	1	1	1	\$147,000
BEAUPRE PARK	1	1	1	1	1	1	1	1	1	1	\$147,000
BERCZY PARK NORTH	1	1	1	1	1	1	1	1	1	1	\$147,000
BERCZY PARK SOUTH	2	2	2	2	2	2	1	1	1	1	\$147,000
BIANCA PARK	1	1	1	1	1	1	1	1	1	1	\$147,000
BILLINSLEY PARK	1	1	1	1	1	1	-	-	-	-	\$147,000
BRIAN CHATLAND PARK	-	-	-	-	-	-	-	-	1	1	\$147,000
BRUCE BOYD PARKETTE	1	1	1	1	1	1	1	1	1	1	\$147,000
BAYVIEW LANE PARK	1	1	1	1	1	1	1	1	1	1	\$147,000
CENTENNIAL PARK	1	1	1	1	1	1	-	-	-	-	\$147,000
CENTRAL PARK	1	1	1	1	1	1	-	-	-	-	\$147,000
CHELSEA PARK	1	1	1	1	1	1	1	1	1	1	\$147,000
CORNELL ROUGE WOODS	-	-	-	-	2	2	2	2	2	2	\$147,000
COUNTRY GLEN PARKETTE	-	-	-	-	1	1	1	1	1	1	\$147,000
DONALD CLARK PARK	-	1	1	1	1	1	1	1	1	1	\$147,000
ELSON PARK	1	1	1	1	1	1	1	1	1	1	\$147,000
FOREST MANOR PARKETTE	1	1	1	1	1	1	1	1	1	1	\$147,000
GEORGE COUPERWAITE PARK	-	-	-	-	1	1	1	1	1	1	\$147,000
GRAND CORNELL PARK	-	-	-	-	1	1	1	1	1	1	\$147,000
GREEN LANE PARK	1	1	1	1	1	1	1	1	1	1	\$147,000
JAMES EDWARD PARK	1	1	1	1	1	1	1	1	1	1	\$147,000
JOHNSVIEW	1	1	1	1	1	1	-	-	-	-	\$147,000
JOHN BAIRD WOODS	-	-	-	-	-	-	-	-	-	1	\$147,000
JOHN DANIELS PARK	1	1	1	1	1	1	1	1	1	1	\$147,000
JOHN MAPES PARKETTE	-	-	-	1	1	1	1	1	1	1	\$147,000
JOSEPH ELLERBY PARK	1	1	1	1	1	1	1	1	1	1	\$147,000

APPENDIX B.5
TABLE 1CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
SPORTS FIELDS

Playgrounds - Junior Cont'd Park Name	# of Junior Playgrounds										UNIT COST (\$/unit)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
LEGACY PARK	1	1	1	1	1	1	1	1	1	1	1	\$147,000
LUNDY PARK	1	1	1	1	1	1	1	1	1	1	1	\$147,000
MARKHAM CIVIC CENTRE	2	2	2	2	2	2	2	2	2	2	-	\$147,000
MCCOWAN FREEMAN PARKETTE	-	-	-	-	-	-	-	-	1	1	1	\$147,000
MORGAN PARK	1	1	1	1	1	1	1	1	1	1	1	\$147,000
NAPIER SIMPSON PARK	-	-	-	-	-	-	-	-	1	1	1	\$147,000
NORDINGLEN PARK	-	-	-	-	-	-	-	1	1	1	1	\$147,000
POMONA MILLS PARK	1	1	1	1	1	1						\$147,000
QUANTZTOWN PARK	2	2	2	2	2	2	1	1	1	1	1	\$147,000
RANDALL PARK	1	1	1	1	1	1						\$147,000
RAYNESWOOD PARK	1	1	1	1	1	1	1	1	1	1	1	\$147,000
READ'S CORNER PARK	-	-	-	-	-	-	-	-	-	-	1	\$147,000
ROBERT GRUNDY PARKETTE	1	1	1	1	1	1	-	-	-	-	-	\$147,000
ROMFIELD PARK	1	1	1	1	1	1	-	-	-	-	-	\$147,000
ROXBURY PARK	1	1	1	1	1	1	2	2	2	2	2	\$147,000
SHANIA JOHNSTON PARKETTE	-	-	-	-	1	1	1	1	1	1	1	\$147,000
SIR ROBERT WATSON	-	-	-	-	-	-	-	-	1	1	1	\$147,000
SPRINGDALE PARK	1	1	1	1	1	1	1	1	1	1	1	\$147,000
SPRUCEWOOD PARK	1	1	1	1	1	1	1	1	1	1	1	\$147,000
TOOGOOD PARK	1	1	1	1	1	1	1	1	1	1	1	\$147,000
UNITY PARK	-	-	-	-	-	1	1	1	1	1	1	\$147,000
VETESE PARK	-	-	-	-	-	-	-	-	-	-	1	\$147,000
WILCLAY PARK	1	1	1	1	1	1	1	1	1	1	1	\$147,000
WILLIAM ROBB PARK	1	1	1	1	1	1	1	1	1	1	1	\$147,000
Total (#)	39	40	40	41	47	48	39	42	43	44		
Total (\$000)	\$5,733.0	\$5,880.0	\$5,880.0	\$6,027.0	\$6,909.0	\$7,056.0	\$5,733.0	\$6,174.0	\$6,321.0	\$6,468.0		

APPENDIX B.5
TABLE 1CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
SPORTS FIELDS

Playgrounds - Senior & Junior Park Name	# of Senior & Junior Playgrounds										UNIT COST (\$/unit)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
ABRAHAM IREDELL PARK	-	1	1	1	1	1	1	1	1	1	1	\$266,000
ALDERGROVE PARK	1	1	1	1	1	1	1	1	1	1	1	\$266,000
ANGUS GLEN VILLAGE GREEN	1	1	1	1	1	1	1	1	1	1	1	\$266,000
APPLE CREEK PARK	1	1	1	1	1	1	1	1	1	1	1	\$266,000
ARMADALE PARK	1	1	1	1	1	1	1	1	1	1	1	\$266,000
ART LATCHAM PARK	-	-	-	-	-	-	-	-	-	-	1	\$266,000
ASHTON MEADOWS PARK	1	1	1	1	1	1	1	1	1	1	1	\$266,000
BAYVIEW GLEN PARK	1	1	1	1	1	1	1	1	1	1	1	\$266,000
BENJAMIN MARR PARK - NORTH	1	1	1	1	1	1	1	1	1	1	1	\$266,000
BENJAMIN MARR PARK - SOUTH	1	1	1	1	1	1	1	1	1	1	1	\$266,000
BERNBRIDGE PARK	-	-	-	-	-	-	-	-	-	-	1	\$266,000
BOX GROVE C.C.	1	1	1	1	1	1	1	1	1	1	1	\$266,000
BRIARWOOD PARK	1	1	1	1	1	1	1	1	1	1	1	\$266,000
CALVERT PARK	1	1	1	1	1	1	1	1	1	1	1	\$266,000
CARLTON PARK	1	1	1	1	1	1	1	1	1	1	1	\$266,000
CENTENNIAL PARK	1	1	1	1	1	1	1	1	1	1	1	\$266,000
COLEDALE PARK	1	1	1	1	1	1	1	1	1	1	1	\$266,000
CORNELL ROUGE WOODS	-	-	-	-	1	1	1	1	1	1	1	\$266,000
DENISON PARK	1	1	1	1	1	1	1	1	1	1	1	\$266,000
E.B.F. ROBINSON PARK	-	-	-	-	1	1	1	1	1	1	1	\$266,000
FRANKLIN CARMICHAEL PARK	1	1	1	1	1	1	1	1	1	1	1	\$266,000
FREDERICK BAGG PARK	1	1	1	1	1	1	1	1	1	1	1	\$266,000
FRISBY PARK	-	-	-	-	-	-	-	-	-	-	1	\$266,000
GORDON STOLLERY PARK	-	-	-	-	-	-	-	-	-	-	1	\$266,000
HAROLD HUMPHREYS PARK	1	1	1	1	1	1	1	1	1	1	1	\$266,000
HARVEST GATE PARK	-	-	-	-	1	1	1	1	1	1	1	\$266,000
HENRY WHITE PARK	-	1	1	1	1	1	1	1	1	1	1	\$266,000
HUGHSON PARK	1	1	1	1	1	1	1	1	1	1	1	\$266,000
JOHN BAIRD WOODS	-	-	-	-	-	-	-	-	-	-	1	\$266,000
JOHN BUTTON PARK	1	1	1	1	1	1	1	1	1	1	1	\$266,000
JOHN CANNING PARK	1	1	1	1	1	1	1	1	1	1	1	\$266,000
JOHN STEGMAN WOODS	1	1	1	1	1	1	1	1	1	1	1	\$266,000

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APPENDIX B.5
TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
SPORTS FIELDS

Playgrounds - Senior & Junior - cont'd Park Name	# of Senior & Junior Playgrounds										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
LEIGHLAND PARK	1	1	1	1	1	1	1	1	1	1	\$266,000
LEITCHCROFT PARK	1	1	1	1	1	1	1	1	1	1	\$266,000
LLOYD ROBERTSON PARK	-	1	1	1	1	1	1	1	1	1	\$266,000
MONARCH CATHEDRALTOWN NORTH PARK	-	-	-	-	-	-	-	-	-	1	\$266,000
MILLIKEN MILLS COMMUNITY PARK	2	2	2	2	2	2	2	2	2	2	\$266,000
MORGAN PARK	1	1	1	1	1	1	1	1	1	1	\$266,000
MOUNT JOY PARK	-	1	1	1	1	1	1	1	1	1	\$266,000
NICHOLAS MILLER PARK	-	-	-	-	-	1	1	1	1	1	\$266,000
PETER BAWDEN PARK	-	1	1	1	1	1	1	1	1	1	\$266,000
PROCTOR PARK	1	1	1	1	1	1	1	1	1	1	\$266,000
RAILSIDE PARK	1	1	1	1	1	1	1	1	1	1	\$266,000
RANDALL PARK	1	1	1	1	1	1	1	1	1	1	\$266,000
RAY STREET PARK	-	-	-	-	-	-	-	1	1	1	\$266,000
RISEBROUGH PARK	1	1	1	1	1	1	1	1	1	1	\$266,000
RIVERWALK PARK	-	-	-	-	1	1	1	1	1	1	\$266,000
ROBERT GRUNDY PARKETTE	1	1	1	1	1	1	1	1	1	1	\$266,000
ROBINSON PARK	1	1	1	1	1	1	1	1	1	1	\$266,000
ROUGEHAVEN PARKETTE	1	1	1	1	1	1	1	1	1	1	\$266,000
SIMONSTON PARK	1	1	1	1	1	1	1	1	1	1	\$266,000
SOUTH UNIONVILLE PARK WEST	-	-	-	-	-	-	-	-	-	1	\$266,000
SPEIGHT PARK	-	-	-	-	1	1	1	1	1	1	\$266,000
SWAN LAKE PARK	1	1	1	1	1	1	1	1	1	1	\$266,000
THE MEWS PARK	1	1	1	1	1	1	1	1	1	1	\$266,000
THOMAS FRISBY WOODLOT	1	1	1	1	1	1	1	1	1	1	\$266,000
TOMLINSON PARK	1	1	1	1	1	1	1	1	1	1	\$266,000
UPPER CORNELL PARK	-	1	1	1	1	1	1	1	1	1	\$266,000
VICTORIA SQUARE PARK	1	1	1	1	1	1	1	1	1	1	\$266,000
WILCLAY PARK	1	1	1	1	1	1	1	1	1	1	\$266,000
WISMER PARK	-	2	2	2	2	2	2	2	2	2	\$266,000
YARL CEDARWOOD PARK	-	2	2	2	2	2	2	2	2	2	\$266,000
Total (#)	41	51	51	51	56	57	57	58	58	65	
Total (\$000)	\$10,906.0	\$13,566.0	\$13,566.0	\$13,566.0	\$14,896.0	\$15,162.0	\$15,162.0	\$15,428.0	\$15,428.0	\$17,290.0	

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
SPORTS FIELDS

Waterplay - Minor Park Name	# of Minor Waterplay Parks										UNIT COST (\$/unit)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
BAYVIEW LANE PARK	1	1	1	1	1	1	1	1	1	1	1	\$146,020
BENJAMIN MARR PARK - NORTH	1	1	1	1	1	1	1	1	1	1	1	\$146,020
JOHN PAYNE PARK	-	1	1	1	1	1	1	1	1	1	1	\$146,020
THOMAS MCQUAY PARK	-	-	-	-	-	1	1	1	1	1	1	\$146,020
SOUTH UNIONVILLE PARK	1	1	1	1	1	1	1	1	1	1	1	\$146,020
SOUTH UNIONVILLE PARK WEST	-	-	-	-	-	-	-	-	-	-	1	\$146,020
Total (#)	3	4	4	4	4	5	5	5	5	5	6	
Total (\$000)	\$438.1	\$584.1	\$584.1	\$584.1	\$584.1	\$730.1	\$730.1	\$730.1	\$730.1	\$730.1	\$876.1	

Waterplay - Major Park Name	# of Major Waterplay Parks										UNIT COST (\$/unit)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
ASHTON MEADOWS PARK	1	1	1	1	1	1	1	1	1	1	1	\$392,000
BEAUPRE PARK	1	1	1	1	1	1	1	1	1	1	1	\$392,000
BERCZY PARK NORTH	-	-	-	-	-	-	-	1	1	1	1	\$392,000
GORDON STOLLERY PARK	-	-	-	-	-	-	-	-	-	-	1	\$392,000
HENRY WHITE PARK	-	1	1	1	1	1	1	1	1	1	1	\$392,000
JAMES EDWARD PARK	1	1	1	1	1	1	1	1	1	1	1	\$392,000
MILLENNIUM PARK	1	1	1	1	1	1	1	1	1	1	1	\$392,000
MILLIKEN MILLS COMMUNITY PARK	1	1	1	1	1	1	1	1	1	1	1	\$392,000
MONARCH CATHEDRALTOWN NORTH PARK	-	-	-	-	-	-	-	-	-	-	1	\$392,000
RAY STREET PARK	-	-	-	-	-	-	-	1	1	1	1	\$392,000
ROSEBERRY PARK	-	-	-	-	-	-	-	1	1	1	1	\$392,000
SADDLECREEK PARK	-	-	-	-	-	-	-	1	1	1	1	\$392,000
SIMONSTON PARK	1	1	1	1	1	1	1	1	1	1	1	\$392,000
SWAN LAKE PARK	1	1	1	1	1	1	1	1	1	1	1	\$392,000
TOMLINSON PARK	1	1	1	1	1	1	1	1	1	1	1	\$392,000
UPPER CORNELL PARK	-	1	1	1	1	1	1	1	1	1	1	\$392,000
VETESE PARK											1	\$392,000
VICTORIA SQUARE PARK	-	-	-	-	-	-	1	1	1	1	1	\$392,000
WISMER PARK	-	1	1	1	1	1	1	1	1	1	1	\$392,000
YARL CEDARWOOD PARK	-	1	1	1	1	1	1	1	1	1	1	\$392,000
Total (#)	8	12	12	12	12	12	13	17	17	17	20	
Total (\$000)	\$3,136.0	\$4,704.0	\$4,704.0	\$4,704.0	\$4,704.0	\$4,704.0	\$5,096.0	\$6,664.0	\$6,664.0	\$6,664.0	\$7,840.0	

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
SPORTS FIELDS

Rock Climbing Wall Park Name	# of Walls										UNIT COST (\$/unit)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
RAY STREET PARK	-	-	-	-	-	-	-	-	1	1	1	\$31,360
Total (#)	-	-	-	-	-	-	-	-	1	1	1	
Total (\$000)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$31.4	\$31.4	\$31.4	

Exercise Station Park Name	# of Stations										UNIT COST (\$/unit)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
ARMADALE PARK	-	-	-	-	-	-	-	-	-	1	1	\$73,500
ART LATCHAM PARK	-	-	-	-	-	-	-	-	-	-	2	\$73,500
BERCZY PARK SOUTH	-	-	-	-	-	1	1	1	1	1	1	\$73,500
BISHOPS CROSS PARK	-	-	-	-	-	-	-	-	-	6	6	\$73,500
FRISBY PARK	-	-	-	-	-	-	-	-	-	-	1	\$73,500
HENRY WHITE PARK	-	-	-	-	-	-	-	-	-	1	1	\$73,500
MONARCH CATHEDRALTOWN NORTH PARK	-	-	-	-	-	-	-	-	-	-	2	\$73,500
RAY STREET PARK	-	-	-	-	-	-	-	2	2	2	2	\$73,500
ROSEBERRY PARK	-	-	-	-	-	-	-	2	2	2	2	\$73,500
SADDLECREEK PARK	-	-	-	-	-	-	-	1	1	1	1	\$73,500
SOUTH UNIONVILLE PARK WEST	-	-	-	-	-	-	-	-	-	-	1	\$73,500
Total (#)	-	-	-	-	-	1	1	6	14	20		
Total (\$000)	-	\$0.0	\$0.0	\$0.0	\$0.0	\$73.5	\$73.5	\$441.0	\$1,029.0	\$1,470.0		

Skating Rinks Park Name	# of Facilities										UNIT COST (\$/unit)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
MARKHAM CIVIC CENTRE	-	-	1	1	1	1	1	1	1	1	1	\$4,800,000
Total (#)	-	-	1	1	1	1	1	1	1	1	1	
Total (\$000)	\$0.0	\$0.0	\$4,800.0	\$4,800.0	\$4,800.0	\$4,800.0	\$4,800.0	\$4,800.0	\$4,800.0	\$4,800.0	\$4,800.0	

Golf Course Park Name	# of Facilities										UNIT COST (\$/unit)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
MARKHAM GREEN GOLF CLUB	1	1	1	1	1	1	1	1	1	1	1	\$5,900,000
Total (#)	1	1	1	1	1	1	1	1	1	1	1	
Total (\$000)	\$5,900.0	\$5,900.0	\$5,900.0	\$5,900.0	\$5,900.0	\$5,900.0	\$5,900.0	\$5,900.0	\$5,900.0	\$5,900.0	\$5,900.0	

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TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
PARKS BUILDINGS

Maintenance and Storage Buildings Park Name	# of Square Feet										UNIT COST (\$/sq. ft.)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
14th Avenue Central Parks Workshop	7,259	7,259	7,259	7,259	7,259	7,259	7,259	7,259	7,259	7,259	\$300
428 John Street - West Parks Workshop	2,719	2,719	2,719	2,719	2,719	2,719	2,719	2,719	2,719	2,719	\$300
Answell Park Well Shed	80	80	80	80	80	80	80	80	80	80	\$35
Bishop Cross	600	600	600	600	600	600	600	600	600	600	\$300
Centennial Park Storage Bldg	830	830	830	830	830	830	830	830	830	830	\$300
Civic Center Skating Rink Bldg	-	-	1,820	1,820	1,820	1,820	1,820	1,820	1,820	1,820	\$300
Crosby Park Food Booth	1,345	1,345	1,345	1,345	1,345	1,345	1,345	1,345	1,345	1,345	\$300
Crosby Park Storage Shed	100	100	100	100	100	100	100	100	100	100	\$35
Greenhouses 4415 14th Avenue	12,600	12,600	12,600	12,600	12,600	12,600	12,600	12,600	12,600	12,600	\$300
Main St Markham Storage Building	-	-	-	-	300	300	300	300	300	300	\$300
Miller Works Yard -Urban Forest	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	\$300
Milliken Mills Park Concession	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	\$300
Milne Park Concession	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	\$300
Milne Park Storage Building	100	100	100	100	100	100	100	100	100	100	\$300
Milne Park Ticket Booth	25	25	25	25	25	25	25	25	25	25	\$300
Milne Park Lean Tos	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	\$35
Morgan Pool Changerooms	856	856	856	856	856	856	856	856	856	856	\$300
Morgan Pool Filter Room	315	315	315	315	315	315	315	315	315	315	\$300
Morgan Pool Lifeguard Room	209	209	209	209	209	209	209	209	209	209	\$300
Rouge River Brown Building	1,750	1,750	1,750	1,750	1,750	1,750	1,750	1,750	1,750	1,750	\$300
Rouge River Green Building	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	\$300
Rouge River Pesticide Storage	80	80	80	80	80	80	80	80	80	80	\$300
Rouge River Pump House	300	300	300	300	300	300	300	300	300	300	\$300
Paint Shop, 440 John Street	580	580	580	580	580	580	580	-	-	-	\$300
Princess Street	960	960	960	960	960	960	960	960	960	960	\$300
Springdale Park Storage Shed	200	200	200	200	200	200	200	200	200	-	\$35
Storage Building 14th Avenue	1,440	1,440	1,440	1,440	1,440	1,440	1,440	1,440	1,440	1,440	\$300
Storage Shed, 440 John Street	1,440	1,440	1,440	1,440	1,440	1,440	1,440	-	-	-	\$300
The Arboretum and Heritage Orchard Maintenance building	-	-	-	-	128	128	128	128	128	128	\$300
Tower Storage, 440 John Street	13,270	13,270	13,270	13,270	13,270	13,270	13,270	-	-	-	\$300
Unionville Bandstand	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	\$300
West Parks Quonset Hut	2,002	2,002	2,002	2,002	2,002	2,002	2,002	2,002	2,002	2,002	\$35
Total (sq.ft.)	59,896	59,896	61,716	61,716	62,144	62,144	62,144	46,854	46,854	46,654	
Total (\$000)	\$16,835.0	\$16,835.0	\$17,381.0	\$17,381.0	\$17,509.4	\$17,509.4	\$17,509.4	\$12,922.4	\$12,922.4	\$12,915.3	

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TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
PARKS BUILDINGS

Tennis Clubhouses Park Name	# of Square Feet										UNIT COST (\$/sq. ft.)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
Armada Park Tennis Clubhouse	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	\$373
Box Grove Park Tennis Clubhouse	60	60	60	60	60	60	60	60	60	60	60	\$373
Carlton Park Tennis Clubhouse	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	\$373
Pomona Mills Park Tennis Club	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	\$373
Reesor Park Tennis Clubhouse	624	624	624	624	624	624	624	624	624	624	624	\$373
Simonston Park Tennis Clubhouse	700	700	700	700	700	700	700	700	700	700	700	\$373
Total (sq.ft.)	5,534	5,534	5,534	5,534	5,534	5,534	5,534	5,534	5,534	5,534	5,534	
Total (\$000)	\$2,064.2	\$2,064.2	\$2,064.2	\$2,064.2	\$2,064.2	\$2,064.2	\$2,064.2	\$2,064.2	\$2,064.2	\$2,064.2	\$2,064.2	

Buildings with Washrooms Park Name	# of Square Feet										UNIT COST (\$/sq. ft.)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
Berczy Park North	-	-	-	-	-	-	1,246	1,246	1,246	1,246	1,246	\$300
Berczy Park South	-	-	-	-	-	-	2,098	2,098	2,098	2,098	2,098	\$300
Calvert Park	1,299	1,299	1,299	1,299	1,299	1,299	1,299	1,299	1,299	1,299	1,299	\$300
Gordon Stollery Park											28	\$300
Main St Markham	-	-	-	-	450	450	450	450	450	450	450	\$300
Milliken Mills Community Park	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827	\$300
Millennium Park	340	340	340	340	340	340	340	340	340	340	340	\$300
Milne Dam Conservation Park	1,048	1,048	1,048	1,048	1,048	1,048	1,048	1,048	1,048	1,048	1,048	\$300
Mintleaf Park	93	93	93	93	93	93	93	93	93	93	93	\$300
Pomona Mills Park	987	987	987	987	987	987	987	987	987	987	987	\$300
Risebrough Park	75	75	75	75	75	75	75	75	75	75	75	\$300
St Robert Chs	-	-	-	-	2,848	2,848	2,848	2,848	2,848	2,848	2,848	\$300
Toogood Pond	881	881	881	881	881	881	881	881	881	881	881	\$300
Victoria Square Park	607	607	607	607	607	607	607	607	607	607	607	\$300
Yarl Cedarwood Park	-	-	-	-	-	-	-	-	693	693	693	\$300
Total (sq.ft.)	7,156	7,156	7,156	7,156	10,455	10,455	13,799	13,799	14,492	14,520		
Total (\$000)	\$2,146.90	\$2,146.90	\$2,146.90	\$2,146.90	\$3,136.39	\$3,136.39	\$4,139.61	\$4,139.61	\$4,347.46	\$4,355.89		

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TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
PARKS BUILDINGS

Land for Outdoor Recreation Buildings Park Name	# of Hectares										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
14th Avenue Central Parks Workshop	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	\$9,489,000
428 John Street - West Parks Workshop	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	\$9,489,000
440 John Street	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	\$9,489,000
Bishops Cross	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	\$9,489,000
Centennial	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	\$9,489,000
Civic Center Park	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	\$9,489,000
Milliken Mills Park	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	\$9,489,000
Milne Dam	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	\$9,489,000
Princess Street	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	\$9,489,000
Toogood Pavilion	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	\$9,489,000
Total (ha)	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	
Total (\$000)	\$34,834.1	\$34,834.1	\$34,834.1	\$34,834.1	\$34,834.1	\$34,834.1	\$34,834.1	\$34,834.1	\$34,834.1	\$34,834.1	

Clock Towers Park Name	# of Clock Towers										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
BERCZY SQUARE	-	-	-	-	-	-	-	-	-	1	\$352,800
GRAND CORNELL PARK	-	-	-	-	1	1	1	1	1	1	\$352,800
Total (#)	-	-	-	-	1	1	1	1	1	2	
Total (\$000)	\$0.00	\$0.00	\$0.00	\$0.00	\$352.80	\$352.80	\$352.80	\$352.80	\$352.80	\$705.60	

Fountains Park Name	# of Fountains										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
BENJAMIN THORNE PARK	-	-	-	-	-	-	-	1	1	1	\$421,400
JOHN DANIELS PARK	1	1	1	1	1	1	1	1	1	1	\$421,400
Total (#)	1	1	1	1	1	1	1	2	2	2	
Total (\$000)	\$421.40	\$421.40	\$421.40	\$421.40	\$421.40	\$421.40	\$421.40	\$842.80	\$842.80	\$842.80	

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
PARKS BUILDINGS

Shelters Park Name	# of Shelters										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Minor Trellis											
BENJAMIN MARR PARK SOUTH	1	1	1	1	1	1	1	1	1	1	\$85,000
BERCZY PARK NORTH	-	-	-	-	-	-	-	1	1	1	\$85,000
GEORGE COUTHUP PARK	-	-	-	-	-	-	2	2	2	2	\$85,000
JOHN STEGMAN WOODS	1	1	1	1	1	1	1	1	1	1	\$85,000
LEIGHLAND PARK	1	1	1	1	1	1	1	1	1	1	\$85,000
MILLENNIUM PARK	1	1	1	1	1	1	1	1	1	1	\$85,000
NORDINGLEN PARK							2	2	2	2	\$85,000
PEACE PARK	-	-	1	1	1	1	1	1	1	1	\$85,000
SINCLAIR HOLDEN PARK	1	1	1	1	1	1	1	1	1	1	\$85,000
SIR ROBERT WATSON								1	1	1	\$85,000
WISMER PARK	-	9	9	9	9	9	9	9	9	9	\$85,000
Major Trellis											
BEAUPRE PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
BERCZY PARK NORTH	-	-	-	-	-	-	-	2	2	2	\$196,000
BERCZY PARK SOUTH	2	2	2	2	2	2	2	2	2	2	\$196,000
BRIAN CHATLAND PARK	-	-	-	-	-	-	-	-	1	1	\$196,000
CABOTO TRAIL PARKETTE	-	-	1	1	1	1	1	1	1	1	\$196,000
CHELSEA PARK	2	2	2	2	2	2	2	2	2	2	\$196,000
CLARENCE CHANT PARK	-	1	1	1	1	1	1	1	1	1	\$196,000
COLEDALE PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
CORNELL COMMUNITY CENTRE	-	-	-	-	-	-	1	1	1	1	\$196,000
CORNELL ROUGE WOODS	-	-	-	-	1	1	1	1	1	1	\$196,000
GREENSBOROUGH TOWN CENTRE	2	2	2	2	2	2	2	2	2	2	\$196,000
GRAND CORNELL PARK	-	-	-	-	1	1	1	1	1	1	\$196,000
JOHN DANIELS PARK	2	2	2	2	2	2	2	2	2	2	\$196,000
MCCOWAN FREEMAN PARKETTE	-	-	-	-	-	-	-	1	1	1	\$196,000
MILLENNIUM PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
NAPIER SIMPSON PARK	-	-	-	-	-	-	-	1	1	1	\$196,000
NICHOLAS MILLER PARK	-	-	-	-	-	1	1	1	1	1	\$196,000
NORDINGLEN PARK	-	-	-	-	-	-	1	1	1	1	\$196,000
PETER BAWDEN PARK	-	1	1	1	1	1	1	1	1	1	\$196,000

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
PARKS BUILDINGS

Shelters Cont'd Park Name	# of Shelters										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
RAY STREET PARK	-	-	-	-	-	-	-	1	1	1	\$196,000
ROSEBERRY PARK	-	-	-	-	-	-	-	1	1	1	\$196,000
ROUGEHAVEN PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
ROXBURY PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
SIMONSTON PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
SOUTH UNIONVILLE PARK WEST	-	-	-	-	-	-	-	-	-	1	\$196,000
SPEIGHT PARK	-	-	-	-	1	1	1	1	1	1	\$196,000
THE VILLAGE GREEN	1	1	1	1	1	1	1	1	1	1	\$196,000
THOMAS MCQUAY PARK	-	-	-	-	-	2	2	2	2	2	\$196,000
UNITY PARK	-	-	-	-	-	1	1	1	1	1	\$196,000
WILLIAMSTOWN PARK	1	1	1	1	1	1	1	1	1	1	\$196,000
WILMOT PARKETTE	-	1	1	1	1	1	1	1	1	1	\$196,000
WISMER PARK	-	2	2	2	2	2	2	2	2	2	\$196,000
YARL CEDARWOOD PARK	-	2	2	2	2	2	2	2	2	2	\$196,000
Minor Gazebo											
ALFRED PATTERSON POND	1	1	1	1	1	1	1	1	1	1	\$64,000
BEAUPRE PARK	1	1	1	1	1	1	1	1	1	1	\$64,000
BENJAMIN MARR PARK NORTH	1	1	1	1	1	1	1	1	1	1	\$64,000
BERNBRIDGE PARK	-	-	-	-	-	-	-	-	-	1	\$64,000
BLAKE LAZENBY PARK	1	1	1	1	1	1	1	1	1	1	\$64,000
CHURCH STREET PARKETTE	1	1	1	1	1	1	1	1	1	1	\$64,000
DENISON PARK	1	1	1	1	1	1	1	1	1	1	\$64,000
GEORGE COUPERWAITE PARK	-	-	-	-	-	-	1	1	1	1	\$64,000
GEORGE COUTHUP PARK	-	-	-	-	-	-	3	3	3	3	\$64,000
GORDON STOLLERY PARK	-	-	-	-	-	-	-	-	-	2	\$64,000
HAROLD HUMPHREYS PARK	1	1	1	1	1	1	1	1	1	1	\$64,000
HENRY WHITE PARK	1	1	1	1	1	1	1	1	1	1	\$64,000
INNIS MACDONALD PARK	-	-	1	1	1	1	1	1	1	1	\$64,000
JAMES EDWARD PARK	1	1	1	1	1	1	1	1	1	1	\$64,000
JOHN BAIRD WOODS	-	-	-	-	-	-	-	-	-	1	\$64,000
JOHN MAPES PARKETTE	-	-	-	1	1	1	1	1	1	1	\$64,000
JOSEPH ELLERBY PARK	1	1	1	1	1	1	1	1	1	1	\$64,000
LEITCHCROFT PARK	1	1	1	1	1	1	1	1	1	1	\$64,000
MONARCH PARK	1	1	1	1	1	1	1	1	1	1	\$64,000
PEACE PARK	-	-	1	1	1	1	1	1	1	1	\$64,000
READ'S CORNER PARK										1	\$64,000

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
PARKS BUILDINGS

Shelters Cont'd Park Name	# of Shelters										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
ROUGEHAVEN PARK	1	1	1	1	1	1	1	1	1	1	\$64,000
ROXBURY PARK	1	1	1	1	1	1	1	1	1	1	\$64,000
SOUTH UNIONVILLE PARK	1	1	1	1	1	1	1	1	1	1	\$64,000
UPPER CORNELL PARK	-	1	1	1	1	1	1	1	1	1	\$64,000
VICTORIA SQUARE PARK	-	-	-	-	-	-	3	3	3	3	\$64,000
Major Gazebo											
ART LATCHAM PARK	-	-	-	-	-	-	-	-	-	1	\$245,000
BERCZY PARK SOUTH	1	1	1	1	1	1	1	1	1	1	\$245,000
FREDERICK BAGG PARK	1	1	1	1	1	1	1	1	1	1	\$245,000
FRISBY PARK	-	-	-	-	-	-	-	-	-	1	\$245,000
GORDON STOLLERY PARK	-	-	-	-	-	-	-	-	-	1	\$245,000
GREENSBOROUGH TOWN CENTRE	1	1	1	1	1	1	1	1	1	1	\$245,000
HUNTINGTON PARK	1	1	1	1	1	1	1	1	1	1	\$245,000
JOHN DANIELS PARK	1	1	1	1	1	1	1	1	1	1	\$245,000
JOHN PAYNE PARK	-	-	1	1	1	1	1	1	1	1	\$245,000
LEGACY PARK	1	1	1	1	1	1	1	1	1	1	\$245,000
MILLIKEN MILLS PARK	1	1	1	1	1	1	1	1	1	1	\$245,000
MONARCH CATHEDRAL TOWN NORTH PARK	-	-	-	-	-	-	-	-	-	1	\$245,000
MOUNT JOY PARK	-	1	1	1	1	1	1	1	1	1	\$245,000
RAY STREET PARK	-	-	-	-	-	-	-	1	1	1	\$245,000
RISEBROUGH PARK	1	1	1	1	1	1	1	1	1	1	\$245,000
RIVERWALK PARK	-	-	-	-	1	1	1	1	1	1	\$245,000
SADDLECREEK PARK	-	-	-	-	-	-	-	2	2	2	\$245,000
SOUTH UNIONVILLE PARK WEST	-	-	-	-	-	-	-	-	-	1	\$245,000
SWAN LAKE PARK	1	1	1	1	1	1	1	1	1	1	\$245,000
THE ARBORETUM AND HERITAGE ORCHARD	-	-	-	-	1	1	1	1	1	1	\$245,000
Park Pavillion											
BERCZY PARK NORTH	-	-	-	-	-	-	-	1	1	1	\$245,000
HIGHGATE PARK	-	-	-	-	-	-	1	1	1	1	\$245,000
MILNE DAM CONSERVATION PARK	1	1	1	1	1	1	1	1	1	1	\$245,000
SADDLECREEK PARK	-	-	-	-	-	-	-	1	1	1	\$245,000
SIMONSTON PARK	1	1	1	1	1	1	1	1	1	1	\$245,000
Total (#)	47	65	70	71	76	80	94	107	108	119	
Total (\$000)	\$7,216.0	\$9,662.0	\$10,316.0	\$10,380.0	\$11,458.0	\$12,242.0	\$13,667.0	\$16,238.0	\$16,434.0	\$18,175.0	

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
PARKS BUILDINGS

Urban Park Features Park Name	Square or Linear Meters										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
HARD SURFACES - PLAZA (SQ.M.)											
Concrete											
ARTHUR LISMER PARK	-	-	-	-	-	-	-	172	172	172	\$117
BENJAMIN THRONE PARK	-	-	-	-	-	-	-	365	365	365	\$117
GEORGE COUTHUP PARK	-	-	-	-	-	-	1,007	1,007	1,007	1,007	\$117
MONARCH CATHEDRALTOWN NORTH PARK										103	\$117
SIR ROBERT WATSON PARK	-	-	-	-	-	-	-	150	150	150	\$117
THOMAS MCQUAY PARK	-	-	-	-	-	-	-	1,209	1,209	1,209	\$117
WISMER PARK	-	887	887	887	887	887	887	887	887	887	\$117
Unit Paving											
ARTHUR LISMER PARK	-	-	-	-	-	-	-	205	205	205	\$267
BENJAMIN THRONE PARK	-	-	-	-	-	-	-	432	432	432	\$267
GORDON STOLLERY PARK	-	-	-	-	-	-	-	-	-	20	\$267
SIR ROBERT WATSON PARK	-	-	-	-	-	-	-	188	188	188	\$267
WISMER PARK	-	357	357	357	357	357	357	357	357	357	\$267
Brick											
ARTHUR LISMER PARK	-	-	-	-	-	-	-	212	212	212	\$349
Seat Walls and Feature Walls (l.m)											
GEORGE COUTHUP PARK	-	-	-	-	-	-	46	46	46	46	\$958
WISMER PARK	-	-	-	-	-	-	-	5	5	5	\$958

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TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
PARKS BUILDINGS

Urban Park Features - Cont'd Park Name	Square or Linear Meters										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
RETAINING WALLS											
Concrete (sq.m.)											
ARTHUR LISMER PARK	-	-	-	-	-	-	-	28	28	28	\$1,278
GORDON STOLLERY PARK	-	-	-	-	-	-	-	-	-	91	\$1,278
THOMAS MCQUAY PARK	-	-	-	-	-	-	-	88	88	88	\$1,278
VINEGAR HILL PARKETTE	-	-	-	-	-	-	-	-	-	58	\$1,278
Armourstone (l.m.)											
GORDON STOLLERY PARK	-	-	-	-	-	-	-	-	-	35	\$524
SADDELCREEK PARK	-	-	-	-	-	-	-	12	12	12	\$524
VICTORIA SQUARE PARK	-	-	-	-	-	-	7	7	7	7	\$524
Limestone (l.m.)											
GEORGE COUTHUP PARK	-	-	-	-	-	-	9	9	9	9	\$406
Concrete Stairs and Ramps (l.m.)											
ARTHUR LISMER PARK	-	-	-	-	-	-	-	32	32	32	\$984
BENJAMIN THRONE PARK	-	-	-	-	-	-	-	-	73	73	\$984
BERCZY SQUARE	-	-	-	-	-	-	-	-	-	5	\$984
GORDON STOLLERY PARK	-	-	-	-	-	-	-	-	-	25	\$984
THOMAS MCQUAY PARK	-	-	-	-	-	-	-	27	27	27	\$984
Total (#)	-	1,244	1,244	1,244	1,244	1,244	2,313	5,438	5,512	5,849	
Total (\$000)	\$0.0	\$199.1	\$199.1	\$199.1	\$199.1	\$199.1	\$368.4	\$1,102.0	\$1,174.0	\$1,429.8	

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 TABLE 1

CITY OF MARKHAM
 INVENTORY OF CAPITAL ASSETS
 PARK DEVELOPMENT & FACILITIES
 DEVELOPED PARKLAND

Developed Parkland Park Name	# of Hectares of Developed Area										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Traditional Developed Parkland	619.18	640.39	654.66	642.25	651.65	651.78	662.65	674.97	678.97	687.65	\$350,010
Urban Developed Parkland	-	-	-	-	-	-	1.00	1.52	1.52	1.52	\$1,261,578
Total (ha)	619.18	640.39	654.66	642.25	651.65	651.78	663.65	676.49	680.49	689.17	
Total (\$000)	\$216,719.0	\$224,142.8	\$229,136.4	\$224,792.2	\$228,082.2	\$228,128.9	\$233,194.0	\$238,167.6	\$239,566.6	\$242,603.5	

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TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
BRIDGES

Wooden Bridges Park Name	# of Linear Feet										UNIT COST (\$/ft)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Armadale Park 3 Structure(s)	60	60	60	60	60	60	60	60	60	60	\$588
Bruce's Creek 1 Structure(s)	-	-	-	-	-	-	-	-	385	385	\$588
Campbell Park 2 Structure(s)	-	-	-	-	-	-	-	-	163	163	\$588
Coppard Park 1 Structure(s)	8	8	8	8	8	8	8	8	8	8	\$588
Denison Park 1 Structure(s)	8	8	8	8	8	8	8	8	8	8	\$588
Edward T Crowle PES 1 Structure(s)	45	45	45	45	45	45	45	45	45	45	\$588
Featherstone Park 1 Structure(s)	8	8	8	8	8	8	8	8	8	8	\$588
Grand Cornell Park 1 Structure(s)	8	8	8	8	8	8	8	8	8	8	\$588
James Edward Park 1 Structure(s)	8	8	8	8	8	8	8	8	8	8	\$588
John Button Waterway South 2 Structure(s)	22	22	22	22	22	22	-	-	-	-	\$588
Middlefield Corners 1 Structure(s)	16	16	16	16	16	16	16	16	16	16	\$588
Milne Dam Conservation Park 1 Structure(s)	44	44	44	44	44	44	44	44	44	44	\$588
Pomona Mills Park 1 Structure(s)	18	18	18	18	18	18	18	18	18	18	\$588
Quantztown Park 1 Structure(s)	25	25	25	25	25	25	25	25	25	25	\$588
Randall Park 2 Structure(s)	16	16	16	16	16	16	16	16	16	16	\$588
Robinson Park 1 Structure(s)	22	22	22	22	22	22	22	22	22	22	\$588
Springdale Park 2 Structure(s)	91	91	91	91	91	91	91	91	91	91	\$588
Swan Lake Park 1 Structure(s)	26	26	26	26	26	26	26	26	26	26	\$588
Tannery Pond 1 Boardwalk	416	416	416	416	416	416	416	416	416	416	\$588
Toogood Pond (Millstone Crt) 1 Structure(s)	224	224	224	224	224	224	224	224	224	224	\$588
Toogood Pond (Normandale Rd) 2 Structure(s)	225	225	225	225	225	225	225	225	225	225	\$588
Toogood Pond 1 Fishing Platform	55	55	55	55	55	55	55	55	55	55	\$588
Toogood Pond (Pennock Cres) 4 Structure(s)	395	395	395	395	395	395	395	395	395	395	\$588
Total (sq.ft.)	1,740	1,740	1,740	1,740	1,740	1,740	1,718	1,718	2,266	2,266	
Total (\$000)	\$1,023.1	\$1,023.1	\$1,023.1	\$1,023.1	\$1,023.1	\$1,023.1	\$1,010.2	\$1,010.2	\$1,332.4	\$1,332.4	

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TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
BRIDGES

Steel Bridges Park Name	# of Linear Feet										UNIT COST (\$/ft)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
14th Ave MUP 1 Structure(s)	-	-	-	-	-	-	-	-	-	-	150	\$2,450
Apple Creek North 1 Structure(s)	42	42	42	42	42	42	42	42	42	42	42	\$2,450
Austin Drive Park 3 structure(s)	203	203	203	203	203	203	203	203	203	203	203	\$2,450
Berczy Pond 1 Structure(s)	120	120	120	120	120	120	120	120	120	120	120	\$2,450
Boswell Valley South 1 Structure(s)	55	55	55	55	55	55	55	55	55	55	55	\$2,450
Bruce's Creek 2 Structure(s)	166	166	166	166	166	166	166	166	166	166	166	\$2,450
Campbell Park 5 Structure(s)	60	60	60	60	137	137	137	137	337	337	\$2,450	
Cedar Valley 1 structure(s)	151	151	151	151	151	151	151	151	151	151	\$2,450	
Cochrane Pond	60	60	60	60	60	60	60	60	60	60	\$2,450	
Denby Valley 2 structure(s)	163	163	163	163	163	163	163	163	163	163	\$2,450	
Doreen Quirk Park 1 structure(s)	62	62	62	62	62	62	62	62	62	62	\$2,450	
Fairtree Pond 1 structure(s)	138	138	138	138	138	138	138	138	138	138	\$2,450	
George Couperwaite Park 1 structure(s)	-	-	-	-	-	60	60	60	60	60	\$2,450	
German Mills Settler's Park 2 structure(s)	84	84	84	84	84	84	84	84	84	84	\$2,450	
Heisey Trail 2 structure(s)	40	40	40	40	40	40	40	40	40	40	\$2,450	
Huntington Park 1 structure(s)	32	32	32	32	32	32	32	32	32	32	\$2,450	
John Button Waterway North 1 Structure(s)	44	44	44	44	44	44	44	44	44	44	\$2,450	
John Button Waterway South 2 Structure(s)	-	-	-	-	-	-	104	104	104	104	\$2,450	
John Canning Park 1 structure(s)	18	18	18	18	18	18	18	18	18	18	\$2,450	
Mildred Temple Park 1 structure(s)	31	31	31	31	31	31	31	31	31	31	\$2,450	
Milne Dam Conservation Park 2 Structure(s)	54	54	54	54	54	54	54	54	68	68	\$2,450	
Milne Floating (Plastic) 1 structure(s)	56	56	56	56	56	56	56	56	56	56	\$2,450	
Mount Joy C.C. and Park 1 structure(s)	-	-	-	-	81	81	81	81	81	81	\$2,450	
Personna Park 1 structure(s)	30	30	30	30	30	30	30	30	30	30	\$2,450	
Pomona Mills Park 3 structure(s)	203	203	203	203	203	203	203	203	203	203	\$2,450	

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TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
BRIDGES

Steel Bridges - Cont'd Park Name	# of Linear Feet										UNIT COST (\$/ft)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Royal Orchard Park 1 structure(s)	-	-	-	-	-	54	54	54	54	54	\$2,450
Smoothwater Valley North 1 structure(s)	-	-	-	57	57	57	57	57	57	57	\$2,450
South Unionville Pond 1 structure(s)	57	57	57	57	57	57	57	57	57	57	\$2,450
Summerdale Park 1 structure(s)	25	25	25	25	25	25	25	25	25	25	\$2,450
Swan Lake Park 1 structure(s)	41	41	41	41	41	41	41	41	41	41	\$2,450
Tannery Pond 1 structure(s)	-	-	-	-	-	-	-	60	60	60	\$2,450
Toogood Pond (Aitken Crt) 3 structure(s)	150	150	150	150	150	150	150	150	150	150	\$2,450
Toogood Pond (Millstone Crt) 1 Structure(s)	55	55	55	55	55	55	55	55	55	55	\$2,450
Toogood Pond (Normandale Rd) 4 structure(s)	206	206	206	206	206	206	206	206	206	206	\$2,450
Toogood Pond Dam 1 structure(s)	356	356	356	356	356	356	356	356	356	356	\$2,450
Unionville H.S. 1 structure(s)	46	46	46	46	46	46	46	46	46	46	\$2,450
Unionville Library 2 structure(s)	56	56	56	56	56	56	56	67	67	67	\$2,450
Viva Woodlot 1 structure(s)	160	160	160	160	160	160	160	160	160	160	\$2,450
Walden 3 structure(s)	206	206	206	206	206	206	206	206	206	206	\$2,450
Wycliffe 1 structure(s)	60	60	60	60	60	60	60	60	60	60	\$2,450
Total (#)	3,230	3,230	3,230	3,287	3,445	3,559	3,663	3,734	3,948	4,098	
Total (\$000)	\$7,913.5	\$7,913.5	\$7,913.5	\$8,053.2	\$8,440.3	\$8,719.6	\$8,974.4	\$9,148.3	\$9,672.6	\$10,040.1	

Pathways Type	# of Linear Metres										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Paved Surface	36,224	36,825	38,275	38,872	40,265	40,265	40,265	40,265	40,265	92,869	\$69
Stone Surface	36,637	37,419	37,419	37,419	37,419	37,419	37,419	37,419	37,419	35,246	\$49
Woodchip Surface	2,515	2,515	2,515	2,515	2,515	2,515	2,515	2,515	2,515	2,515	\$49
Concrete Surface	5,966	5,966	7,288	7,341	8,269	8,720	8,720	8,720	8,720	31,192	\$98
Interlock Surface	544	651	651	651	651	651	651	651	651	651	\$221
Boardwalk	191	191	208	242	242	242	242	242	242	1,035	\$556
Total (#)	82,076	83,566	86,356	87,040	89,361	89,812	89,812	89,812	89,812	163,508	
Total (\$000)	\$5,213.9	\$5,317.0	\$5,555.8	\$5,620.8	\$5,807.3	\$5,851.5	\$5,851.5	\$5,851.5	\$5,851.5	\$11,996.6	

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TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PARK DEVELOPMENT & FACILITIES
BRIDGES

Illumination Location	# of Poles										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Pathways	552	567	617	618	618	618	667	698	698	716	\$6,370
Parking Lots	45	45	45	45	45	45	45	47	47	47	\$8,820
Gazebo	31	33	38	39	40	41	42	43	44	45	\$6,285
In Wall	29	29	29	29	29	29	29	29	29	29	\$6,370
In Ground	6	6	6	6	7	7	28	28	28	28	\$6,370
Total (#)	663	680	735	737	739	740	811	845	846	865	
Total (\$000)	\$4,330.9	\$4,439.0	\$4,789.0	\$4,801.6	\$4,814.3	\$4,820.6	\$5,272.7	\$5,494.1	\$5,500.4	\$5,621.4	

Landscaping Type	Square Metres										UNIT COST (\$/sq.m.)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Landscape (<5000 square metres)	66,333	66,333	66,333	66,333	66,333	66,333	66,333	66,333	66,333	66,333	\$7.88
Landscape (>5000 square metres)	16,786	16,786	16,786	16,786	16,786	16,786	16,786	16,786	16,786	16,786	\$3.94
Total (#)	83,119	83,119	83,119	83,119	83,119	83,119	83,119	83,119	83,119	83,119	
Total (\$000)	\$589.2	\$589.2	\$589.2	\$589.2	\$589.2	\$589.2	\$589.2	\$589.2	\$589.2	\$589.2	

Parking Lots Type	Square Metres										UNIT COST (\$/sq.m.)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Paved	55,239	55,239	55,239	55,239	55,239	55,239	55,239	55,239	60,073	60,073	\$98
Unpaved	39,896	39,896	39,896	39,896	39,896	39,896	39,896	39,896	39,896	39,896	\$47
Total (#)	95,135	95,135	95,135	95,135	95,135	95,135	95,135	95,135	99,969	99,969	
Total (\$000)	\$7,282.5	\$7,282.5	\$7,282.5	\$7,282.5	\$7,282.5	\$7,282.5	\$7,282.5	\$7,282.5	\$7,756.3	\$7,756.3	

CITY OF MARKHAM
DEVELOPMENT-RELATED CAPITAL PROGRAM
PARK DEVELOPMENT & FACILITIES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs			
					Replacement & BTE Shares	10% Reduction		Prior Growth	Available DC Reserves	2017-2026	Post 2026
5.0 PARK DEVELOPMENT & FACILITIES											
5.1 Major Soccer - Lighted											
5.1.1 Provision for New Soccer Field	2024	\$ 3,528,000	\$ -	\$ 3,528,000	\$ -	\$ 352,800	\$ 3,175,200	\$ -	\$ -	\$ 3,175,200	\$ -
Subtotal Major Soccer - Lighted		\$ 3,528,000	\$ -	\$ 3,528,000	\$ -	\$ 352,800	\$ 3,175,200	\$ -	\$ -	\$ 3,175,200	\$ -
5.2 Major Soccer - Unlighted											
5.2.1 Celebration Park	2017	\$ 620,000	\$ -	\$ 620,000	\$ -	\$ 62,000	\$ 558,000	\$ -	\$ 558,000	\$ -	\$ -
5.2.2 Box Grove Community Park West	2019	\$ 310,000	\$ -	\$ 310,000	\$ -	\$ 31,000	\$ 279,000	\$ -	\$ -	\$ 279,000	\$ -
5.2.3 Cornell Community Park Phase 2	2020	\$ 310,000	\$ -	\$ 310,000	\$ -	\$ 31,000	\$ 279,000	\$ -	\$ -	\$ 279,000	\$ -
5.2.4 Fairview Park	2025	\$ 310,000	\$ -	\$ 310,000	\$ -	\$ 31,000	\$ 279,000	\$ -	\$ -	\$ 279,000	\$ -
Subtotal Major Soccer - Unlighted		\$ 1,550,000	\$ -	\$ 1,550,000	\$ -	\$ 155,000	\$ 1,395,000	\$ -	\$ 558,000	\$ 837,000	\$ -
5.3 Minor Soccer - Unlighted											
5.3.1 Wismer - Alexander Lawrie Park East and West	2017	\$ 200,000	\$ -	\$ 200,000	\$ -	\$ 20,000	\$ 180,000	\$ -	\$ 180,000	\$ -	\$ -
5.3.2 Markham Centre Rouge Valley Park West	2017	\$ 200,000	\$ -	\$ 200,000	\$ -	\$ 20,000	\$ 180,000	\$ -	\$ 180,000	\$ -	\$ -
5.3.3 Berczy Beckett Northwest Park	2017	\$ 200,000	\$ -	\$ 200,000	\$ -	\$ 20,000	\$ 180,000	\$ -	\$ 180,000	\$ -	\$ -
5.3.4 Markham Sports Park	2024	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal Minor Soccer - Unlighted		\$ 600,000	\$ -	\$ 600,000	\$ -	\$ 60,000	\$ 540,000	\$ -	\$ 540,000	\$ -	\$ -
5.4 Major Diamond - Unlighted											
5.4.1 Cornell Community Park Phase 2	2020	\$ 294,000	\$ -	\$ 294,000	\$ -	\$ 29,400	\$ 264,600	\$ -	\$ -	\$ 264,600	\$ -
Subtotal Major Diamond - Unlighted		\$ 294,000	\$ -	\$ 294,000	\$ -	\$ 29,400	\$ 264,600	\$ -	\$ -	\$ 264,600	\$ -
5.5 Tennis Courts - Unlighted											
5.5.1 Markham Centre Rouge Valley Park West	2017	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ 132,300	\$ -	\$ -
5.5.2 Box Grove Community Park East - Phase 1	2017	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ 132,300	\$ -	\$ -
5.5.3 Cornell Community Park Phase 2	2020	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ -	\$ 132,300	\$ -
5.5.4 Warden East Neighbourhood Park	2021	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ -	\$ 132,300	\$ -
5.5.5 Fairview Park	2025	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ -	\$ 132,300	\$ -
Subtotal Tennis Courts - Unlighted		\$ 735,000	\$ -	\$ 735,000	\$ -	\$ 73,500	\$ 661,500	\$ -	\$ 264,600	\$ 396,900	\$ -
5.6 Basketball Courts - Half Courts											
5.6.1 Southwest Cathedral Russell Dawson Park	2017	\$ 34,300	\$ -	\$ 34,300	\$ -	\$ 3,430	\$ 30,870	\$ -	\$ 30,870	\$ -	\$ -
5.6.2 Rizal Avenue Park	2017	\$ 68,600	\$ -	\$ 68,600	\$ -	\$ 6,860	\$ 61,740	\$ -	\$ 61,740	\$ -	\$ -
5.6.3 Upper Greensborough Parkway Park	2021	\$ 34,300	\$ -	\$ 34,300	\$ -	\$ 3,430	\$ 30,870	\$ -	\$ -	\$ 30,870	\$ -
5.6.4 Warden East Neighbourhood Park	2021	\$ 34,300	\$ -	\$ 34,300	\$ -	\$ 3,430	\$ 30,870	\$ -	\$ -	\$ 30,870	\$ -
5.6.5 York Downs - Gateway Park Block 7	2023	\$ 34,300	\$ -	\$ 34,300	\$ -	\$ 3,430	\$ 30,870	\$ -	\$ -	\$ 30,870	\$ -
Subtotal Basketball Courts - Half Courts		\$ 205,800	\$ -	\$ 205,800	\$ -	\$ 20,580	\$ 185,220	\$ -	\$ 92,610	\$ 92,610	\$ -

CITY OF MARKHAM
DEVELOPMENT-RELATED CAPITAL PROGRAM
PARK DEVELOPMENT & FACILITIES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Prior Growth	DC Eligible Costs			
					Replacement & BTE Shares	10% Reduction			Available DC Reserves	2017-2026	Post 2026	
5.7 Basketball Courts - Full Courts												
5.7.1 Box Grove Community Park East - Phase 1	2017	\$ 63,700	\$ -	\$ 63,700	\$ -	\$ 6,370	\$ 57,330	\$ -	\$ 57,330	\$ -	\$ -	
5.7.2 Rizal Avenue Park	2017	\$ 63,700	\$ -	\$ 63,700	\$ -	\$ 6,370	\$ 57,330	\$ -	\$ 57,330	\$ -	\$ -	
5.7.3 Markham Centre Times Valley Edge Park	2019	\$ 63,700	\$ -	\$ 63,700	\$ -	\$ 6,370	\$ 57,330	\$ -	\$ -	\$ 57,330	\$ -	
5.7.4 York Downs - Gateway Park Block 7	2023	\$ 63,700	\$ -	\$ 63,700	\$ -	\$ 6,370	\$ 57,330	\$ -	\$ -	\$ 57,330	\$ -	
5.7.5 Markham Sports Park	2024	\$ 382,200	\$ -	\$ 382,200	\$ -	\$ 38,220	\$ 343,980	\$ -	\$ -	\$ 343,980	\$ -	
5.7.6 Fairview Park	2025	\$ 63,700	\$ -	\$ 63,700	\$ -	\$ 6,370	\$ 57,330	\$ -	\$ -	\$ 57,330	\$ -	
Subtotal Basketball Courts - Full Courts		\$ 700,700	\$ -	\$ 700,700	\$ -	\$ 70,070	\$ 630,630	\$ -	\$ 114,660	\$ 515,970	\$ -	
5.8 Minor Skateparks												
5.8.1 Box Grove Community Park East - Phase 1	2017	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ 176,400	\$ -	\$ -	
5.8.2 Cornell Community Park Phase 2	2020	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ -	\$ 176,400	\$ -	
5.8.3 Warden South West Neighbourhood Park	2022	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ -	\$ 176,400	\$ -	
5.8.4 Fairview Park	2025	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ -	\$ 176,400	\$ -	
Subtotal Minor Skateparks		\$ 784,000	\$ -	\$ 784,000	\$ -	\$ 78,400	\$ 705,600	\$ -	\$ 176,400	\$ 529,200	\$ -	
5.9 Playgrounds (Senior)												
5.9.1 Wismer - Alexander Lawrie Park East and West	2017	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ 176,400	\$ -	\$ -	
5.9.2 Markham Centre Rouge Valley Park West	2017	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ 176,400	\$ -	\$ -	
5.9.3 Wismer Donald Mingay Woodlot Park	2017	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ 176,400	\$ -	\$ -	
5.9.4 Leitchcroft Community Park Phase 2	2017	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ 176,400	\$ -	\$ -	
5.9.5 Berczy Beckett Northwest Park	2017	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ 176,400	\$ -	\$ -	
5.9.6 Berczy Beckett Neighbourhood Park	2017	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ 176,400	\$ -	\$ -	
5.9.7 Wismer Percy Reesor Street Parkette	2017	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ 176,400	\$ -	\$ -	
5.9.8 Aaniin Community Centre Park	2017	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ 176,400	\$ -	\$ -	
5.9.9 Celebration Park Phase 2	2017	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ 176,400	\$ -	\$ -	
5.9.10 Markham Village Library Square Phase 1	2017	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ 176,400	\$ -	\$ -	
5.9.11 Rizal Avenue Park	2017	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ 176,400	\$ -	\$ -	
5.9.12 Berczy Beckett Cemetary Park	2019	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ -	\$ 176,400	\$ -	
5.9.13 Victoria Square West Village	2021	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ -	\$ 176,400	\$ -	
5.9.14 Warden East Neighbourhood Park	2021	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ -	\$ 176,400	\$ -	
5.9.15 York Downs Kennedy Road Block 4	2022	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ -	\$ 176,400	\$ -	
5.9.16 York Downs Parkette - Kennedy Road	2022	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ -	\$ 176,400	\$ -	
5.9.17 Warden Northwest Neighbourhood Park	2023	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ -	\$ 176,400	\$ -	
5.9.18 Cornell Centre East Parkette	2023	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ -	\$ 176,400	\$ -	
5.9.19 York Downs - Gateway Park Block 7	2023	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ -	\$ 176,400	\$ -	
5.9.20 Markham Centre North East Valley Edge Parkette	2024	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ -	\$ 176,400	\$ -	
5.9.21 Markham Sports Park	2024	\$ 400,000	\$ -	\$ 400,000	\$ -	\$ 40,000	\$ 360,000	\$ -	\$ -	\$ 360,000	\$ -	
5.9.22 Milliken Neighbourhood Park	2025	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ -	\$ 176,400	\$ -	
5.9.23 Markham Centre - Aryeh Strata Park	2026	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ -	\$ 176,400	\$ -	
5.9.24 King's Square	2026	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ -	\$ 176,400	\$ -	
5.9.25 FUA Major Mackenzie Neighbourhood Park	2026	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ -	\$ 176,400	\$ -	
Subtotal Playgrounds (Senior)		\$ 5,104,000	\$ -	\$ 5,104,000	\$ -	\$ 510,400	\$ 4,593,600	\$ -	\$ 1,940,400	\$ 2,653,200	\$ -	

CITY OF MARKHAM
DEVELOPMENT-RELATED CAPITAL PROGRAM
PARK DEVELOPMENT & FACILITIES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Prior Growth	DC Eligible Costs		Post 2026	
					Replacement & BTE Shares	10% Reduction			Available DC Reserves	2017-2026		
5.10 Playgrounds (Junior)												
5.10.1 Wismer McCowan Woodlot Park	2017	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ 132,300	\$ -	\$ -	
5.10.2 Wismer - Alexander Lawrie Park East and West	2017	\$ 294,000	\$ -	\$ 294,000	\$ -	\$ 29,400	\$ 264,600	\$ -	\$ 264,600	\$ -	\$ -	
5.10.3 Cornell Centre Parkette Demott Avenue	2017	\$ 294,000	\$ -	\$ 294,000	\$ -	\$ 29,400	\$ 264,600	\$ -	\$ 264,600	\$ -	\$ -	
5.10.4 Markham Centre Rouge Valley Park West	2017	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ 132,300	\$ -	\$ -	
5.10.5 Cornell Madison Rouge Blvd. Park N.	2017	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ 132,300	\$ -	\$ -	
5.10.6 Cornell Madison Rouge Blvd. Park S.	2017	\$ 294,000	\$ -	\$ 294,000	\$ -	\$ 29,400	\$ 264,600	\$ -	\$ 264,600	\$ -	\$ -	
5.10.7 Main Street Milliken NW Parkette	2017	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ 132,300	\$ -	\$ -	
5.10.8 Wismer Donald Mingay Woodlot Park	2017	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ 132,300	\$ -	\$ -	
5.10.9 Leitchcroft Community Park Phase 2	2017	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ 132,300	\$ -	\$ -	
5.10.10 Berczy Beckett Northwest Park	2017	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ 132,300	\$ -	\$ -	
5.10.11 Berczy Beckett North West Parkette	2017	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ 132,300	\$ -	\$ -	
5.10.12 Berczy Beckett Neighbourhood Park	2017	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ 132,300	\$ -	\$ -	
5.10.13 Berczy Beckett North East Parkette	2017	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ 132,300	\$ -	\$ -	
5.10.14 Berczy Beckett East Parkette	2017	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ 132,300	\$ -	\$ -	
5.10.15 Aaniin Community Centre Park	2017	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ 132,300	\$ -	\$ -	
5.10.16 Celebration Park Phase 2	2017	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ 132,300	\$ -	\$ -	
5.10.17 Markham Village Library Square Phase 1	2017	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ 132,300	\$ -	\$ -	
5.10.18 Rizal Avenue Park	2017	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ 132,300	\$ -	\$ -	
5.10.19 Cornell Rouge Riverlands Phase 2	2017	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ 132,300	\$ -	\$ -	
5.10.20 Cornell Madison Rouge/Riverlands	2017	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ 132,300	\$ -	\$ -	
5.10.21 Upper Greensborough Fimco Crescent Park	2017	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ 132,300	\$ -	\$ -	
5.10.22 Berczy Beckett Cemetary Park	2019	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ -	\$ 132,300	\$ -	
5.10.23 H&R Grand Cornell Park Phase 2	2020	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ -	\$ 132,300	\$ -	
5.10.24 Wismer Greenspire Parkette	2020	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ -	\$ 132,300	\$ -	
5.10.25 Yonge Devron Park	2020	\$ 294,000	\$ -	\$ 294,000	\$ -	\$ 29,400	\$ 264,600	\$ -	\$ -	\$ 264,600	\$ -	
5.10.26 Victoria Square West Village	2021	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ -	\$ 132,300	\$ -	
5.10.27 Warden East Neighbourhood Park	2021	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ -	\$ 132,300	\$ -	
5.10.28 York Downs Kennedy Road Block 4	2022	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ -	\$ 132,300	\$ -	
5.10.29 Woodbine Bypass Park North	2022	\$ 294,000	\$ -	\$ 294,000	\$ -	\$ 29,400	\$ 264,600	\$ -	\$ -	\$ 264,600	\$ -	
5.10.30 York Downs Parkette - Kennedy Road	2022	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ -	\$ 132,300	\$ -	
5.10.31 Warden Northwest Neighbourhood Park	2023	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ -	\$ 132,300	\$ -	
5.10.32 Cornell Centre East Parkette	2023	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ -	\$ 132,300	\$ -	
5.10.33 York Downs - Gateway Park Block 7	2023	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ -	\$ 132,300	\$ -	
5.10.34 York Downs Parkette - Block 5	2024	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ -	\$ 132,300	\$ -	
5.10.35 Langstaff - Woodlot Park	2024	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ -	\$ 132,300	\$ -	
5.10.36 Markham Centre North East Valley Edge Parkette	2024	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ -	\$ 132,300	\$ -	
5.10.37 Markham Sports Park	2024	\$ 294,000	\$ -	\$ 294,000	\$ -	\$ 29,400	\$ 264,600	\$ -	\$ -	\$ 264,600	\$ -	
5.10.38 Milliken Neighbourhood Park	2025	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ -	\$ 132,300	\$ -	
5.10.39 Markham Centre - Aryeh Strata Park	2026	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ -	\$ 132,300	\$ -	
5.10.40 King's Square	2026	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ -	\$ 132,300	\$ -	
5.10.41 FUA Major Mackenzie Neighbourhood Park	2026	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ -	\$ 132,300	\$ -	
Subtotal Playgrounds (Junior)		\$ 6,909,000	\$ -	\$ 6,909,000	\$ -	\$ 690,900	\$ 6,218,100	\$ -	\$ 3,175,200	\$ 3,042,900	\$ -	

CITY OF MARKHAM
DEVELOPMENT-RELATED CAPITAL PROGRAM
PARK DEVELOPMENT & FACILITIES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	Prior Growth	DC Eligible Costs			
					Replacement & BTE Shares	10% Reduction			Available DC Reserves	2017-2026	Post 2026	
5.11 Playgrounds (Senior & Junior)												
5.11.1 Wismer - HWY 48 Museum Park North	2017	\$ 266,000	\$ -	\$ 266,000	\$ -	\$ 26,600	\$ 239,400	\$ -	\$ 239,400	\$ -	\$ -	
5.11.2 Wismer Hammersley Park	2017	\$ 266,000	\$ -	\$ 266,000	\$ -	\$ 26,600	\$ 239,400	\$ -	\$ 239,400	\$ -	\$ -	
5.11.3 Greensborough Gord Weeden Park	2017	\$ 266,000	\$ -	\$ 266,000	\$ -	\$ 26,600	\$ 239,400	\$ -	\$ 239,400	\$ -	\$ -	
5.11.4 Grandview Park	2017	\$ 266,000	\$ -	\$ 266,000	\$ -	\$ 26,600	\$ 239,400	\$ -	\$ 239,400	\$ -	\$ -	
5.11.5 Southwest Cathedral Russell Dawson Park	2017	\$ 266,000	\$ -	\$ 266,000	\$ -	\$ 26,600	\$ 239,400	\$ -	\$ 239,400	\$ -	\$ -	
5.11.6 Vettese Court Park	2017	\$ 266,000	\$ -	\$ 266,000	\$ -	\$ 26,600	\$ 239,400	\$ -	\$ 239,400	\$ -	\$ -	
5.11.7 Greensborough Williamson Neighbourhood Park	2017	\$ 266,000	\$ -	\$ 266,000	\$ -	\$ 26,600	\$ 239,400	\$ -	\$ 239,400	\$ -	\$ -	
5.11.8 Markham Centre Times HWY 7 Window Park	2018	\$ 266,000	\$ -	\$ 266,000	\$ -	\$ 26,600	\$ 239,400	\$ -	\$ 239,400	\$ -	\$ -	
5.11.9 Carlton Park Redevelopment	2018	\$ 266,000	\$ -	\$ 266,000	\$ -	\$ 26,600	\$ 239,400	\$ -	\$ 239,400	\$ -	\$ -	
5.11.10 Box Grove Community Park West Phase 2	2019	\$ 266,000	\$ -	\$ 266,000	\$ -	\$ 26,600	\$ 239,400	\$ -	\$ -	\$ 239,400	\$ -	
5.11.11 Markham Centre Times Valley Edge Park	2019	\$ 266,000	\$ -	\$ 266,000	\$ -	\$ 26,600	\$ 239,400	\$ -	\$ -	\$ 239,400	\$ -	
5.11.12 Cornell Community Park Phase 2	2020	\$ 266,000	\$ -	\$ 266,000	\$ -	\$ 26,600	\$ 239,400	\$ -	\$ -	\$ 239,400	\$ -	
5.11.13 Yonge Canac Park	2021	\$ 266,000	\$ -	\$ 266,000	\$ -	\$ 26,600	\$ 239,400	\$ -	\$ -	\$ 239,400	\$ -	
5.11.14 Upper Greensborough Parkway Park	2021	\$ 266,000	\$ -	\$ 266,000	\$ -	\$ 26,600	\$ 239,400	\$ -	\$ -	\$ 239,400	\$ -	
5.11.15 Morgan Park Redevelopment	2021	\$ 266,000	\$ -	\$ 266,000	\$ -	\$ 26,600	\$ 239,400	\$ -	\$ -	\$ 239,400	\$ -	
5.11.16 Warden South West Neighbourhood Park	2022	\$ 266,000	\$ -	\$ 266,000	\$ -	\$ 26,600	\$ 239,400	\$ -	\$ -	\$ 239,400	\$ -	
5.11.17 Cathedral Town Parkette	2022	\$ 266,000	\$ -	\$ 266,000	\$ -	\$ 26,600	\$ 239,400	\$ -	\$ -	\$ 239,400	\$ -	
5.11.18 Cornell Centre Mattamy Neighbourhood Park	2023	\$ 266,000	\$ -	\$ 266,000	\$ -	\$ 26,600	\$ 239,400	\$ -	\$ -	\$ 239,400	\$ -	
5.11.19 York Downs - Large Lot Park Block 8	2024	\$ 266,000	\$ -	\$ 266,000	\$ -	\$ 26,600	\$ 239,400	\$ -	\$ -	\$ 239,400	\$ -	
5.11.20 Markham Centre - Clegg Road South	2024	\$ 266,000	\$ -	\$ 266,000	\$ -	\$ 26,600	\$ 239,400	\$ -	\$ -	\$ 239,400	\$ -	
5.11.21 Markham Sports Park	2024	\$ 532,000	\$ -	\$ 532,000	\$ -	\$ 53,200	\$ 478,800	\$ -	\$ -	\$ 478,800	\$ -	
5.11.22 Milliken Old McGowan Road Neighbourhood Park	2024	\$ 266,000	\$ -	\$ 266,000	\$ -	\$ 26,600	\$ 239,400	\$ -	\$ -	\$ 239,400	\$ -	
5.11.23 York Downs - Parkette Block 10	2025	\$ 266,000	\$ -	\$ 266,000	\$ -	\$ 26,600	\$ 239,400	\$ -	\$ -	\$ 239,400	\$ -	
5.11.24 Fairview Park	2025	\$ 266,000	\$ -	\$ 266,000	\$ -	\$ 26,600	\$ 239,400	\$ -	\$ -	\$ 239,400	\$ -	
Subtotal Playgrounds (Senior & Junior)		\$ 6,650,000	\$ -	\$ 6,650,000	\$ -	\$ 665,000	\$ 5,985,000	\$ -	\$ 2,154,600	\$ 3,830,400	\$ -	
5.12 Minor Waterplay												
5.12.1 Wismer - HWY 48 Museum Park North	2017	\$ 146,020	\$ -	\$ 146,020	\$ -	\$ 14,602	\$ 131,418	\$ -	\$ 131,418	\$ -	\$ -	
5.12.2 Cornell Community Centre Square	2017	\$ 146,020	\$ -	\$ 146,020	\$ -	\$ 14,602	\$ 131,418	\$ -	\$ 131,418	\$ -	\$ -	
5.12.3 Grandview Park	2017	\$ 146,020	\$ -	\$ 146,020	\$ -	\$ 14,602	\$ 131,418	\$ -	\$ 131,418	\$ -	\$ -	
5.12.4 Celebration Park Phase 2	2017	\$ 146,020	\$ -	\$ 146,020	\$ -	\$ 14,602	\$ 131,418	\$ -	\$ 131,418	\$ -	\$ -	
5.12.5 Vettese Court Park	2017	\$ 146,020	\$ -	\$ 146,020	\$ -	\$ 14,602	\$ 131,418	\$ -	\$ 131,418	\$ -	\$ -	
5.12.6 Carlton Park Redevelopment	2018	\$ 146,020	\$ -	\$ 146,020	\$ -	\$ 14,602	\$ 131,418	\$ -	\$ 131,418	\$ -	\$ -	
5.12.7 Box Grove Community Park West Phase 2	2019	\$ 146,020	\$ -	\$ 146,020	\$ -	\$ 14,602	\$ 131,418	\$ -	\$ -	\$ 131,418	\$ -	
5.12.8 Markham Centre Times Valley Edge Park	2019	\$ 146,020	\$ -	\$ 146,020	\$ -	\$ 14,602	\$ 131,418	\$ -	\$ -	\$ 131,418	\$ -	
5.12.9 Cornell Community Park Phase 2	2020	\$ 146,020	\$ -	\$ 146,020	\$ -	\$ 14,602	\$ 131,418	\$ -	\$ -	\$ 131,418	\$ -	
5.12.10 Warden East Neighbourhood Park	2021	\$ 146,020	\$ -	\$ 146,020	\$ -	\$ 14,602	\$ 131,418	\$ -	\$ -	\$ 131,418	\$ -	
5.12.11 Warden Northwest Neighbourhood Park	2023	\$ 146,020	\$ -	\$ 146,020	\$ -	\$ 14,602	\$ 131,418	\$ -	\$ -	\$ 131,418	\$ -	
5.12.12 York Downs - Large Lot Park Block 8	2024	\$ 146,020	\$ -	\$ 146,020	\$ -	\$ 14,602	\$ 131,418	\$ -	\$ -	\$ 131,418	\$ -	
5.12.13 York Downs Parkette Block 5	2024	\$ 146,020	\$ -	\$ 146,020	\$ -	\$ 14,602	\$ 131,418	\$ -	\$ -	\$ 131,418	\$ -	
5.12.14 FUA Major Mackenzie Neighbourhood Park	2026	\$ 146,020	\$ -	\$ 146,020	\$ -	\$ 14,602	\$ 131,418	\$ -	\$ -	\$ 131,418	\$ -	
Subtotal Minor Waterplay		\$ 2,044,280	\$ -	\$ 2,044,280	\$ -	\$ 204,428	\$ 1,839,852	\$ -	\$ 788,508	\$ 1,051,344	\$ -	

CITY OF MARKHAM
DEVELOPMENT-RELATED CAPITAL PROGRAM
PARK DEVELOPMENT & FACILITIES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs				
					Replacement & BTE Shares	10% Reduction		Prior Growth	Available DC Reserves	2017-2026	Post 2026	
5.13 Major Waterplay												
5.13.1 Cathedral Town Parkette	2022	\$ 392,000	\$ -	\$ 392,000	\$ -	\$ 39,200	\$ 352,800	\$ -	\$ -	\$ 352,800	\$ -	
5.13.2 Markham Sports Park	2024	\$ 392,000	\$ -	\$ 392,000	\$ -	\$ 39,200	\$ 352,800	\$ -	\$ -	\$ 352,800	\$ -	
5.13.3 Fairview Park	2025	\$ 392,000	\$ -	\$ 392,000	\$ -	\$ 39,200	\$ 352,800	\$ -	\$ -	\$ 352,800	\$ -	
Subtotal Major Waterplay		\$ 1,176,000	\$ -	\$ 1,176,000	\$ -	\$ 117,600	\$ 1,058,400	\$ -	\$ -	\$ 1,058,400	\$ -	
5.14 Exercise Stations												
5.14.1 Wismer - HWY 48 Museum Park North	2017	\$ 73,500	\$ -	\$ 73,500	\$ -	\$ 7,350	\$ 66,150	\$ -	\$ 66,150	\$ -	\$ -	
5.14.2 Greensborough Gord Weeden Park	2017	\$ 73,500	\$ -	\$ 73,500	\$ -	\$ 7,350	\$ 66,150	\$ -	\$ 66,150	\$ -	\$ -	
5.14.3 Markham Centre Rouge Valley Park West	2017	\$ 73,500	\$ -	\$ 73,500	\$ -	\$ 7,350	\$ 66,150	\$ -	\$ 66,150	\$ -	\$ -	
5.14.4 Southwest Cathedral Russell Dawson Park	2017	\$ 73,500	\$ -	\$ 73,500	\$ -	\$ 7,350	\$ 66,150	\$ -	\$ 66,150	\$ -	\$ -	
5.14.5 Berczy Beckett Neighbourhood Park	2017	\$ 73,500	\$ -	\$ 73,500	\$ -	\$ 7,350	\$ 66,150	\$ -	\$ 66,150	\$ -	\$ -	
5.14.6 Aanin Community Centre Park	2017	\$ 73,500	\$ -	\$ 73,500	\$ -	\$ 7,350	\$ 66,150	\$ -	\$ 66,150	\$ -	\$ -	
5.14.7 Vettese Court Park	2017	\$ 73,500	\$ -	\$ 73,500	\$ -	\$ 7,350	\$ 66,150	\$ -	\$ 66,150	\$ -	\$ -	
5.14.8 Greensborough Williamson Neighbourhood Park	2017	\$ 73,500	\$ -	\$ 73,500	\$ -	\$ 7,350	\$ 66,150	\$ -	\$ 66,150	\$ -	\$ -	
5.14.9 Box Grove Community Park West Phase 2	2019	\$ 73,500	\$ -	\$ 73,500	\$ -	\$ 7,350	\$ 66,150	\$ -	\$ -	\$ 66,150	\$ -	
5.14.10 Markham Centre Times Valley Edge Park	2019	\$ 73,500	\$ -	\$ 73,500	\$ -	\$ 7,350	\$ 66,150	\$ -	\$ -	\$ 66,150	\$ -	
5.14.11 Morgan Park Redevelopment	2021	\$ 73,500	\$ -	\$ 73,500	\$ -	\$ 7,350	\$ 66,150	\$ -	\$ -	\$ 66,150	\$ -	
5.14.12 Upper Greensborough Parkway Park	2021	\$ 73,500	\$ -	\$ 73,500	\$ -	\$ 7,350	\$ 66,150	\$ -	\$ -	\$ 66,150	\$ -	
5.14.13 Warden South West Neighbourhood Park	2022	\$ 73,500	\$ -	\$ 73,500	\$ -	\$ 7,350	\$ 66,150	\$ -	\$ -	\$ 66,150	\$ -	
5.14.14 Cornell Centre Mattamy Neighbourhood Park	2023	\$ 73,500	\$ -	\$ 73,500	\$ -	\$ 7,350	\$ 66,150	\$ -	\$ -	\$ 66,150	\$ -	
5.14.15 York Downs - Large Lot Park Block 8	2024	\$ 73,500	\$ -	\$ 73,500	\$ -	\$ 7,350	\$ 66,150	\$ -	\$ -	\$ 66,150	\$ -	
5.14.16 Markham Sports Park	2024	\$ 73,500	\$ -	\$ 73,500	\$ -	\$ 7,350	\$ 66,150	\$ -	\$ -	\$ 66,150	\$ -	
5.14.17 Milliken Neighbourhood Park	2025	\$ 73,500	\$ -	\$ 73,500	\$ -	\$ 7,350	\$ 66,150	\$ -	\$ -	\$ 66,150	\$ -	
5.14.18 Fairview Park	2025	\$ 73,500	\$ -	\$ 73,500	\$ -	\$ 7,350	\$ 66,150	\$ -	\$ -	\$ 66,150	\$ -	
5.14.19 Markham Centre - Aryeh Strata Park	2026	\$ 73,500	\$ -	\$ 73,500	\$ -	\$ 7,350	\$ 66,150	\$ -	\$ -	\$ 66,150	\$ -	
5.14.20 FUA Major Mackenzie Neighbourhood Park	2026	\$ 73,500	\$ -	\$ 73,500	\$ -	\$ 7,350	\$ 66,150	\$ -	\$ -	\$ 66,150	\$ -	
Subtotal Exercise Stations		\$ 1,470,000	\$ -	\$ 1,470,000	\$ -	\$ 147,000	\$ 1,323,000	\$ -	\$ 529,200	\$ 793,800	\$ -	
5.15 Buildings & Washrooms												
5.15.1 Wismer Community Park: Washroom and Maintenance Building	2017	\$ 800,000	\$ -	\$ 800,000	\$ -	\$ 80,000	\$ 720,000	\$ -	\$ 720,000	\$ -	\$ -	
5.15.2 Cornell Community Park: Washroom Park Pavilion	2017	\$ 675,000	\$ -	\$ 675,000	\$ -	\$ 67,500	\$ 607,500	\$ -	\$ 607,500	\$ -	\$ -	
5.15.3 Grandview Park Standalone Washroom	2017	\$ 350,000	\$ -	\$ 350,000	\$ -	\$ 35,000	\$ 315,000	\$ -	\$ 315,000	\$ -	\$ -	
5.15.4 Leitchcroft Community Park Standalone Washroom	2017	\$ 350,000	\$ -	\$ 350,000	\$ -	\$ 35,000	\$ 315,000	\$ -	\$ 315,000	\$ -	\$ -	
5.15.5 Celebration Park Phase 2 Standalone Washroom	2017	\$ 350,000	\$ -	\$ 350,000	\$ -	\$ 35,000	\$ 315,000	\$ -	\$ 315,000	\$ -	\$ -	
5.15.6 Wismer Community Park: Washroom Park Pavilion	2018	\$ 675,000	\$ -	\$ 675,000	\$ -	\$ 67,500	\$ 607,500	\$ -	\$ 607,500	\$ -	\$ -	
5.15.7 Carlton Park Redevelopment Standalone Washroom	2018	\$ 350,000	\$ -	\$ 350,000	\$ -	\$ 35,000	\$ 315,000	\$ -	\$ 315,000	\$ -	\$ -	
5.15.8 Cornell Community Park: Washroom and Maintenance Building	2018	\$ 800,000	\$ -	\$ 800,000	\$ -	\$ 80,000	\$ 720,000	\$ -	\$ 174,456	\$ 545,544	\$ -	
5.15.9 Box Grove Community Park West Phase 2 Washroom and S	2019	\$ 800,000	\$ -	\$ 800,000	\$ -	\$ 80,000	\$ 720,000	\$ -	\$ -	\$ 720,000	\$ -	
5.15.10 Cornell Community Park Phase 2: Washroom Park Pavilion	2020	\$ 675,000	\$ -	\$ 675,000	\$ -	\$ 67,500	\$ 607,500	\$ -	\$ -	\$ 607,500	\$ -	
5.15.11 Unionville Central Square Standalone Washroom	2022	\$ 350,000	\$ -	\$ 350,000	\$ -	\$ 35,000	\$ 315,000	\$ -	\$ -	\$ 315,000	\$ -	
5.15.12 Box Grove Community Park Washroom Park Pavilion	2023	\$ 675,000	\$ -	\$ 675,000	\$ -	\$ 67,500	\$ 607,500	\$ -	\$ -	\$ 607,500	\$ -	
5.15.13 Fairview Park Washroom Park Pavilion	2025	\$ 675,000	\$ -	\$ 675,000	\$ -	\$ 67,500	\$ 607,500	\$ -	\$ -	\$ 607,500	\$ -	
5.15.14 Cornell Community Park: Washroom Park Pavilion	2026	\$ 675,000	\$ -	\$ 675,000	\$ -	\$ 67,500	\$ 607,500	\$ -	\$ -	\$ 607,500	\$ -	
Subtotal Buildings & Washrooms		\$ 8,200,000	\$ -	\$ 8,200,000	\$ -	\$ 820,000	\$ 7,380,000	\$ -	\$ 3,369,456	\$ 4,010,544	\$ -	

CITY OF MARKHAM
DEVELOPMENT-RELATED CAPITAL PROGRAM
PARK DEVELOPMENT & FACILITIES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs				
					Replacement & BTE Shares	10% Reduction		Prior Growth	Available DC Reserves	2017-2026	Post 2026	
5.16 Water Fountain												
5.16.1 Morgan Park Redevelopment	2021	\$ 421,400	\$ -	\$ 421,400	\$ -	\$ 42,140	\$ 379,260	\$ -	\$ -	\$ 379,260	\$ -	
5.16.2 Markham Centre - Aryeh Strata Park	2026	\$ 421,400	\$ -	\$ 421,400	\$ -	\$ 42,140	\$ 379,260	\$ -	\$ -	\$ 379,260	\$ -	
Subtotal Water Fountain		\$ 842,800	\$ -	\$ 842,800	\$ -	\$ 84,280	\$ 758,520	\$ -	\$ -	\$ 758,520	\$ -	
5.17 Bandstand												
5.17.1 Grandview Park	2017	\$ 225,045	\$ -	\$ 225,045	\$ -	\$ 22,505	\$ 202,541	\$ -	\$ 202,541	\$ -	\$ -	
5.17.2 Celebration Park Phase 2	2017	\$ 225,045	\$ -	\$ 225,045	\$ -	\$ 22,505	\$ 202,541	\$ -	\$ 202,541	\$ -	\$ -	
Subtotal Bandstand		\$ 450,090	\$ -	\$ 450,090	\$ -	\$ 45,009	\$ 405,081	\$ -	\$ 405,081	\$ -	\$ -	
5.18 Minor Trellis												
5.18.1 Wismer McCowan Woodlot Park	2017	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ 76,500	\$ -	\$ -	
5.18.2 Wismer - HWY 48 Museum Park North	2017	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ 76,500	\$ -	\$ -	
5.18.3 Wismer Hammersley Park	2017	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ 76,500	\$ -	\$ -	
5.18.4 Greensborough Gord Weeden Park	2017	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ 76,500	\$ -	\$ -	
5.18.5 Cornell Centre Parkette Demott Avenue	2017	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ 76,500	\$ -	\$ -	
5.18.6 Markham Centre Rouge Valley West Park	2017	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ 76,500	\$ -	\$ -	
5.18.7 Cornell Madison Rouge Blvd. Park N.	2017	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ 76,500	\$ -	\$ -	
5.18.8 Main Street Milliken NW Parkette	2017	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ 76,500	\$ -	\$ -	
5.18.9 Celebration Park Phase 2	2017	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ 76,500	\$ -	\$ -	
5.18.10 Upper Greensborough Fimco Crescent Park	2017	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ 76,500	\$ -	\$ -	
5.18.11 Greensborough Williamson Neighbourhood Park	2017	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ 76,500	\$ -	\$ -	
5.18.12 Markham Centre Times HWY 7 Window Park	2018	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ -	\$ 76,500	\$ -	
5.18.13 Markham Centre Times Valley Edge Park	2019	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ -	\$ 76,500	\$ -	
5.18.14 Cornell East Channel Park North and South	2020	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ -	\$ 76,500	\$ -	
5.18.15 Wismer Greenspire Parkette	2020	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ -	\$ 76,500	\$ -	
5.18.16 Cornell Parkette - 9th Line & HWY 7	2021	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ -	\$ 76,500	\$ -	
5.18.17 Victoria Square West Village	2021	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ -	\$ 76,500	\$ -	
5.18.18 Galleria Parkette	2022	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ -	\$ 76,500	\$ -	
5.18.19 Cathedral Town Parkette	2022	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ -	\$ 76,500	\$ -	
5.18.20 Woodbine Bypass Park North	2022	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ -	\$ 76,500	\$ -	
5.18.21 Cornell Centre East Parkette	2023	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ -	\$ 76,500	\$ -	
5.18.22 Cornell Centre West Parkette	2024	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ -	\$ 76,500	\$ -	
5.18.23 Markham Centre - Clegg Road South	2024	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ -	\$ 76,500	\$ -	
5.18.24 Unionville Market Square	2024	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ -	\$ 76,500	\$ -	
5.18.25 Milliken Neighbourhood Park	2025	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ -	\$ 76,500	\$ -	
5.18.26 York Downs - Parkette Block 10	2025	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ -	\$ 76,500	\$ -	
5.18.27 Fairview Park	2025	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ -	\$ 76,500	\$ -	
5.18.28 York Downs - Parkette Block 9	2026	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ -	\$ 76,500	\$ -	
5.18.29 Langstaff - Pomona Creek Park	2026	\$ 85,000	\$ -	\$ 85,000	\$ -	\$ 8,500	\$ 76,500	\$ -	\$ -	\$ 76,500	\$ -	
Subtotal Minor Trellis		\$ 2,465,000	\$ -	\$ 2,465,000	\$ -	\$ 246,500	\$ 2,218,500	\$ -	\$ 841,500	\$ 1,377,000	\$ -	

CITY OF MARKHAM
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Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs				
					Replacement & BTE Shares	10% Reduction		Prior Growth	Available DC Reserves	2017-2026	Post 2026	
5.19 Major Trellis												
5.19.1 Berczy Square Park	2017	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ 176,400	\$ -	\$ -	
5.19.2 Cornell Community Park Phase 2	2020	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ -	\$ 176,400	\$ -	
5.19.3 Shops on Steeles	2022	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ -	\$ 176,400	\$ -	
5.19.4 Fairview Park	2025	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ -	\$ 176,400	\$ -	
5.19.5 King's Square	2026	\$ 196,000	\$ -	\$ 196,000	\$ -	\$ 19,600	\$ 176,400	\$ -	\$ -	\$ 176,400	\$ -	
Subtotal Major Trellis		\$ 980,000	\$ -	\$ 980,000	\$ -	\$ 98,000	\$ 882,000	\$ -	\$ 176,400	\$ 705,600	\$ -	
5.20 Minor Gazebos/Shelters												
5.20.1 Wismer - Alexander Lawrie Park East and West	2017	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ 57,600	\$ -	\$ -	
5.20.2 Markham Centre Rouge Valley West Park	2017	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ 57,600	\$ -	\$ -	
5.20.3 Swan Lake Park South Williamson	2017	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ 57,600	\$ -	\$ -	
5.20.4 Cornell Community Centre Square	2017	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ 57,600	\$ -	\$ -	
5.20.5 Berczy Beckett Neighbourhood Park	2017	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ 57,600	\$ -	\$ -	
5.20.6 Box Grove Community Centre Park Phase 2	2017	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ 57,600	\$ -	\$ -	
5.20.7 Grandview Park	2017	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ 57,600	\$ -	\$ -	
5.20.8 Leitchcroft Community Park Phase 2	2017	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ 57,600	\$ -	\$ -	
5.20.9 Berczy Beckett Northwest Park	2017	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ 57,600	\$ -	\$ -	
5.20.10 Berczy Beckett East Parkette	2017	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ 57,600	\$ -	\$ -	
5.20.11 Celebration Park Phase 2	2017	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ 57,600	\$ -	\$ -	
5.20.12 Markham Village Library Square Phase 1	2017	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ 57,600	\$ -	\$ -	
5.20.13 Rizal Avenue Park	2017	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ 57,600	\$ -	\$ -	
5.20.14 Cornell Madison Rouge/Riverlands	2017	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ 57,600	\$ -	\$ -	
5.20.15 Berczy Beckett Cemetery Park	2019	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ -	\$ 57,600	\$ -	
5.20.16 Box Grove Community Park West Phase 2	2019	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ -	\$ 57,600	\$ -	
5.20.17 Markham Centre Times Valley Edge Park	2019	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ -	\$ 57,600	\$ -	
5.20.18 Cornell Community Park Phase 2	2020	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ -	\$ 57,600	\$ -	
5.20.19 Warden South West Neighbourhood Park	2022	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ -	\$ 57,600	\$ -	
5.20.20 York Downs - Kennedy Road Block 4	2022	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ -	\$ 57,600	\$ -	
5.20.21 York Downs Parkette - Kennedy	2022	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ -	\$ 57,600	\$ -	
5.20.22 Cornell Centre Mattamy Neighbourhood Park	2023	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ -	\$ 57,600	\$ -	
5.20.23 York Downs - Gateway Park Block 7	2023	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ -	\$ 57,600	\$ -	
5.20.24 Markham Centre North East Valley Edge Parkette	2024	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ -	\$ 57,600	\$ -	
5.20.25 Markham Sports Park	2024	\$ 128,000	\$ -	\$ 128,000	\$ -	\$ 12,800	\$ 115,200	\$ -	\$ -	\$ 115,200	\$ -	
5.20.26 Markham Centre - Arye Strata Park	2026	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ -	\$ 57,600	\$ -	
5.20.27 FUA Major Mackenzie Neighbourhood Park	2026	\$ 64,000	\$ -	\$ 64,000	\$ -	\$ 6,400	\$ 57,600	\$ -	\$ -	\$ 57,600	\$ -	
Subtotal Minor Gazebos/Shelters		\$ 1,792,000	\$ -	\$ 1,792,000	\$ -	\$ 179,200	\$ 1,612,800	\$ -	\$ 806,400	\$ 806,400	\$ -	

CITY OF MARKHAM
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Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs				
					Replacement & BTE Shares	10% Reduction		Prior Growth	Available DC Reserves	2017-2026	Post 2026	
5.21 Major Gazebos/Shelters												
5.21.1 Wismer - HWY 48 Museum Park North	2017	\$ 245,000	\$ -	\$ 245,000	\$ -	\$ 24,500	\$ 220,500	\$ -	\$ 220,500	\$ -	\$ -	
5.21.2 Wismer Donald Mingay Woodlot Park	2017	\$ 245,000	\$ -	\$ 245,000	\$ -	\$ 24,500	\$ 220,500	\$ -	\$ 220,500	\$ -	\$ -	
5.21.3 Box Grove Community Park East Phase 1	2017	\$ 245,000	\$ -	\$ 245,000	\$ -	\$ 24,500	\$ 220,500	\$ -	\$ 220,500	\$ -	\$ -	
5.21.4 Aaniin Community Centre Park	2017	\$ 245,000	\$ -	\$ 245,000	\$ -	\$ 24,500	\$ 220,500	\$ -	\$ 220,500	\$ -	\$ -	
5.21.5 Carlton Park Redevelopment	2018	\$ 245,000	\$ -	\$ 245,000	\$ -	\$ 24,500	\$ 220,500	\$ -	\$ -	\$ 220,500	\$ -	
5.21.6 Cornell Community Park Phase 2	2020	\$ 245,000	\$ -	\$ 245,000	\$ -	\$ 24,500	\$ 220,500	\$ -	\$ -	\$ 220,500	\$ -	
5.21.7 Morgan Park Redevelopment	2021	\$ 245,000	\$ -	\$ 245,000	\$ -	\$ 24,500	\$ 220,500	\$ -	\$ -	\$ 220,500	\$ -	
5.21.8 Warden East Neighbourhood Park	2021	\$ 245,000	\$ -	\$ 245,000	\$ -	\$ 24,500	\$ 220,500	\$ -	\$ -	\$ 220,500	\$ -	
5.21.9 Warden Northwest Neighbourhood Park	2023	\$ 245,000	\$ -	\$ 245,000	\$ -	\$ 24,500	\$ 220,500	\$ -	\$ -	\$ 220,500	\$ -	
5.21.10 York Downs Parkette Block 5	2024	\$ 245,000	\$ -	\$ 245,000	\$ -	\$ 24,500	\$ 220,500	\$ -	\$ -	\$ 220,500	\$ -	
5.21.11 Fairview Park	2025	\$ 245,000	\$ -	\$ 245,000	\$ -	\$ 24,500	\$ 220,500	\$ -	\$ -	\$ 220,500	\$ -	
Subtotal Major Gazebos/Shelters		\$ 2,695,000	\$ -	\$ 2,695,000	\$ -	\$ 269,500	\$ 2,425,500	\$ -	\$ 882,000	\$ 1,543,500	\$ -	

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DEVELOPMENT-RELATED CAPITAL PROGRAM
PARK DEVELOPMENT & FACILITIES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs					
					Replacement & BTE Shares	10% Reduction		Prior Growth	Available DC Reserves	2017-2026	Post 2026		
5.22 Hard Surfaces - Plaza													
5.22.1 Wismer - HWY 48 Museum Park North	2017	\$ 20,000	\$ -	\$ 20,000	\$ -	\$ 2,000	\$ 18,000	\$ -	\$ 18,000	\$ -	\$ -	\$ -	\$ -
5.22.2 Wismer - Alexander Lawrie Park East and West	2017	\$ 20,000	\$ -	\$ 20,000	\$ -	\$ 2,000	\$ 18,000	\$ -	\$ 18,000	\$ -	\$ -	\$ -	\$ -
5.22.3 Swan Lake Park South Williamson	2017	\$ 20,000	\$ -	\$ 20,000	\$ -	\$ 2,000	\$ 18,000	\$ -	\$ 18,000	\$ -	\$ -	\$ -	\$ -
5.22.4 Cornell Community Centre Square	2017	\$ 20,000	\$ -	\$ 20,000	\$ -	\$ 2,000	\$ 18,000	\$ -	\$ 18,000	\$ -	\$ -	\$ -	\$ -
5.22.5 Box Grove Community Centre Park Phase 2	2017	\$ 20,000	\$ -	\$ 20,000	\$ -	\$ 2,000	\$ 18,000	\$ -	\$ 18,000	\$ -	\$ -	\$ -	\$ -
5.22.6 Berczy Square Park	2017	\$ 20,000	\$ -	\$ 20,000	\$ -	\$ 2,000	\$ 18,000	\$ -	\$ 18,000	\$ -	\$ -	\$ -	\$ -
5.22.7 Wismer Donald Mingay Woodlot Park	2017	\$ 20,000	\$ -	\$ 20,000	\$ -	\$ 2,000	\$ 18,000	\$ -	\$ 18,000	\$ -	\$ -	\$ -	\$ -
5.22.8 Cornell Community Park Phase 1	2017	\$ 20,000	\$ -	\$ 20,000	\$ -	\$ 2,000	\$ 18,000	\$ -	\$ 18,000	\$ -	\$ -	\$ -	\$ -
5.22.9 Grandview Park	2017	\$ 20,000	\$ -	\$ 20,000	\$ -	\$ 2,000	\$ 18,000	\$ -	\$ 18,000	\$ -	\$ -	\$ -	\$ -
5.22.10 Leitchcroft Community Park Phase 2	2017	\$ 20,000	\$ -	\$ 20,000	\$ -	\$ 2,000	\$ 18,000	\$ -	\$ 18,000	\$ -	\$ -	\$ -	\$ -
5.22.11 Angus Glen West Village Park	2017	\$ 31,250	\$ -	\$ 31,250	\$ -	\$ 3,125	\$ 28,125	\$ -	\$ 28,125	\$ -	\$ -	\$ -	\$ -
5.22.12 Berczy Beckett Northwest Park	2017	\$ 9,375	\$ -	\$ 9,375	\$ -	\$ 938	\$ 8,438	\$ -	\$ 8,438	\$ -	\$ -	\$ -	\$ -
5.22.13 Berczy Beckett North West Parkette	2017	\$ 6,250	\$ -	\$ 6,250	\$ -	\$ 625	\$ 5,625	\$ -	\$ 5,625	\$ -	\$ -	\$ -	\$ -
5.22.14 Berczy Beckett Neighbourhood Park	2017	\$ 12,500	\$ -	\$ 12,500	\$ -	\$ 1,250	\$ 11,250	\$ -	\$ 11,250	\$ -	\$ -	\$ -	\$ -
5.22.15 Berczy Beckett North East Parkette	2017	\$ 6,250	\$ -	\$ 6,250	\$ -	\$ 625	\$ 5,625	\$ -	\$ 5,625	\$ -	\$ -	\$ -	\$ -
5.22.16 Berczy Beckett East Parkette	2017	\$ 6,250	\$ -	\$ 6,250	\$ -	\$ 625	\$ 5,625	\$ -	\$ 5,625	\$ -	\$ -	\$ -	\$ -
5.22.17 Aaniin Community Centre Park	2017	\$ 156,250	\$ -	\$ 156,250	\$ -	\$ 15,625	\$ 140,625	\$ -	\$ 140,625	\$ -	\$ -	\$ -	\$ -
5.22.18 Markham Village Library Square Phase 1	2017	\$ 125,000	\$ -	\$ 125,000	\$ -	\$ 12,500	\$ 112,500	\$ -	\$ 112,500	\$ -	\$ -	\$ -	\$ -
5.22.19 Rizal Avenue Park	2017	\$ 28,125	\$ -	\$ 28,125	\$ -	\$ 2,813	\$ 25,313	\$ -	\$ 25,313	\$ -	\$ -	\$ -	\$ -
5.22.20 Vettese Court Park	2017	\$ 10,000	\$ -	\$ 10,000	\$ -	\$ 1,000	\$ 9,000	\$ -	\$ 9,000	\$ -	\$ -	\$ -	\$ -
5.22.21 Box Grove Community Park East Phase 1	2017	\$ 62,500	\$ -	\$ 62,500	\$ -	\$ 6,250	\$ 56,250	\$ -	\$ 56,250	\$ -	\$ -	\$ -	\$ -
5.22.22 Greensborough Williamson Neighbourhood Park	2017	\$ 31,250	\$ -	\$ 31,250	\$ -	\$ 3,125	\$ 28,125	\$ -	\$ 28,125	\$ -	\$ -	\$ -	\$ -
5.22.23 Markham Centre Times HWY 7 Window Park	2018	\$ 20,000	\$ -	\$ 20,000	\$ -	\$ 2,000	\$ 18,000	\$ -	\$ -	\$ 18,000	\$ -	\$ -	\$ -
5.22.24 Box Grove Community Park West Phase 2	2019	\$ 13,000	\$ -	\$ 13,000	\$ -	\$ 1,300	\$ 11,700	\$ -	\$ -	\$ 11,700	\$ -	\$ -	\$ -
5.22.25 Yonge Devron Park	2020	\$ 9,375	\$ -	\$ 9,375	\$ -	\$ 938	\$ 8,438	\$ -	\$ -	\$ 8,438	\$ -	\$ -	\$ -
5.22.26 Cornell Community Park Phase 2	2020	\$ 27,440	\$ -	\$ 27,440	\$ -	\$ 2,744	\$ 24,696	\$ -	\$ -	\$ 24,696	\$ -	\$ -	\$ -
5.22.27 Morgan Park Redevelopment	2021	\$ 27,440	\$ -	\$ 27,440	\$ -	\$ 2,744	\$ 24,696	\$ -	\$ -	\$ 24,696	\$ -	\$ -	\$ -
5.22.28 Unionville Central Square	2022	\$ 5,700	\$ -	\$ 5,700	\$ -	\$ 570	\$ 5,130	\$ -	\$ -	\$ 5,130	\$ -	\$ -	\$ -
5.22.29 Shops on Steeles	2022	\$ 31,250	\$ -	\$ 31,250	\$ -	\$ 3,125	\$ 28,125	\$ -	\$ -	\$ 28,125	\$ -	\$ -	\$ -
5.22.30 Cathedral Town Parkette	2022	\$ 15,000	\$ -	\$ 15,000	\$ -	\$ 1,500	\$ 13,500	\$ -	\$ -	\$ 13,500	\$ -	\$ -	\$ -
5.22.31 Woodbine Bypass North Park	2022	\$ 15,000	\$ -	\$ 15,000	\$ -	\$ 1,500	\$ 13,500	\$ -	\$ -	\$ 13,500	\$ -	\$ -	\$ -
5.22.32 York Downs Parkette Kennedy	2022	\$ 18,750	\$ -	\$ 18,750	\$ -	\$ 1,875	\$ 16,875	\$ -	\$ -	\$ 16,875	\$ -	\$ -	\$ -
5.22.33 Cornell Centre Mattamy Neighbourhood Park	2023	\$ 12,500	\$ -	\$ 12,500	\$ -	\$ 1,250	\$ 11,250	\$ -	\$ -	\$ 11,250	\$ -	\$ -	\$ -
5.22.34 Markham Centre- Clegg Road South	2024	\$ 20,000	\$ -	\$ 20,000	\$ -	\$ 2,000	\$ 18,000	\$ -	\$ -	\$ 18,000	\$ -	\$ -	\$ -
5.22.35 Markham Sports Park	2024	\$ 234,000	\$ -	\$ 234,000	\$ -	\$ 23,400	\$ 210,600	\$ -	\$ -	\$ 210,600	\$ -	\$ -	\$ -
5.22.36 Unionville Market Square	2024	\$ 9,375	\$ -	\$ 9,375	\$ -	\$ 938	\$ 8,438	\$ -	\$ -	\$ 8,438	\$ -	\$ -	\$ -
5.22.37 Markham Centre - Aryeh Strata Park	2026	\$ 57,000	\$ -	\$ 57,000	\$ -	\$ 5,700	\$ 51,300	\$ -	\$ -	\$ 51,300	\$ -	\$ -	\$ -
Subtotal Hard Surfaces - Plaza		\$ 1,200,830	\$ -	\$ 1,200,830	\$ -	\$ 120,083	\$ 1,080,747	\$ -	\$ 616,500	\$ 464,247	\$ -	\$ -	\$ -

CITY OF MARKHAM
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Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs				
					Replacement & BTE Shares	10% Reduction		Prior Growth	Available DC Reserves	2017-2026	Post 2026	
5.23 Seat Walls and Feature Walls												
5.23.1 Cornell Community Centre Square	2017	\$ 5,400	\$ -	\$ 5,400	\$ -	\$ 540	\$ 4,860	\$ -	\$ 4,860	\$ -	\$ -	
5.23.2 Aaniin Community Centre Park	2017	\$ 525,000	\$ -	\$ 525,000	\$ -	\$ 52,500	\$ 472,500	\$ -	\$ 472,500	\$ -	\$ -	
5.23.3 Vinegar Hill Parkette	2017	\$ 300,000	\$ -	\$ 300,000	\$ -	\$ 30,000	\$ 270,000	\$ -	\$ 270,000	\$ -	\$ -	
5.23.4 Vettese Court Park	2017	\$ 9,000	\$ -	\$ 9,000	\$ -	\$ 900	\$ 8,100	\$ -	\$ 8,100	\$ -	\$ -	
5.23.5 Box Grove Community Park East Phase 1	2017	\$ 36,000	\$ -	\$ 36,000	\$ -	\$ 3,600	\$ 32,400	\$ -	\$ 32,400	\$ -	\$ -	
5.23.6 Unionville Central Square	2022	\$ 1,800	\$ -	\$ 1,800	\$ -	\$ 180	\$ 1,620	\$ -	\$ -	\$ 1,620	\$ -	
5.23.7 Unionville Market Square	2024	\$ 1,800	\$ -	\$ 1,800	\$ -	\$ 180	\$ 1,620	\$ -	\$ -	\$ 1,620	\$ -	
Subtotal Seat Walls and Feature Walls		\$ 879,000	\$ -	\$ 879,000	\$ -	\$ 87,900	\$ 791,100	\$ -	\$ 787,860	\$ 3,240	\$ -	
5.24 Retaining Walls												
5.24.1 Berczy Square Park	2017	\$ 75,000	\$ -	\$ 75,000	\$ -	\$ 7,500	\$ 67,500	\$ -	\$ 67,500	\$ -	\$ -	
5.24.2 Berczy Beckett Northwest Park	2017	\$ 45,000	\$ -	\$ 45,000	\$ -	\$ 4,500	\$ 40,500	\$ -	\$ 40,500	\$ -	\$ -	
Subtotal Retaining Walls		\$ 120,000	\$ -	\$ 120,000	\$ -	\$ 12,000	\$ 108,000	\$ -	\$ 108,000	\$ -	\$ -	
5.25 Ramps and Exterior Stair & Handrail												
5.25.1 Berczy Square Park	2017	\$ 30,000	\$ -	\$ 30,000	\$ -	\$ 3,000	\$ 27,000	\$ -	\$ 27,000	\$ -	\$ -	
Subtotal Ramps and Exterior Stair & Handrail		\$ 30,000	\$ -	\$ 30,000	\$ -	\$ 3,000	\$ 27,000	\$ -	\$ 27,000	\$ -	\$ -	
5.26 Steel Bridges												
5.26.1 Box Grove Community Park East Phase 1	2017	\$ 287,500	\$ -	\$ 287,500	\$ -	\$ 28,750	\$ 258,750	\$ -	\$ 258,750	\$ -	\$ -	
5.26.2 Box Grove Community Park West Bridge	2019	\$ 250,000	\$ -	\$ 250,000	\$ -	\$ 25,000	\$ 225,000	\$ -	\$ -	\$ 225,000	\$ -	
Subtotal Steel Bridges		\$ 537,500	\$ -	\$ 537,500	\$ -	\$ 53,750	\$ 483,750	\$ -	\$ 258,750	\$ 225,000	\$ -	

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Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs				
					Replacement & BTE Shares	10% Reduction		Prior Growth	Available DC Reserves	2017-2026	Post 2026	
5.27 Pathways Concrete												
5.27.1 Wismer McCowan Woodlot Park	2017	\$ 28,600	\$ -	\$ 28,600	\$ -	\$ 2,860	\$ 25,740	\$ -	\$ 25,740	\$ -	\$ -	\$ -
5.27.2 Wismer - HWY 48 Museum Park North	2017	\$ 34,650	\$ -	\$ 34,650	\$ -	\$ 3,465	\$ 31,185	\$ -	\$ 31,185	\$ -	\$ -	\$ -
5.27.3 Wismer Hammersley Park	2017	\$ 5,500	\$ -	\$ 5,500	\$ -	\$ 550	\$ 4,950	\$ -	\$ 4,950	\$ -	\$ -	\$ -
5.27.4 Wismer - Alexander Lawrie Park East and West	2017	\$ 34,650	\$ -	\$ 34,650	\$ -	\$ 3,465	\$ 31,185	\$ -	\$ 31,185	\$ -	\$ -	\$ -
5.27.5 Greensborough Gord Weeden Park	2017	\$ 16,500	\$ -	\$ 16,500	\$ -	\$ 1,650	\$ 14,850	\$ -	\$ 14,850	\$ -	\$ -	\$ -
5.27.6 Cornell Centre Parkette Demott Avenue	2017	\$ 34,650	\$ -	\$ 34,650	\$ -	\$ 3,465	\$ 31,185	\$ -	\$ 31,185	\$ -	\$ -	\$ -
5.27.7 Cornell Community Centre Square	2017	\$ 34,650	\$ -	\$ 34,650	\$ -	\$ 3,465	\$ 31,185	\$ -	\$ 31,185	\$ -	\$ -	\$ -
5.27.8 Markham Centre Rouge Valley Drive West Park	2017	\$ 34,650	\$ -	\$ 34,650	\$ -	\$ 3,465	\$ 31,185	\$ -	\$ 31,185	\$ -	\$ -	\$ -
5.27.9 Angus Glen West Village Parkette	2017	\$ 51,150	\$ -	\$ 51,150	\$ -	\$ 5,115	\$ 46,035	\$ -	\$ 46,035	\$ -	\$ -	\$ -
5.27.10 Cornell Madison Rouge Blvd Park North	2017	\$ 16,500	\$ -	\$ 16,500	\$ -	\$ 1,650	\$ 14,850	\$ -	\$ 14,850	\$ -	\$ -	\$ -
5.27.11 Cornell Madison Rouge Blvd Park South	2017	\$ 34,650	\$ -	\$ 34,650	\$ -	\$ 3,465	\$ 31,185	\$ -	\$ 31,185	\$ -	\$ -	\$ -
5.27.12 Box Grove Community Centre Park Phase 2	2017	\$ 34,650	\$ -	\$ 34,650	\$ -	\$ 3,465	\$ 31,185	\$ -	\$ 31,185	\$ -	\$ -	\$ -
5.27.13 Main Street Milliken NW Parkette	2017	\$ 2,200	\$ -	\$ 2,200	\$ -	\$ 220	\$ 1,980	\$ -	\$ 1,980	\$ -	\$ -	\$ -
5.27.14 Berczy Square Park	2017	\$ 34,650	\$ -	\$ 34,650	\$ -	\$ 3,465	\$ 31,185	\$ -	\$ 31,185	\$ -	\$ -	\$ -
5.27.15 Wismer Donald Mingay Woodlot Park	2017	\$ 34,650	\$ -	\$ 34,650	\$ -	\$ 3,465	\$ 31,185	\$ -	\$ 31,185	\$ -	\$ -	\$ -
5.27.16 Cornell Community Park Phase 1	2017	\$ 34,650	\$ -	\$ 34,650	\$ -	\$ 3,465	\$ 31,185	\$ -	\$ 31,185	\$ -	\$ -	\$ -
5.27.17 Wismer Community Park	2017	\$ 34,650	\$ -	\$ 34,650	\$ -	\$ 3,465	\$ 31,185	\$ -	\$ 31,185	\$ -	\$ -	\$ -
5.27.18 Grandview Park	2017	\$ 34,650	\$ -	\$ 34,650	\$ -	\$ 3,465	\$ 31,185	\$ -	\$ 31,185	\$ -	\$ -	\$ -
5.27.19 Leitchcroft Community Park Phase 2	2017	\$ 34,650	\$ -	\$ 34,650	\$ -	\$ 3,465	\$ 31,185	\$ -	\$ 31,185	\$ -	\$ -	\$ -
5.27.20 Southwest Cathedral Russell Dawson Park	2017	\$ 34,650	\$ -	\$ 34,650	\$ -	\$ 3,465	\$ 31,185	\$ -	\$ 31,185	\$ -	\$ -	\$ -
5.27.21 Angus Glen West Village Park	2017	\$ 34,650	\$ -	\$ 34,650	\$ -	\$ 3,465	\$ 31,185	\$ -	\$ 31,185	\$ -	\$ -	\$ -
5.27.22 Berczy Beckett Northwest Park	2017	\$ 23,650	\$ -	\$ 23,650	\$ -	\$ 2,365	\$ 21,285	\$ -	\$ 21,285	\$ -	\$ -	\$ -
5.27.23 Berczy Beckett North West Parkette	2017	\$ 8,250	\$ -	\$ 8,250	\$ -	\$ 825	\$ 7,425	\$ -	\$ 7,425	\$ -	\$ -	\$ -
5.27.24 Berczy Beckett Neighbourhood Park	2017	\$ 13,750	\$ -	\$ 13,750	\$ -	\$ 1,375	\$ 12,375	\$ -	\$ 12,375	\$ -	\$ -	\$ -
5.27.25 Berczy Beckett North East Parkette	2017	\$ 11,000	\$ -	\$ 11,000	\$ -	\$ 1,100	\$ 9,900	\$ -	\$ 9,900	\$ -	\$ -	\$ -
5.27.26 Berczy Beckett East Parkette	2017	\$ 11,000	\$ -	\$ 11,000	\$ -	\$ 1,100	\$ 9,900	\$ -	\$ 9,900	\$ -	\$ -	\$ -
5.27.27 Wismer Percy Reesor Street Parkette	2017	\$ 5,500	\$ -	\$ 5,500	\$ -	\$ 550	\$ 4,950	\$ -	\$ 4,950	\$ -	\$ -	\$ -
5.27.28 Aaniin Community Centre Park	2017	\$ 242,000	\$ -	\$ 242,000	\$ -	\$ 24,200	\$ 217,800	\$ -	\$ 217,800	\$ -	\$ -	\$ -
5.27.29 Celebration Park Phase 2	2017	\$ 242,000	\$ -	\$ 242,000	\$ -	\$ 24,200	\$ 217,800	\$ -	\$ 217,800	\$ -	\$ -	\$ -
5.27.30 Celebration Park Phase 2	2017	\$ 16,500	\$ -	\$ 16,500	\$ -	\$ 1,650	\$ 14,850	\$ -	\$ 14,850	\$ -	\$ -	\$ -
5.27.31 Markham Village Library Square Phase 1	2017	\$ 55,000	\$ -	\$ 55,000	\$ -	\$ 5,500	\$ 49,500	\$ -	\$ 49,500	\$ -	\$ -	\$ -
5.27.32 Vinegar Hill Parkette	2017	\$ 13,750	\$ -	\$ 13,750	\$ -	\$ 1,375	\$ 12,375	\$ -	\$ 12,375	\$ -	\$ -	\$ -
5.27.33 Rizal Avenue Park	2017	\$ 49,500	\$ -	\$ 49,500	\$ -	\$ 4,950	\$ 44,550	\$ -	\$ 44,550	\$ -	\$ -	\$ -
5.27.34 Vettese Court Park	2017	\$ 16,500	\$ -	\$ 16,500	\$ -	\$ 1,650	\$ 14,850	\$ -	\$ 14,850	\$ -	\$ -	\$ -
5.27.35 Box Grove Community Park East Phase 1	2017	\$ 148,500	\$ -	\$ 148,500	\$ -	\$ 14,850	\$ 133,650	\$ -	\$ 133,650	\$ -	\$ -	\$ -
5.27.36 Cornell Rouge Riverlands Phase 2	2017	\$ 8,250	\$ -	\$ 8,250	\$ -	\$ 825	\$ 7,425	\$ -	\$ 7,425	\$ -	\$ -	\$ -
5.27.37 Cornell Madison Rouge/Riverlands	2017	\$ 13,750	\$ -	\$ 13,750	\$ -	\$ 1,375	\$ 12,375	\$ -	\$ 12,375	\$ -	\$ -	\$ -
5.27.38 Upper Greensborough Fimco Crescent Park	2017	\$ 49,500	\$ -	\$ 49,500	\$ -	\$ 4,950	\$ 44,550	\$ -	\$ 44,550	\$ -	\$ -	\$ -
5.27.39 Greensborough Williamson Neighbourhood Park	2017	\$ 46,750	\$ -	\$ 46,750	\$ -	\$ 4,675	\$ 42,075	\$ -	\$ 42,075	\$ -	\$ -	\$ -
5.27.40 Markham Centre Times HWY 7 Window Park	2018	\$ 34,650	\$ -	\$ 34,650	\$ -	\$ 3,465	\$ 31,185	\$ -	\$ -	\$ 31,185	\$ -	\$ -
5.27.41 Cornell Community Park Maintenance Building	2018	\$ 20,680	\$ -	\$ 20,680	\$ -	\$ 2,068	\$ 18,612	\$ -	\$ -	\$ 18,612	\$ -	\$ -
5.27.42 Wismer Community Park	2018	\$ 11,000	\$ -	\$ 11,000	\$ -	\$ 1,100	\$ 9,900	\$ -	\$ -	\$ 9,900	\$ -	\$ -
5.27.43 Carleton Park Redevelopment	2018	\$ 49,500	\$ -	\$ 49,500	\$ -	\$ 4,950	\$ 44,550	\$ -	\$ -	\$ 44,550	\$ -	\$ -
5.27.44 Berczy Beckett Cemetery Park	2019	\$ 22,000	\$ -	\$ 22,000	\$ -	\$ 2,200	\$ 19,800	\$ -	\$ -	\$ 19,800	\$ -	\$ -

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					Replacement & BTE Shares	10% Reduction		Prior Growth	Available DC Reserves	2017-2026	Post 2026	
5.27 Pathways Concrete - Cont'd												
5.27.45 Box Grove Community Park West Phase 2	2019	\$ 242,000	\$ -	\$ 242,000	\$ -	\$ 24,200	\$ 217,800	\$ -	\$ -	\$ 217,800	\$ -	
5.27.46 Box Grove Community Park Bridge	2019	\$ 16,500	\$ -	\$ 16,500	\$ -	\$ 1,650	\$ 14,850	\$ -	\$ -	\$ 14,850	\$ -	
5.27.47 Markham Centre Times Valley Edge Park	2019	\$ 149,996	\$ -	\$ 149,996	\$ -	\$ 15,000	\$ 134,996	\$ -	\$ -	\$ 134,996	\$ -	
5.27.48 Swan Lake Linear Park	2019	\$ 5,500	\$ -	\$ 5,500	\$ -	\$ 550	\$ 4,950	\$ -	\$ -	\$ 4,950	\$ -	
5.27.49 H&R Grand Cornell Park Phase 2	2020	\$ 17,050	\$ -	\$ 17,050	\$ -	\$ 1,705	\$ 15,345	\$ -	\$ -	\$ 15,345	\$ -	
5.27.50 Cornell - East Channel Park North and South	2020	\$ 12,100	\$ -	\$ 12,100	\$ -	\$ 1,210	\$ 10,890	\$ -	\$ -	\$ 10,890	\$ -	
5.27.51 Wismer Greenspire Parkette	2020	\$ 49,940	\$ -	\$ 49,940	\$ -	\$ 4,994	\$ 44,946	\$ -	\$ -	\$ 44,946	\$ -	
5.27.52 Yonge Devron Park	2020	\$ 18,150	\$ -	\$ 18,150	\$ -	\$ 1,815	\$ 16,335	\$ -	\$ -	\$ 16,335	\$ -	
5.27.53 Cornell Community Park Phase 2	2020	\$ 240,020	\$ -	\$ 240,020	\$ -	\$ 24,002	\$ 216,018	\$ -	\$ -	\$ 216,018	\$ -	
5.27.54 Yonge Canac Park	2021	\$ 35,002	\$ -	\$ 35,002	\$ -	\$ 3,500	\$ 31,502	\$ -	\$ -	\$ 31,502	\$ -	
5.27.55 Cornell Parkette - 9th Line & HWY 7	2021	\$ 34,980	\$ -	\$ 34,980	\$ -	\$ 3,498	\$ 31,482	\$ -	\$ -	\$ 31,482	\$ -	
5.27.56 Victoria Square West Village	2021	\$ 50,050	\$ -	\$ 50,050	\$ -	\$ 5,005	\$ 45,045	\$ -	\$ -	\$ 45,045	\$ -	
5.27.57 Upper Greensborough Parkway Park	2021	\$ 150,040	\$ -	\$ 150,040	\$ -	\$ 15,004	\$ 135,036	\$ -	\$ -	\$ 135,036	\$ -	
5.27.58 Morgan Park Redevelopment	2021	\$ 150,040	\$ -	\$ 150,040	\$ -	\$ 15,004	\$ 135,036	\$ -	\$ -	\$ 135,036	\$ -	
5.27.59 Warden East Neighbourhood Park	2021	\$ 35,200	\$ -	\$ 35,200	\$ -	\$ 3,520	\$ 31,680	\$ -	\$ -	\$ 31,680	\$ -	
5.27.60 Warden South West Neighbourhood Park	2022	\$ 35,200	\$ -	\$ 35,200	\$ -	\$ 3,520	\$ 31,680	\$ -	\$ -	\$ 31,680	\$ -	
5.27.61 York Downs - Kennedy Road Block 4	2022	\$ 22,000	\$ -	\$ 22,000	\$ -	\$ 2,200	\$ 19,800	\$ -	\$ -	\$ 19,800	\$ -	
5.27.62 Galleria Parkette	2022	\$ 18,700	\$ -	\$ 18,700	\$ -	\$ 1,870	\$ 16,830	\$ -	\$ -	\$ 16,830	\$ -	
5.27.63 Shops on Steeles	2022	\$ 11,000	\$ -	\$ 11,000	\$ -	\$ 1,100	\$ 9,900	\$ -	\$ -	\$ 9,900	\$ -	
5.27.64 Cathedral Town Parkette	2022	\$ 16,500	\$ -	\$ 16,500	\$ -	\$ 1,650	\$ 14,850	\$ -	\$ -	\$ 14,850	\$ -	
5.27.65 Woodbine Bypass North Park	2022	\$ 11,000	\$ -	\$ 11,000	\$ -	\$ 1,100	\$ 9,900	\$ -	\$ -	\$ 9,900	\$ -	
5.27.66 York Downs Parkette- Kennedy	2022	\$ 16,500	\$ -	\$ 16,500	\$ -	\$ 1,650	\$ 14,850	\$ -	\$ -	\$ 14,850	\$ -	
5.27.67 Box Grove Community Park Washroom Pavilion	2023	\$ 16,500	\$ -	\$ 16,500	\$ -	\$ 1,650	\$ 14,850	\$ -	\$ -	\$ 14,850	\$ -	
5.27.68 Warden North West Neighbourhood Park	2023	\$ 35,200	\$ -	\$ 35,200	\$ -	\$ 3,520	\$ 31,680	\$ -	\$ -	\$ 31,680	\$ -	
5.27.69 Cornell Centre East Parkette	2023	\$ 35,200	\$ -	\$ 35,200	\$ -	\$ 3,520	\$ 31,680	\$ -	\$ -	\$ 31,680	\$ -	
5.27.70 Cornell Centre Mattamy Neighbourhood Park	2023	\$ 35,200	\$ -	\$ 35,200	\$ -	\$ 3,520	\$ 31,680	\$ -	\$ -	\$ 31,680	\$ -	
5.27.71 York Downs - Gateway Park Block 7	2023	\$ 16,500	\$ -	\$ 16,500	\$ -	\$ 1,650	\$ 14,850	\$ -	\$ -	\$ 14,850	\$ -	
5.27.72 Cornell Centre West Parkette	2024	\$ 11,000	\$ -	\$ 11,000	\$ -	\$ 1,100	\$ 9,900	\$ -	\$ -	\$ 9,900	\$ -	
5.27.73 York Downs - Large Lot Park Block 8	2024	\$ 35,200	\$ -	\$ 35,200	\$ -	\$ 3,520	\$ 31,680	\$ -	\$ -	\$ 31,680	\$ -	
5.27.74 York Downs Parkette Block 5	2024	\$ 30,800	\$ -	\$ 30,800	\$ -	\$ 3,080	\$ 27,720	\$ -	\$ -	\$ 27,720	\$ -	
5.27.75 Langstaff - Woodlot Park	2024	\$ 27,500	\$ -	\$ 27,500	\$ -	\$ 2,750	\$ 24,750	\$ -	\$ -	\$ 24,750	\$ -	
5.27.76 Markham Centre North East Valley Edge Parkette	2024	\$ 17,600	\$ -	\$ 17,600	\$ -	\$ 1,760	\$ 15,840	\$ -	\$ -	\$ 15,840	\$ -	
5.27.77 Markham Centre - Clegg Road South	2024	\$ 17,600	\$ -	\$ 17,600	\$ -	\$ 1,760	\$ 15,840	\$ -	\$ -	\$ 15,840	\$ -	
5.27.78 Markham Sports Park	2024	\$ 73,500	\$ -	\$ 73,500	\$ -	\$ 7,350	\$ 66,150	\$ -	\$ -	\$ 66,150	\$ -	
5.27.79 Milliken Old McGowan Road Neighbourhood Park	2024	\$ 18,700	\$ -	\$ 18,700	\$ -	\$ 1,870	\$ 16,830	\$ -	\$ -	\$ 16,830	\$ -	
5.27.80 Unionville Market Square	2024	\$ 16,500	\$ -	\$ 16,500	\$ -	\$ 1,650	\$ 14,850	\$ -	\$ -	\$ 14,850	\$ -	
5.27.81 Milliken Neighbourhood Park	2025	\$ 16,500	\$ -	\$ 16,500	\$ -	\$ 1,650	\$ 14,850	\$ -	\$ -	\$ 14,850	\$ -	
5.27.82 York Downs - Parkette Block 10	2025	\$ 11,000	\$ -	\$ 11,000	\$ -	\$ 1,100	\$ 9,900	\$ -	\$ -	\$ 9,900	\$ -	
5.27.83 Fairview Park	2025	\$ 240,020	\$ -	\$ 240,020	\$ -	\$ 24,002	\$ 216,018	\$ -	\$ -	\$ 216,018	\$ -	
5.27.84 Cornell Community Park	2026	\$ 16,500	\$ -	\$ 16,500	\$ -	\$ 1,650	\$ 14,850	\$ -	\$ -	\$ 14,850	\$ -	
5.27.85 York Downs - Parkette Block 9	2026	\$ 14,850	\$ -	\$ 14,850	\$ -	\$ 1,485	\$ 13,365	\$ -	\$ -	\$ 13,365	\$ -	
5.27.86 King's Square	2026	\$ 16,500	\$ -	\$ 16,500	\$ -	\$ 1,650	\$ 14,850	\$ -	\$ -	\$ 14,850	\$ -	
5.27.87 FUA Major Mackenzie Neighbourhood Park	2026	\$ 35,200	\$ -	\$ 35,200	\$ -	\$ 3,520	\$ 31,680	\$ -	\$ -	\$ 31,680	\$ -	
5.27.88 Langstaff - Pomona Creek Park	2026	\$ 11,000	\$ -	\$ 11,000	\$ -	\$ 1,100	\$ 9,900	\$ -	\$ -	\$ 9,900	\$ -	
Subtotal Pathways Concrete - Cont'd		\$ 3,839,218	\$ -	\$ 3,839,218	\$ -	\$ 383,922	\$ 3,455,296	\$ -	\$ 1,453,815	\$ 2,001,481	\$ -	

CITY OF MARKHAM
DEVELOPMENT-RELATED CAPITAL PROGRAM
PARK DEVELOPMENT & FACILITIES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs				
					Replacement & BTE Shares	10% Reduction		Prior Growth	Available DC Reserves	2017-2026	Post 2026	
5.28 Pathways Paved Asphalt												
5.28.1 Wismer - Alexander Lawrie Park East and West	2017	\$ 6,000	\$ -	\$ 6,000	\$ -	\$ 600	\$ 5,400	\$ -	\$ 5,400	\$ -	\$ -	
5.28.2 Swan Lake Park South Williamson	2017	\$ 25,200	\$ -	\$ 25,200	\$ -	\$ 2,520	\$ 22,680	\$ -	\$ 22,680	\$ -	\$ -	
5.28.3 Greensborough Gord Weeden Park	2017	\$ 6,000	\$ -	\$ 6,000	\$ -	\$ 600	\$ 5,400	\$ -	\$ 5,400	\$ -	\$ -	
5.28.4 Cornell Centre Parkette Demott Avenue	2017	\$ 9,200	\$ -	\$ 9,200	\$ -	\$ 920	\$ 8,280	\$ -	\$ 8,280	\$ -	\$ -	
5.28.5 Wismer Donald Mingay Woodlot Park	2017	\$ 9,200	\$ -	\$ 9,200	\$ -	\$ 920	\$ 8,280	\$ -	\$ 8,280	\$ -	\$ -	
5.28.6 Cornell Community Park Phase 1	2017	\$ 9,200	\$ -	\$ 9,200	\$ -	\$ 920	\$ 8,280	\$ -	\$ 8,280	\$ -	\$ -	
5.28.7 Grandview Park	2017	\$ 9,200	\$ -	\$ 9,200	\$ -	\$ 920	\$ 8,280	\$ -	\$ 8,280	\$ -	\$ -	
5.28.8 Leitchcroft Community Park Phase 2	2017	\$ 9,200	\$ -	\$ 9,200	\$ -	\$ 920	\$ 8,280	\$ -	\$ 8,280	\$ -	\$ -	
5.28.9 Southwest Cathedral Russell Dawson Park	2017	\$ 9,200	\$ -	\$ 9,200	\$ -	\$ 920	\$ 8,280	\$ -	\$ 8,280	\$ -	\$ -	
5.28.10 Angus Glen West Village Park	2017	\$ 9,200	\$ -	\$ 9,200	\$ -	\$ 920	\$ 8,280	\$ -	\$ 8,280	\$ -	\$ -	
5.28.11 Berczy Beckett Northwest Park	2017	\$ 8,000	\$ -	\$ 8,000	\$ -	\$ 800	\$ 7,200	\$ -	\$ 7,200	\$ -	\$ -	
5.28.12 Wismer Percy Reesor Street Parkette	2017	\$ 2,000	\$ -	\$ 2,000	\$ -	\$ 200	\$ 1,800	\$ -	\$ 1,800	\$ -	\$ -	
5.28.13 Celebration Park Phase 2	2017	\$ 100,000	\$ -	\$ 100,000	\$ -	\$ 10,000	\$ 90,000	\$ -	\$ 90,000	\$ -	\$ -	
5.28.14 Markham Village Library Square Phase 1	2017	\$ 20,000	\$ -	\$ 20,000	\$ -	\$ 2,000	\$ 18,000	\$ -	\$ 18,000	\$ -	\$ -	
5.28.15 Vinegar Hill Parkette	2017	\$ 6,000	\$ -	\$ 6,000	\$ -	\$ 600	\$ 5,400	\$ -	\$ 5,400	\$ -	\$ -	
5.28.16 Rizal Avenue Park	2017	\$ 12,000	\$ -	\$ 12,000	\$ -	\$ 1,200	\$ 10,800	\$ -	\$ 10,800	\$ -	\$ -	
5.28.17 Vettese Court Park	2017	\$ 6,000	\$ -	\$ 6,000	\$ -	\$ 600	\$ 5,400	\$ -	\$ 5,400	\$ -	\$ -	
5.28.18 Upper Greensborough Fimco Crescent Park	2017	\$ 12,000	\$ -	\$ 12,000	\$ -	\$ 1,200	\$ 10,800	\$ -	\$ 10,800	\$ -	\$ -	
5.28.19 Carlton Park Redevelopment	2018	\$ 8,000	\$ -	\$ 8,000	\$ -	\$ 800	\$ 7,200	\$ -	\$ -	\$ 7,200	\$ -	
5.28.20 Box Grove Community Park West Phase 2	2019	\$ 66,000	\$ -	\$ 66,000	\$ -	\$ 6,600	\$ 59,400	\$ -	\$ -	\$ 59,400	\$ -	
5.28.21 Box Grove Community Park Bridge	2019	\$ 6,000	\$ -	\$ 6,000	\$ -	\$ 600	\$ 5,400	\$ -	\$ -	\$ 5,400	\$ -	
5.28.22 Markham Centre Times Valley Edge Park	2019	\$ 30,000	\$ -	\$ 30,000	\$ -	\$ 3,000	\$ 27,000	\$ -	\$ -	\$ 27,000	\$ -	
5.28.23 Swan Lake Linear Park	2019	\$ 4,000	\$ -	\$ 4,000	\$ -	\$ 400	\$ 3,600	\$ -	\$ -	\$ 3,600	\$ -	
5.28.24 Wismer Greenspire Parkette	2020	\$ 10,000	\$ -	\$ 10,000	\$ -	\$ 1,000	\$ 9,000	\$ -	\$ -	\$ 9,000	\$ -	
5.28.25 Cornell Community Park Phase 2	2020	\$ 102,400	\$ -	\$ 102,400	\$ -	\$ 10,240	\$ 92,160	\$ -	\$ -	\$ 92,160	\$ -	
5.28.26 Upper Greensborough Parkway Park	2021	\$ 30,000	\$ -	\$ 30,000	\$ -	\$ 3,000	\$ 27,000	\$ -	\$ -	\$ 27,000	\$ -	
5.28.27 Warden East Neighbourhood Park	2021	\$ 8,000	\$ -	\$ 8,000	\$ -	\$ 800	\$ 7,200	\$ -	\$ -	\$ 7,200	\$ -	
5.28.28 Warden South West Neighbourhood Park	2022	\$ 8,000	\$ -	\$ 8,000	\$ -	\$ 800	\$ 7,200	\$ -	\$ -	\$ 7,200	\$ -	
5.28.29 Warden Northwest Neighbourhood Park	2023	\$ 8,000	\$ -	\$ 8,000	\$ -	\$ 800	\$ 7,200	\$ -	\$ -	\$ 7,200	\$ -	
5.28.30 Cornell Centre Mattamy Neighbourhood Park	2023	\$ 8,000	\$ -	\$ 8,000	\$ -	\$ 800	\$ 7,200	\$ -	\$ -	\$ 7,200	\$ -	
5.28.31 Markham Sports Park	2024	\$ 172,500	\$ -	\$ 172,500	\$ -	\$ 17,250	\$ 155,250	\$ -	\$ -	\$ 155,250	\$ -	
5.28.32 York Downs - Large Lot Park Block 8	2024	\$ 8,000	\$ -	\$ 8,000	\$ -	\$ 800	\$ 7,200	\$ -	\$ -	\$ 7,200	\$ -	
5.28.33 Langstaff - Woodlot Park	2024	\$ 8,000	\$ -	\$ 8,000	\$ -	\$ 800	\$ 7,200	\$ -	\$ -	\$ 7,200	\$ -	
5.28.34 Fairview Park	2025	\$ 40,000	\$ -	\$ 40,000	\$ -	\$ 4,000	\$ 36,000	\$ -	\$ -	\$ 36,000	\$ -	
5.28.35 FUA Major Mackenzie Neighbourhood Park	2026	\$ 8,000	\$ -	\$ 8,000	\$ -	\$ 800	\$ 7,200	\$ -	\$ -	\$ 7,200	\$ -	
Subtotal Pathways Paved Asphalt		\$ 792,500	\$ -	\$ 792,500	\$ -	\$ 79,250	\$ 713,250	\$ -	\$ 240,840	\$ 472,410	\$ -	

CITY OF MARKHAM
DEVELOPMENT-RELATED CAPITAL PROGRAM
PARK DEVELOPMENT & FACILITIES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs					
					Replacement & BTE Shares	10% Reduction		Prior Growth	Available DC Reserves	2017-2026	Post 2026		
5.29 Pathways Limestone and Woodchip													
5.29.1 Wismer McCowan Woodlot Park	2017	\$ 8,050	\$ -	\$ 8,050	\$ -	\$ 805	\$ 7,245	\$ -	\$ 7,245	\$ -	\$ -		
5.29.2 Swan Lake Park South Williamson	2017	\$ 8,050	\$ -	\$ 8,050	\$ -	\$ 805	\$ 7,245	\$ -	\$ 7,245	\$ -	\$ -		
5.29.3 Greensborough Gord Weeden Park	2017	\$ 3,500	\$ -	\$ 3,500	\$ -	\$ 350	\$ 3,150	\$ -	\$ 3,150	\$ -	\$ -		
5.29.4 Markham Centre Rouge Valley Drive West Park	2017	\$ 5,250	\$ -	\$ 5,250	\$ -	\$ 525	\$ 4,725	\$ -	\$ 4,725	\$ -	\$ -		
5.29.5 Cornell Madison Rouge Blvd Park South	2017	\$ 5,250	\$ -	\$ 5,250	\$ -	\$ 525	\$ 4,725	\$ -	\$ 4,725	\$ -	\$ -		
5.29.6 Wismer Donald Mingay Woodlot Park	2017	\$ 5,250	\$ -	\$ 5,250	\$ -	\$ 525	\$ 4,725	\$ -	\$ 4,725	\$ -	\$ -		
5.29.7 Markham Centre Times Valley Edge Park	2019	\$ 5,040	\$ -	\$ 5,040	\$ -	\$ 504	\$ 4,536	\$ -	\$ -	\$ 4,536	\$ -		
5.29.8 Swan Lake Linear Park	2019	\$ 3,500	\$ -	\$ 3,500	\$ -	\$ 350	\$ 3,150	\$ -	\$ -	\$ 3,150	\$ -		
5.29.9 Cornell Community Park Phase 2	2020	\$ 35,000	\$ -	\$ 35,000	\$ -	\$ 3,500	\$ 31,500	\$ -	\$ -	\$ 31,500	\$ -		
5.29.10 Langstaff - Woodlot Park	2024	\$ 7,000	\$ -	\$ 7,000	\$ -	\$ 700	\$ 6,300	\$ -	\$ -	\$ 6,300	\$ -		
Subtotal Pathways Limestone and Woodchip		\$ 85,890	\$ -	\$ 85,890	\$ -	\$ 8,589	\$ 77,301	\$ -	\$ 31,815	\$ 45,486	\$ -		
5.30 Pedestrian Lighting													
5.30.1 Carlton Park Redevelopment	2018	\$ 65,000	\$ -	\$ 65,000	\$ -	\$ 6,500	\$ 58,500	\$ -	\$ -	\$ 58,500	\$ -		
5.30.2 Box Grove Community Park West Phase 2	2019	\$ 97,500	\$ -	\$ 97,500	\$ -	\$ 9,750	\$ 87,750	\$ -	\$ -	\$ 87,750	\$ -		
5.30.3 Cornell Community Park Phase 2	2020	\$ 97,500	\$ -	\$ 97,500	\$ -	\$ 9,750	\$ 87,750	\$ -	\$ -	\$ 87,750	\$ -		
5.30.4 Unionville Central Square	2022	\$ 19,500	\$ -	\$ 19,500	\$ -	\$ 1,950	\$ 17,550	\$ -	\$ -	\$ 17,550	\$ -		
5.30.5 Fairview Park	2025	\$ 65,000	\$ -	\$ 65,000	\$ -	\$ 6,500	\$ 58,500	\$ -	\$ -	\$ 58,500	\$ -		
Subtotal Pedestrian Lighting		\$ 344,500	\$ -	\$ 344,500	\$ -	\$ 34,450	\$ 310,050	\$ -	\$ -	\$ 310,050	\$ -		
5.31 Paved Parking Lots													
5.31.1 Box Grove Community Centre Park Phase 2	2017	\$ 150,000	\$ -	\$ 150,000	\$ -	\$ 15,000	\$ 135,000	\$ -	\$ 135,000	\$ -	\$ -		
5.31.2 Cornell Community Park Phase 1	2017	\$ 150,000	\$ -	\$ 150,000	\$ -	\$ 15,000	\$ 135,000	\$ -	\$ 135,000	\$ -	\$ -		
5.31.3 Leitchcroft Community Park Phase 2	2017	\$ 150,000	\$ -	\$ 150,000	\$ -	\$ 15,000	\$ 135,000	\$ -	\$ 135,000	\$ -	\$ -		
5.31.4 Box Grove Community Park East Phase 1	2017	\$ 490,000	\$ -	\$ 490,000	\$ -	\$ 49,000	\$ 441,000	\$ -	\$ 441,000	\$ -	\$ -		
5.31.5 Cornell Community Park Maintenance Building	2018	\$ 150,000	\$ -	\$ 150,000	\$ -	\$ 15,000	\$ 135,000	\$ -	\$ -	\$ 135,000	\$ -		
5.31.6 Wismer Community Park	2018	\$ 150,000	\$ -	\$ 150,000	\$ -	\$ 15,000	\$ 135,000	\$ -	\$ -	\$ 135,000	\$ -		
5.31.7 Carlton Park Redevelopment	2018	\$ 340,000	\$ -	\$ 340,000	\$ -	\$ 34,000	\$ 306,000	\$ -	\$ -	\$ 306,000	\$ -		
5.31.8 Box Grove Community Park West Phase 2	2019	\$ 150,000	\$ -	\$ 150,000	\$ -	\$ 15,000	\$ 135,000	\$ -	\$ -	\$ 135,000	\$ -		
5.31.9 Cornell Community Park Phase 2	2020	\$ 490,000	\$ -	\$ 490,000	\$ -	\$ 49,000	\$ 441,000	\$ -	\$ -	\$ 441,000	\$ -		
5.31.10 Box Grove Community Park Washroom Park Pavilion	2023	\$ 340,000	\$ -	\$ 340,000	\$ -	\$ 34,000	\$ 306,000	\$ -	\$ -	\$ 306,000	\$ -		
5.31.11 Fairview Park	2025	\$ 250,000	\$ -	\$ 250,000	\$ -	\$ 25,000	\$ 225,000	\$ -	\$ -	\$ 225,000	\$ -		
5.31.12 Cornell Community Park	2026	\$ 150,000	\$ -	\$ 150,000	\$ -	\$ 15,000	\$ 135,000	\$ -	\$ -	\$ 135,000	\$ -		
Subtotal Paved Parking Lots		\$ 2,960,000	\$ -	\$ 2,960,000	\$ -	\$ 296,000	\$ 2,664,000	\$ -	\$ 846,000	\$ 1,818,000	\$ -		

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APPENDIX B.5
TABLE 2

CITY OF MARKHAM
DEVELOPMENT-RELATED CAPITAL PROGRAM
PARK DEVELOPMENT & FACILITIES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs					
					Replacement & BTE Shares	10% Reduction		Prior Growth	Available DC Reserves	2017-2026	Post 2026		
5.32 Park Development - Community/City-Wide													
5.32.1 Wismer McCowan Woodlot Park	2017	\$ 198,350	\$ -	\$ 198,350	\$ -	\$ 19,835	\$ 178,515	\$ -	\$ 178,515	\$ -	\$ -	\$ -	\$ -
5.32.2 Wismer - HWY 48 Museum Park North	2017	\$ 70,000	\$ -	\$ 70,000	\$ -	\$ 7,000	\$ 63,000	\$ -	\$ 63,000	\$ -	\$ -	\$ -	\$ -
5.32.3 Wismer - HWY 48 Museum Park North	2017	\$ 520,250	\$ -	\$ 520,250	\$ -	\$ 52,025	\$ 468,225	\$ -	\$ 468,225	\$ -	\$ -	\$ -	\$ -
5.32.4 Wismer Hammersley Park	2017	\$ 34,500	\$ -	\$ 34,500	\$ -	\$ 3,450	\$ 31,050	\$ -	\$ 31,050	\$ -	\$ -	\$ -	\$ -
5.32.5 Wismer - Alexander Lawrie Park East and West	2017	\$ 404,350	\$ -	\$ 404,350	\$ -	\$ 40,435	\$ 363,915	\$ -	\$ 363,915	\$ -	\$ -	\$ -	\$ -
5.32.6 Swan Lake Park South Williamson	2017	\$ 271,750	\$ -	\$ 271,750	\$ -	\$ 27,175	\$ 244,575	\$ -	\$ 244,575	\$ -	\$ -	\$ -	\$ -
5.32.7 Greensborough Gord Weeden Park	2017	\$ 99,000	\$ -	\$ 99,000	\$ -	\$ 9,900	\$ 89,100	\$ -	\$ 89,100	\$ -	\$ -	\$ -	\$ -
5.32.8 Cornell Centre North Park and Woodlot	2017	\$ 90,000	\$ -	\$ 90,000	\$ -	\$ 9,000	\$ 81,000	\$ -	\$ 81,000	\$ -	\$ -	\$ -	\$ -
5.32.9 Cornell Centre Parkette Demott Avenue	2017	\$ 155,150	\$ -	\$ 155,150	\$ -	\$ 15,515	\$ 139,635	\$ -	\$ 139,635	\$ -	\$ -	\$ -	\$ -
5.32.10 Cornell Community Centre Square	2017	\$ 164,950	\$ -	\$ 164,950	\$ -	\$ 16,495	\$ 148,455	\$ -	\$ 148,455	\$ -	\$ -	\$ -	\$ -
5.32.11 Markham Centre Rouge Valley Drive West Park	2017	\$ 220,100	\$ -	\$ 220,100	\$ -	\$ 22,010	\$ 198,090	\$ -	\$ 198,090	\$ -	\$ -	\$ -	\$ -
5.32.12 Angus Glen West Village Parkette	2017	\$ 46,350	\$ -	\$ 46,350	\$ -	\$ 4,635	\$ 41,715	\$ -	\$ 41,715	\$ -	\$ -	\$ -	\$ -
5.32.13 Cornell Madison Rouge Blvd Park North	2017	\$ 125,500	\$ -	\$ 125,500	\$ -	\$ 12,550	\$ 112,950	\$ -	\$ 112,950	\$ -	\$ -	\$ -	\$ -
5.32.14 Cornell Madison Rouge Blvd Park South	2017	\$ 102,100	\$ -	\$ 102,100	\$ -	\$ 10,210	\$ 91,890	\$ -	\$ 91,890	\$ -	\$ -	\$ -	\$ -
5.32.15 Box Grove Community Centre Park Phase 2	2017	\$ 150,350	\$ -	\$ 150,350	\$ -	\$ 15,035	\$ 135,315	\$ -	\$ 135,315	\$ -	\$ -	\$ -	\$ -
5.32.16 Main Street Milliken NW Parkette	2017	\$ 18,837	\$ -	\$ 18,837	\$ -	\$ 1,884	\$ 16,953	\$ -	\$ 16,953	\$ -	\$ -	\$ -	\$ -
5.32.17 Morgan Park Redevelopment	2017	\$ 147,000	\$ -	\$ 147,000	\$ -	\$ 14,700	\$ 132,300	\$ -	\$ 132,300	\$ -	\$ -	\$ -	\$ -
5.32.18 Berczy Square Park	2017	\$ 313,550	\$ -	\$ 313,550	\$ -	\$ 31,355	\$ 282,195	\$ -	\$ 282,195	\$ -	\$ -	\$ -	\$ -
5.32.19 Wismer Donald Mingay Woodlot Park	2017	\$ 347,700	\$ -	\$ 347,700	\$ -	\$ 34,770	\$ 312,930	\$ -	\$ 312,930	\$ -	\$ -	\$ -	\$ -
5.32.20 Cornell Community Park Phase 1	2017	\$ 2,111,150	\$ -	\$ 2,111,150	\$ -	\$ 211,115	\$ 1,900,035	\$ -	\$ 1,900,035	\$ -	\$ -	\$ -	\$ -
5.32.21 Cornell Community Park Maintenance Building	2017	\$ 110,000	\$ -	\$ 110,000	\$ -	\$ 11,000	\$ 99,000	\$ -	\$ 99,000	\$ -	\$ -	\$ -	\$ -
5.32.22 Wismer Community Park	2017	\$ 1,625,950	\$ -	\$ 1,625,950	\$ -	\$ 162,595	\$ 1,463,355	\$ -	\$ 1,463,355	\$ -	\$ -	\$ -	\$ -
5.32.23 Grandview Park	2017	\$ 361,150	\$ -	\$ 361,150	\$ -	\$ 36,115	\$ 325,035	\$ -	\$ 325,035	\$ -	\$ -	\$ -	\$ -
5.32.24 Leitchcroft Community Park Phase 2	2017	\$ 431,050	\$ -	\$ 431,050	\$ -	\$ 43,105	\$ 387,945	\$ -	\$ 387,945	\$ -	\$ -	\$ -	\$ -
5.32.25 Southwest Cathedral Russell Dawson Park	2017	\$ 479,850	\$ -	\$ 479,850	\$ -	\$ 47,985	\$ 431,865	\$ -	\$ 431,865	\$ -	\$ -	\$ -	\$ -
5.32.26 Angus Glen West Village Park	2017	\$ 672,700	\$ -	\$ 672,700	\$ -	\$ 67,270	\$ 605,430	\$ -	\$ 605,430	\$ -	\$ -	\$ -	\$ -
5.32.27 Berczy Beckett Northwest Park	2017	\$ 168,075	\$ -	\$ 168,075	\$ -	\$ 16,808	\$ 151,268	\$ -	\$ 151,268	\$ -	\$ -	\$ -	\$ -
5.32.28 Berczy Beckett North West Parkette	2017	\$ 80,500	\$ -	\$ 80,500	\$ -	\$ 8,050	\$ 72,450	\$ -	\$ 72,450	\$ -	\$ -	\$ -	\$ -
5.32.29 Berczy Beckett Neighbourhood Park	2017	\$ 228,250	\$ -	\$ 228,250	\$ -	\$ 22,825	\$ 205,425	\$ -	\$ 205,425	\$ -	\$ -	\$ -	\$ -
5.32.30 Berczy Beckett North East Parkette	2017	\$ 77,750	\$ -	\$ 77,750	\$ -	\$ 7,775	\$ 69,975	\$ -	\$ 69,975	\$ -	\$ -	\$ -	\$ -
5.32.31 Berczy Beckett East Parkette	2017	\$ 146,099	\$ -	\$ 146,099	\$ -	\$ 14,610	\$ 131,489	\$ -	\$ 131,489	\$ -	\$ -	\$ -	\$ -
5.32.32 Carlton Park Redevelopment	2017	\$ 48,100	\$ -	\$ 48,100	\$ -	\$ 4,810	\$ 43,290	\$ -	\$ 43,290	\$ -	\$ -	\$ -	\$ -
5.32.33 Wismer Percy Reesor Street Parkette	2017	\$ 86,500	\$ -	\$ 86,500	\$ -	\$ 8,650	\$ 77,850	\$ -	\$ 77,850	\$ -	\$ -	\$ -	\$ -
5.32.34 Aaniin Community Centre Park	2017	\$ 1,128,050	\$ -	\$ 1,128,050	\$ -	\$ 112,805	\$ 1,015,245	\$ -	\$ 1,015,245	\$ -	\$ -	\$ -	\$ -
5.32.35 Celebration Park Phase 2	2017	\$ 1,527,300	\$ -	\$ 1,527,300	\$ -	\$ 152,730	\$ 1,374,570	\$ -	\$ 1,374,570	\$ -	\$ -	\$ -	\$ -
5.32.36 Celebration Park Phase 2	2017	\$ 208,800	\$ -	\$ 208,800	\$ -	\$ 20,880	\$ 187,920	\$ -	\$ 187,920	\$ -	\$ -	\$ -	\$ -

CITY OF MARKHAM
DEVELOPMENT-RELATED CAPITAL PROGRAM
PARK DEVELOPMENT & FACILITIES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs					
					Replacement & BTE Shares	10% Reduction		Prior Growth	Available DC Reserves	2017-2026	Post 2026		
5.32 Park Development - Community/City-Wide Cont'd													
5.32.37 Markham Village Library Square Phase 1	2017	\$ 648,400	\$ -	\$ 648,400	\$ -	\$ 64,840	\$ 583,560	\$ -	\$ 583,560	\$ -	\$ -	\$ -	\$ -
5.32.38 Vinegar Hill Parkette	2017	\$ 133,750	\$ -	\$ 133,750	\$ -	\$ 13,375	\$ 120,375	\$ -	\$ 120,375	\$ -	\$ -	\$ -	\$ -
5.32.39 Box Grove Community Park	2017	\$ 499,117	\$ -	\$ 499,117	\$ -	\$ 49,912	\$ 449,205	\$ -	\$ 449,205	\$ -	\$ -	\$ -	\$ -
5.32.40 Rizal Avenue Park	2017	\$ 662,275	\$ -	\$ 662,275	\$ -	\$ 66,228	\$ 596,048	\$ -	\$ 596,048	\$ -	\$ -	\$ -	\$ -
5.32.41 Vettese Court Park	2017	\$ 231,378	\$ -	\$ 231,378	\$ -	\$ 23,138	\$ 208,240	\$ -	\$ 208,240	\$ -	\$ -	\$ -	\$ -
5.32.42 Box Grove Community Park East Phase 1	2017	\$ 783,300	\$ -	\$ 783,300	\$ -	\$ 78,330	\$ 704,970	\$ -	\$ 704,970	\$ -	\$ -	\$ -	\$ -
5.32.43 Box Grove Community Centre Park Bridge	2017	\$ 61,000	\$ -	\$ 61,000	\$ -	\$ 6,100	\$ 54,900	\$ -	\$ 54,900	\$ -	\$ -	\$ -	\$ -
5.32.44 Cornell Rouge Riverlands Phase 2	2017	\$ 44,750	\$ -	\$ 44,750	\$ -	\$ 4,475	\$ 40,275	\$ -	\$ 40,275	\$ -	\$ -	\$ -	\$ -
5.32.45 Cornell Madison Rouge/Riverlands	2017	\$ 128,050	\$ -	\$ 128,050	\$ -	\$ 12,805	\$ 115,245	\$ -	\$ 115,245	\$ -	\$ -	\$ -	\$ -
5.32.46 Upper Greensborough Fimco Crescent Park	2017	\$ 195,050	\$ -	\$ 195,050	\$ -	\$ 19,505	\$ 175,545	\$ -	\$ 175,545	\$ -	\$ -	\$ -	\$ -
5.32.47 Upper Greensborough Parkway Park	2017	\$ 86,500	\$ -	\$ 86,500	\$ -	\$ 8,650	\$ 77,850	\$ -	\$ 77,850	\$ -	\$ -	\$ -	\$ -
5.32.48 Greensborough Williamson Neighbourhood Park	2017	\$ 683,000	\$ -	\$ 683,000	\$ -	\$ 68,300	\$ 614,700	\$ -	\$ 614,700	\$ -	\$ -	\$ -	\$ -
5.32.49 Markham Centre Times HWY 7 Window Park	2018	\$ 884,612	\$ -	\$ 884,612	\$ -	\$ 88,461	\$ 796,151	\$ -	\$ -	\$ 796,151	\$ -	\$ -	\$ -
5.32.50 Cornell Community Park	2018	\$ 692,346	\$ -	\$ 692,346	\$ -	\$ 69,235	\$ 623,112	\$ -	\$ -	\$ 623,112	\$ -	\$ -	\$ -
5.32.51 Wismer Community Park	2018	\$ 492,065	\$ -	\$ 492,065	\$ -	\$ 49,207	\$ 442,859	\$ -	\$ -	\$ 442,859	\$ -	\$ -	\$ -
5.32.52 Carlton Park Redevelopment	2018	\$ 2,967,267	\$ -	\$ 2,967,267	\$ -	\$ 296,727	\$ 2,670,540	\$ -	\$ -	\$ 2,670,540	\$ -	\$ -	\$ -
5.32.53 Berczy Beckett Cemetery Park	2019	\$ 344,300	\$ -	\$ 344,300	\$ -	\$ 34,430	\$ 309,870	\$ -	\$ -	\$ 309,870	\$ -	\$ -	\$ -
5.32.54 Box Grove Community Park West Phase 2	2019	\$ 2,616,384	\$ -	\$ 2,616,384	\$ -	\$ 261,638	\$ 2,354,746	\$ -	\$ -	\$ 2,354,746	\$ -	\$ -	\$ -
5.32.55 Box Grove Community Park Bridge	2019	\$ 274,952	\$ -	\$ 274,952	\$ -	\$ 27,495	\$ 247,456	\$ -	\$ -	\$ 247,456	\$ -	\$ -	\$ -
5.32.56 Markham Centre Times Valley Edge Park	2019	\$ 1,505,722	\$ -	\$ 1,505,722	\$ -	\$ 150,572	\$ 1,355,150	\$ -	\$ -	\$ 1,355,150	\$ -	\$ -	\$ -
5.32.57 Swan Lake Linear Park	2019	\$ 128,494	\$ -	\$ 128,494	\$ -	\$ 12,849	\$ 115,645	\$ -	\$ -	\$ 115,645	\$ -	\$ -	\$ -
5.32.58 H&R Grand Cornell Park Phase 2	2020	\$ 412,725	\$ -	\$ 412,725	\$ -	\$ 41,272	\$ 371,452	\$ -	\$ -	\$ 371,452	\$ -	\$ -	\$ -
5.32.59 Cornell - East Channel Park North and South	2020	\$ 206,095	\$ -	\$ 206,095	\$ -	\$ 20,609	\$ 185,485	\$ -	\$ -	\$ 185,485	\$ -	\$ -	\$ -
5.32.60 Wismer Greenspire Parkette	2020	\$ 405,120	\$ -	\$ 405,120	\$ -	\$ 40,512	\$ 364,608	\$ -	\$ -	\$ 364,608	\$ -	\$ -	\$ -
5.32.61 Yonge Devron Park	2020	\$ 360,668	\$ -	\$ 360,668	\$ -	\$ 36,067	\$ 324,601	\$ -	\$ -	\$ 324,601	\$ -	\$ -	\$ -
5.32.62 Cornell Community Park Phase 2	2020	\$ 3,458,899	\$ -	\$ 3,458,899	\$ -	\$ 345,890	\$ 3,113,009	\$ -	\$ -	\$ 3,113,009	\$ -	\$ -	\$ -
5.32.63 Yonge Canac Park	2021	\$ 473,228	\$ -	\$ 473,228	\$ -	\$ 47,323	\$ 425,906	\$ -	\$ -	\$ 425,906	\$ -	\$ -	\$ -
5.32.64 Cornell Parkette - 9th Line & HWY 7	2021	\$ 344,733	\$ -	\$ 344,733	\$ -	\$ 34,473	\$ 310,260	\$ -	\$ -	\$ 310,260	\$ -	\$ -	\$ -
5.32.65 Victoria Square West Village	2021	\$ 623,344	\$ -	\$ 623,344	\$ -	\$ 62,334	\$ 561,009	\$ -	\$ -	\$ 561,009	\$ -	\$ -	\$ -
5.32.66 Upper Greensborough Parkway Park	2021	\$ 1,605,713	\$ -	\$ 1,605,713	\$ -	\$ 160,571	\$ 1,445,141	\$ -	\$ -	\$ 1,445,141	\$ -	\$ -	\$ -
5.32.67 Morgan Park Redevelopment	2021	\$ 1,275,711	\$ -	\$ 1,275,711	\$ -	\$ 127,571	\$ 1,148,140	\$ -	\$ -	\$ 1,148,140	\$ -	\$ -	\$ -
5.32.68 Warden East Neighbourhood Park	2021	\$ 1,439,566	\$ -	\$ 1,439,566	\$ -	\$ 143,957	\$ 1,295,610	\$ -	\$ -	\$ 1,295,610	\$ -	\$ -	\$ -
5.32.69 Warden South West Neighbourhood Park	2022	\$ 1,284,433	\$ -	\$ 1,284,433	\$ -	\$ 128,443	\$ 1,155,990	\$ -	\$ -	\$ 1,155,990	\$ -	\$ -	\$ -
5.32.70 York Downs - Kennedy Road Block 4	2022	\$ 648,368	\$ -	\$ 648,368	\$ -	\$ 64,837	\$ 583,532	\$ -	\$ -	\$ 583,532	\$ -	\$ -	\$ -
5.32.71 Unionville Central Square	2022	\$ 147,519	\$ -	\$ 147,519	\$ -	\$ 14,752	\$ 132,767	\$ -	\$ -	\$ 132,767	\$ -	\$ -	\$ -
5.32.72 Galleria Parkette	2022	\$ 233,854	\$ -	\$ 233,854	\$ -	\$ 23,385	\$ 210,468	\$ -	\$ -	\$ 210,468	\$ -	\$ -	\$ -

CITY OF MARKHAM
DEVELOPMENT-RELATED CAPITAL PROGRAM
PARK DEVELOPMENT & FACILITIES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs					
					Replacement & BTE Shares	10% Reduction		Prior Growth	Available DC Reserves	2017-2026	Post 2026		
5.32 Park Development - Community/City-Wide Cont'd													
5.32.73 Shops on Steeles	2022	\$ 894,495	\$ -	\$ 894,495	\$ -	\$ 89,449	\$ 805,045	\$ -	\$ -	\$ 805,045	\$ -	\$ -	\$ -
5.32.74 Cathedral Town Parkette	2022	\$ 780,019	\$ -	\$ 780,019	\$ -	\$ 78,002	\$ 702,017	\$ -	\$ -	\$ 702,017	\$ -	\$ -	\$ -
5.32.75 Woodbine Bypass North Park	2022	\$ 678,659	\$ -	\$ 678,659	\$ -	\$ 67,866	\$ 610,793	\$ -	\$ -	\$ 610,793	\$ -	\$ -	\$ -
5.32.76 York Downs Parkette- Kennedy	2022	\$ 850,713	\$ -	\$ 850,713	\$ -	\$ 85,071	\$ 765,642	\$ -	\$ -	\$ 765,642	\$ -	\$ -	\$ -
5.32.77 Box Grove Community Park Washroom Pavillion	2023	\$ 485,650	\$ -	\$ 485,650	\$ -	\$ 48,565	\$ 437,085	\$ -	\$ -	\$ 437,085	\$ -	\$ -	\$ -
5.32.78 Warden Nothwest Neighbourhood Park	2023	\$ 1,323,053	\$ -	\$ 1,323,053	\$ -	\$ 132,305	\$ 1,190,747	\$ -	\$ -	\$ 1,190,747	\$ -	\$ -	\$ -
5.32.79 Cornell Centre East Parkette	2023	\$ 1,493,739	\$ -	\$ 1,493,739	\$ -	\$ 149,374	\$ 1,344,365	\$ -	\$ -	\$ 1,344,365	\$ -	\$ -	\$ -
5.32.80 Cornell Centre Mattamy Neighbourhood Park	2023	\$ 2,481,237	\$ -	\$ 2,481,237	\$ -	\$ 248,124	\$ 2,233,113	\$ -	\$ -	\$ 2,233,113	\$ -	\$ -	\$ -
5.32.81 York Downs - Gateway Park Block 7	2023	\$ 624,677	\$ -	\$ 624,677	\$ -	\$ 62,468	\$ 562,209	\$ -	\$ -	\$ 562,209	\$ -	\$ -	\$ -
5.32.82 Cornell Centre West Parkette	2024	\$ 243,534	\$ -	\$ 243,534	\$ -	\$ 24,353	\$ 219,181	\$ -	\$ -	\$ 219,181	\$ -	\$ -	\$ -
5.32.83 York Downs - Large Lot Park Block 8	2024	\$ 823,799	\$ -	\$ 823,799	\$ -	\$ 82,380	\$ 741,419	\$ -	\$ -	\$ 741,419	\$ -	\$ -	\$ -
5.32.84 York Downs Parkette Block 5	2024	\$ 850,787	\$ -	\$ 850,787	\$ -	\$ 85,079	\$ 765,708	\$ -	\$ -	\$ 765,708	\$ -	\$ -	\$ -
5.32.85 Langstaff - Woodlot Park	2024	\$ 868,866	\$ -	\$ 868,866	\$ -	\$ 86,887	\$ 781,980	\$ -	\$ -	\$ 781,980	\$ -	\$ -	\$ -
5.32.86 Markham Centre North East Valley Edge Parkette	2024	\$ 1,318,526	\$ -	\$ 1,318,526	\$ -	\$ 131,853	\$ 1,186,673	\$ -	\$ -	\$ 1,186,673	\$ -	\$ -	\$ -
5.32.87 Markham Centre - Clegg Road South	2024	\$ 678,338	\$ -	\$ 678,338	\$ -	\$ 67,834	\$ 610,504	\$ -	\$ -	\$ 610,504	\$ -	\$ -	\$ -
5.32.88 Markham Sports Park	2024	\$ 12,005,715	\$ -	\$ 12,005,715	\$ -	\$ 1,200,572	\$ 10,805,144	\$ -	\$ -	\$ 10,805,144	\$ -	\$ -	\$ -
5.32.89 Milliken Old McGowan Road Neighbourhood Park	2024	\$ 725,879	\$ -	\$ 725,879	\$ -	\$ 72,588	\$ 653,291	\$ -	\$ -	\$ 653,291	\$ -	\$ -	\$ -
5.32.90 Unionville Market Square	2024	\$ 90,124	\$ -	\$ 90,124	\$ -	\$ 9,012	\$ 81,111	\$ -	\$ -	\$ 81,111	\$ -	\$ -	\$ -
5.32.91 Milliken Neighbourhood Park	2025	\$ 693,300	\$ -	\$ 693,300	\$ -	\$ 69,330	\$ 623,970	\$ -	\$ -	\$ 623,970	\$ -	\$ -	\$ -
5.32.92 York Downs - Parkette Block 10	2025	\$ 671,592	\$ -	\$ 671,592	\$ -	\$ 67,159	\$ 604,433	\$ -	\$ -	\$ 604,433	\$ -	\$ -	\$ -
5.32.93 Fairview Park	2025	\$ 4,418,326	\$ -	\$ 4,418,326	\$ -	\$ 441,833	\$ 3,976,493	\$ -	\$ -	\$ 3,976,493	\$ -	\$ -	\$ -
5.32.94 Cornell Community Park	2026	\$ 539,905	\$ -	\$ 539,905	\$ -	\$ 53,991	\$ 485,915	\$ -	\$ -	\$ 485,915	\$ -	\$ -	\$ -
5.32.95 Markham Centre - Aryeh Strata Park	2026	\$ 2,145,903	\$ -	\$ 2,145,903	\$ -	\$ 214,590	\$ 1,931,313	\$ -	\$ -	\$ 1,931,313	\$ -	\$ -	\$ -
5.32.96 York Downs - Parkette Block 9	2026	\$ 350,963	\$ -	\$ 350,963	\$ -	\$ 35,096	\$ 315,867	\$ -	\$ -	\$ 315,867	\$ -	\$ -	\$ -
5.32.97 King's Square	2026	\$ 1,350,858	\$ -	\$ 1,350,858	\$ -	\$ 135,086	\$ 1,215,772	\$ -	\$ -	\$ 1,215,772	\$ -	\$ -	\$ -
5.32.98 FUA Major Mackenzie Neighbourhood Park	2026	\$ 1,309,173	\$ -	\$ 1,309,173	\$ -	\$ 130,917	\$ 1,178,255	\$ -	\$ -	\$ 572,083	\$ 606,172	\$ -	\$ -
5.32.99 Langstaff - Pomona Creek Park	2026	\$ 456,254	\$ -	\$ 456,254	\$ -	\$ 45,625	\$ 410,629	\$ -	\$ -	\$ -	\$ 410,629	\$ -	\$ -
Subtotal Park Development - Community/City-Wide Cont'd		\$ 79,107,832	\$ -	\$ 79,107,832	\$ -	\$ 7,910,783	\$ 71,197,049	\$ -	\$ 15,414,867	\$ 54,765,380	\$ 1,016,801	\$ -	\$ -

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APPENDIX B.5
TABLE 2

CITY OF MARKHAM
DEVELOPMENT-RELATED CAPITAL PROGRAM
PARK DEVELOPMENT & FACILITIES

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs				
					Replacement & BTE Shares	10% Reduction		Prior Growth	Available DC Reserves	2017-2026	Post 2026	
5.33 Parks Buildings												
5.33.1 East Yard Garage/Office	2019	\$ 3,977,250	\$ -	\$ 3,977,250	\$ -	\$ 397,725	\$ 3,579,525	\$ -	\$ -	\$ 3,579,525	\$ -	
Subtotal Parks Buildings		\$ 3,977,250	\$ -	\$ 3,977,250	\$ -	\$ 397,725	\$ 3,579,525	\$ -	\$ -	\$ 3,579,525	\$ -	
5.34 Land for Parks Buildings												
5.34.1 Parks Share of East Yard	2019	\$ 6,880,191	\$ -	\$ 6,880,191	\$ -	\$ 688,019	\$ 6,192,172	\$ -	\$ -	\$ 6,192,172	\$ -	
Subtotal Land for Parks Buildings		\$ 6,880,191	\$ -	\$ 6,880,191	\$ -	\$ 688,019	\$ 6,192,172	\$ -	\$ -	\$ 6,192,172	\$ -	
TOTAL PARK DEVELOPMENT & FACILITIES		\$ 149,930,381	\$ -	\$ 149,930,381	\$ -	\$ 14,993,038	\$ 134,937,343	\$ -	\$ 36,600,462	\$ 97,320,079	\$ 1,016,801	

Residential Development Charge Calculation		
Residential Share of 2017 - 2026 DC Eligible Costs	100%	\$97,320,079
10-Year Growth in Population in New Units		75,375
Unadjusted Development Charge Per Capita		\$1,291.15
Non-Residential Development Charge Calculation		
Non-Residential Share of 2017 - 2026 DC Eligible Costs	0%	\$0
10-Year Growth in Square Metres		1,997,205
Unadjusted Development Charge Per Square Metre		\$0.00

2017 - 2026 Net Funding Envelope	\$97,320,079
Reserve Fund Balance	\$36,600,462

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APPENDIX B.5
TABLE 3

CITY OF MARKHAM
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
PARK DEVELOPMENT & FACILITIES
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

PARK DEVELOPMENT & FACILITIES	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	\$0.00	\$8,527.59	\$11,370.75	\$2,374.70	\$3,222.98	\$4,259.49	\$6,042.75	\$7,439.52	(\$4,828.42)	(\$3,530.54)	
2017 - 2026 RESIDENTIAL FUNDING REQUIREMENTS											
- Parks Development & Facilities (New Projects): Non Inflated	\$317.5	\$6,456.7	\$17,915.3	\$8,642.1	\$8,738.9	\$8,354.9	\$9,012.4	\$20,910.3	\$9,234.2	\$7,737.8	\$97,320.1
- Park Development & Facilities: Inflated	\$317.5	\$6,585.8	\$18,639.1	\$9,171.0	\$9,459.2	\$9,224.5	\$10,149.4	\$24,019.4	\$10,819.4	\$9,247.4	\$107,632.7
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	6,748	6,911	7,081	7,254	7,430	7,610	7,794	7,987	8,181	8,379	75,375
REVENUE											
- DC Receipts: Inflated	\$8,698.4	\$9,086.7	\$9,496.5	\$9,923.0	\$10,367.1	\$10,830.6	\$11,314.3	\$11,826.4	\$12,355.9	\$12,908.0	\$106,806.9
INTEREST											
- Interest on Opening Balance	\$0.0	\$298.5	\$398.0	\$83.1	\$112.8	\$149.1	\$211.5	\$260.4	(\$265.6)	(\$194.2)	\$1,053.6
- Interest on In-year Transactions	\$146.7	\$43.8	(\$251.4)	\$13.2	\$15.9	\$28.1	\$20.4	(\$335.3)	\$26.9	\$64.1	(\$227.8)
TOTAL REVENUE	\$8,845.1	\$9,429.0	\$9,643.0	\$10,019.3	\$10,495.8	\$11,007.8	\$11,546.2	\$11,751.4	\$12,117.2	\$12,777.9	\$107,632.7
CLOSING CASH BALANCE	\$8,527.6	\$11,370.7	\$2,374.7	\$3,223.0	\$4,259.5	\$6,042.8	\$7,439.5	(\$4,828.4)	(\$3,530.5)	\$0.0	

2017 Adjusted Charge Per Capita	\$1,289.04
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Allocation of Capital Program	
Residential Sector	100.0%
Non-Residential Sector	0.0%
Rates for 2017	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

APPENDIX B.6

PUBLIC WORKS

APPENDIX B.6

PUBLIC WORKS

The City of Markham Public Works Department operates from 555 Miller Avenue where its main office, storage sheds, salt and sand domes, sign shop and domes are located.

TABLE 1 2007-2016 HISTORICAL SERVICE LEVELS

The ten-year historical inventory of capital assets for Public Works includes 63,350 square feet of building space with a replacement value of \$12.88 million. The 4.11 hectares of land associated with the Public Works buildings are valued at \$12.70 million, furniture and equipment amounts to \$1.09 million, and the Public Works fleet adds an additional \$46.27 million to the value of the capital assets.

The total value of the Public Works capital infrastructure is estimated to be \$72.94 million. The ten-year historical average service level is \$157.03 per net population and employment and this, multiplied by the ten-year forecast net population and employment growth (114,628), results in a ten-year maximum allowable of \$18.0 million. No uncommitted excess capacity has been identified, and as such, no deductions are made from the funding envelope. Under the *Development Charges Act, 1997*, services related to a highway as defined in subsection 1(1) of the *Municipal Act, 2001*, need not be reduced by the legislated ten per cent (as with other general services). The services and capital assets of Public Works are considered to be related to a highway, and as such, the maximum allowable funding envelope is not required to be reduced by ten per cent. As such, the resulting net maximum allowable funding envelope brought forward to the development charges calculation is \$18.0 million.

**TABLE 2 2017 – 2026 DEVELOPMENT-RELATED CAPITAL PROGRAM AND
CALCULATION OF THE UNADJUSTED DEVELOPMENT CHARGES**

The total 2017–2026 development-related capital program for the Public Works department amounts to \$40.39 million.

The Public Works capital program lists several projects that will begin construction from the years 2019 to 2023, including yard expansions, garage additions, and the construction of offices and domes. In total, the cost of the buildings for these projects

amount to \$16.71 million and the associated land cost totals \$19.72 million. Furniture and equipment for these projects add another \$0.29 million in costs. The City will acquire a number of vehicles for these projects, including trucks, forklifts, mowers, and tractors, for a total fleet cost of \$3.67 million.

No grants, replacement shares, or ten per cent reduction shares have been identified for this service. An amount, \$13.95 million is available in the Public Works DC reserve fund and will be utilized to fund the first projects that appear on the capital program list. Another portion, \$8.44 million is deemed as a post-period benefit, and will not be recovered under the calculated development charges but is eligible for consideration in future development charge studies.

The 2017–2026 DC costs eligible for recovery is allocated 64.5 per cent, or \$11.61 million, against new residential development, and 35.5 per cent, or \$6.39 million, against non-residential development. This yields an unadjusted residential development charge of \$154.05 per capita. The unadjusted retail development charge is \$3.95 per square metre, while the unadjusted industrial/office/institutional (I.O.I.) charge is \$3.01 per square metre. The unadjusted mixed use charge is \$1.93 per square metre.

TABLE 3 CASH FLOW ANALYSIS

After cash flow and reserve fund analysis, the residential calculated charge increases to \$171.94 per capita. The non-residential charge for retail increases to \$4.41 per square metre and the industrial/office/institutional charge increases to \$3.36 per square metre. The mixed use charge increases to \$2.15 per square metre. This is a reflection of the timing of the capital program and development charges revenues.

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

PUBLIC WORKS SUMMARY										
	2017 - 2026		Unadjusted Development Charge				Adjusted Development Charge			
10-year Hist.	Development-Related	Capital Program	Residential	Retail	I.O.I.	Mixed-Use	Residential	Retail	I.O.I.	Mixed-Use
Service Level	Total	Net DC Recoverable	\$/capita	\$/sq.m	\$/sq.m	\$/sq.m	\$/capita	\$/sq.m	\$/sq.m	\$/sq.m
per pop & emp										
\$157.03	\$40,385,577	\$18,000,064	\$154.05	\$3.95	\$3.01	\$1.93	\$171.94	\$4.41	\$3.36	\$2.15

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APPENDIX B.6
TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PUBLIC WORKS

BUILDINGS Facility Name	# of Square Feet										UNIT COST (\$/sq.ft.)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
555 Miller Ave.:												
Garage / Office	33,002	33,002	33,002	33,002	33,002	33,002	33,002	33,002	33,002	33,002	33,002	\$300
Metal Storage Shed	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	\$34
Salt Dome Structure	6,450	6,450	6,450	6,450	6,450	6,450	6,450	6,450	6,450	6,450	6,450	\$102
Sand Dome Structure	6,450	6,450	6,450	6,450	6,450	6,450	6,450	6,450	6,450	6,450	6,450	\$102
Sign Shop	3,988	3,988	3,988	3,988	3,988	3,988	3,988	3,988	3,988	3,988	3,988	\$300
Wood Dome Structure	7,900	7,900	7,900	7,900	7,900	7,900	7,900	7,900	7,900	7,900	7,900	\$34
Wood Storage Shed	560	560	560	560	560	560	560	560	560	560	560	\$34
Quonset Hut	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	\$34
Total (#)	63,350	63,350	63,350	63,350	63,350	63,350	63,350	63,350	63,350	63,350	63,350	
Total (\$000)	\$12,882.0	\$12,882.0	\$12,882.0	\$12,882.0	\$12,882.0	\$12,882.0	\$12,882.0	\$12,882.0	\$12,882.0	\$12,882.0	\$12,882.0	

LAND Facility Name	# of Hectares										UNIT COST (\$/ha)	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
555 Miller Ave.	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	\$3,089,000
Total (ha)	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	
Total (\$000)	\$12,695.8	\$12,695.8	\$12,695.8	\$12,695.8	\$12,695.8	\$12,695.8	\$12,695.8	\$12,695.8	\$12,695.8	\$12,695.8	\$12,695.8	

FURNITURE & EQUIPMENT Facility Name	Total Value of Furniture & Equipment (\$)									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Shop Equipment	\$389,000	\$389,000	\$389,000	\$389,000	\$399,000	\$399,000	\$403,722	\$413,902	\$420,337	\$428,913
Other Equipment	\$490,161	\$519,896	\$519,896	\$519,896	\$569,076	\$569,076	\$575,810	\$590,330	\$599,508	\$611,740
Brine Tanks	\$0	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
Total (\$000)	\$879.2	\$958.9	\$958.9	\$958.9	\$1,018.1	\$1,018.1	\$1,029.5	\$1,054.2	\$1,069.8	\$1,090.7

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APPENDIX B.6
TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PUBLIC WORKS

FLEET & EQUIPMENT Description	# of Fleet										UNIT COST
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	(\$/unit)
Utility Truckster	8	8	8	9	10	10	10	10	10	8	\$22,900
Rotary Walkbehind	24	30	20	20	20	20	18	16	14	11	\$6,500
Rotary Mower	5	6	6	8	8	8	9	13	15	15	\$27,800
Zero Turn Mower	37	39	39	41	43	43	32	33	33	39	\$17,500
Car Compact	5	5	13	13	13	13	14	14	19	21	\$20,800
Compact Pick-Up	13	12	11	11	13	13	11	11	11	11	\$24,500
Compact Van	15	17	17	17	17	17	17	17	15	15	\$25,500
Full Size 2WD Pick-Up	6	13	18	18	18	18	15	10	11	11	\$27,500
Full Size Van	20	23	34	34	34	34	36	36	38	39	\$32,500
1 Ton Full-Sized Pick-Up	2	2	3	3	3	3	3	4	4	4	\$36,000
Car Mid Size	4	4	4	4	4	4	3	3	3	2	\$27,800
Full Size 4WD Pick-Up	46	50	55	59	60	61	22	22	22	22	\$42,300
Sport Utility Vehicle	7	7	23	23	23	24	26	28	28	30	\$38,900
1 Ton Flat Bed	18	18	18	18	19	19	19	19	19	19	\$49,500
3 ton Trucks	2	1	1	1	1	1	-	-	-	-	\$95,500
Agricultural Tractors	11	11	13	13	13	13	13	13	13	13	\$55,000
Articulating Loader	1	1	1	1	1	1	1	1	1	1	\$198,500
Backhoe	1	1	1	1	1	1	1	1	1	1	\$140,800
Bucket Truck	1	1	1	1	1	2	2	2	2	2	\$225,500
Camera Truck	1	1	1	1	1	1	1	1	1	1	\$245,500
Crane Truck	1	1	1	1	1	1	1	1	1	1	\$201,500
Cube Van	1	1	1	1	1	1	1	1	1	1	\$38,500
Landscape Loader	5	5	5	5	5	5	5	5	5	5	\$89,000
Mott Mowers	4	4	4	4	4	4	4	4	4	4	\$10,700
Rotary Mowers 16' pull behind	1	1	1	1	1	1	1	1	1	1	\$15,000
Rotary Mowers 16' cut	6	6	6	6	6	6	6	6	6	6	\$91,000

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APPENDIX B.6
TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
PUBLIC WORKS

FLEET & EQUIPMENT Description	# of Fleet										UNIT COST
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	(\$/unit)
Rotary mowers 72" and under	6	6	6	6	6	6	6	6	6	6	\$31,100
Sewer Flusher	1	1	1	1	1	1	1	1	1	1	\$385,500
Sidewalk Tractors Articulated	3	3	3	3	3	3	3	3	3	3	\$150,000
Sidewalk Grinder	-	-	-	-	-	1	1	1	1	1	\$25,500
Single Axle Dump Trucks	5	5	5	5	5	5	5	5	5	5	\$248,000
Sweeper	2	2	2	2	2	2	2	2	2	2	\$388,500
Tandem Dump Truck	2	2	2	2	2	2	2	2	2	2	\$301,000
Trailers	44	44	45	47	48	48	46	46	46	44	\$7,500
Air Compressor	1	1	1	1	1	1	1	1	1	1	\$20,900
Brush Chipper	2	2	2	2	2	3	3	3	3	3	\$38,700
Compact Sidewalk Tractor	-	3	3	3	6	6	6	6	6	6	\$47,000
Excavator Vacuum	1	1	1	1	1	1	1	1	1	1	\$78,000
Forklift	1	1	1	3	3	3	3	3	3	3	\$40,000
Parks Compactor Truck	1	2	2	2	2	2	2	2	2	2	\$142,000
Flatbed (>8,000 KG RGVM)	13	13	15	15	15	15	15	15	15	13	\$78,000
Stump Cutter	1	1	1	1	1	2	2	2	2	2	\$45,000
Top Dressers	3	4	4	4	4	4	4	4	4	4	\$26,000
Sidewalk Ploughs	28	24	24	24	24	24	26	28	30	30	\$47,000
Sidewalk Flatbeds	9	8	8	8	8	8	8	8	8	8	\$49,500
Sander / Plough Trucks	17	18	18	19	19	19	20	21	22	22	\$301,000
Grader	38	39	39	40	40	40	40	41	42	42	\$295,000
Loaders	14	28	28	28	28	28	35	36	41	41	\$198,500
Windrow Trucks	-	-	-	5	7	8	8	10	12	13	\$36,000
Loaders with Plow Wing Combination	-	-	-	-	-	2	2	2	2	2	\$225,000
Total (#)	437	476	516	536	549	558	513	521	538	540	
Total (\$000)	\$35,267.0	\$39,205.5	\$40,920.8	\$42,074.5	\$42,493.7	\$43,395.6	\$43,246.5	\$44,299.0	\$46,241.6	\$46,270.4	

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APPENDIX B.6
TABLE 1

CITY OF MARKHAM
CALCULATION OF SERVICE LEVELS
PUBLIC WORKS

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Historic Population	269,149	276,944	284,965	293,218	301,709	306,973	312,329	317,779	323,324	328,966
Historic Employment	<u>132,184</u>	<u>132,225</u>	<u>132,360</u>	<u>132,593</u>	<u>132,925</u>	<u>136,151</u>	<u>139,447</u>	<u>142,816</u>	<u>146,260</u>	<u>149,779</u>
Total Historic Population & Employment	401,333	409,169	417,325	425,811	434,634	443,124	451,776	460,595	469,584	478,745

INVENTORY SUMMARY (\$000)

Buildings	\$12,882.0	\$12,882.0	\$12,882.0	\$12,882.0	\$12,882.0	\$12,882.0	\$12,882.0	\$12,882.0	\$12,882.0	\$12,882.0
Land	\$12,695.8	\$12,695.8	\$12,695.8	\$12,695.8	\$12,695.8	\$12,695.8	\$12,695.8	\$12,695.8	\$12,695.8	\$12,695.8
Furniture & Equipment	\$879.2	\$958.9	\$958.9	\$958.9	\$1,018.1	\$1,018.1	\$1,029.5	\$1,054.2	\$1,069.8	\$1,090.7
Fleet & Equipment	\$35,267.0	\$39,205.5	\$40,920.8	\$42,074.5	\$42,493.7	\$43,395.6	\$43,246.5	\$44,299.0	\$46,241.6	\$46,270.4
Total (\$000)	\$61,724.0	\$65,742.2	\$67,457.5	\$68,611.2	\$69,089.6	\$69,991.5	\$69,853.9	\$70,931.1	\$72,889.3	\$72,938.9

SERVICE LEVEL (\$/pop & emp)	Average Service Level										
Buildings	\$32.10	\$31.48	\$30.87	\$30.25	\$29.64	\$29.07	\$28.51	\$27.97	\$27.43	\$26.91	\$29.42
Land	\$31.63	\$31.03	\$30.42	\$29.82	\$29.21	\$28.65	\$28.10	\$27.56	\$27.04	\$26.52	\$29.00
Furniture & Equipment	\$2.19	\$2.34	\$2.30	\$2.25	\$2.34	\$2.30	\$2.28	\$2.29	\$2.28	\$2.28	\$2.28
Fleet & Equipment	\$87.87	\$95.82	\$98.05	\$98.81	\$97.77	\$97.93	\$95.73	\$96.18	\$98.47	\$96.65	\$96.33
Total (\$/pop & emp)	\$153.80	\$160.67	\$161.64	\$161.13	\$158.96	\$157.95	\$154.62	\$154.00	\$155.22	\$152.35	\$157.03

CITY OF MARKHAM
CALCULATION OF MAXIMUM ALLOWABLE
PUBLIC WORKS

10-Year Funding Envelope Calculation	
10 Year Average Service Level 2007 - 2016	\$157.03
Net Population & Employment Growth 2017 - 2026	114,628
Maximum Allowable Funding Envelope	\$18,000,064
Less: Uncommitted Excess Capacity	\$0
Discounted Maximum Allowable Funding Envelope	\$18,000,064

Excess Capacity Calculation	
Total Value of Inventory in 2016	\$72,938,893
Inventory Using Average Service Level	\$75,177,336
Excess Capacity	\$0
Excess Capacity:	Uncommitted

CITY OF MARKHAM
DEVELOPMENT-RELATED CAPITAL PROGRAM
PUBLIC WORKS

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs				
					Replacement & BTE Shares	0% Reduction		Prior Growth	Available DC Reserves	2017-2026	Post 2026	
6.0 PUBLIC WORKS												
6.1 Public Works Buildings												
6.1.1 Four Bay Fleet Garage Addition	2019	\$ 1,760,000	\$ -	\$ 1,760,000	\$ -	\$ -	\$ 1,760,000	\$ -	\$ -	\$ 1,760,000	\$ -	
6.1.2 Works Yard - Expansion	2019	\$ 10,440,190	\$ -	\$ 10,440,190	\$ -	\$ -	\$ 10,440,190	\$ -	\$ -	\$ 8,623,874	\$ 1,816,316	
6.1.3 Central Shop - Expansion	2019	\$ 1,610,000	\$ -	\$ 1,610,000	\$ -	\$ -	\$ 1,610,000	\$ -	\$ -	\$ -	\$ 1,610,000	
6.1.4 West Park Yard Expansion	2023	\$ 2,896,800	\$ -	\$ 2,896,800	\$ -	\$ -	\$ 2,896,800	\$ -	\$ -	\$ -	\$ 2,896,800	
Subtotal Public Works Buildings		\$ 16,706,990	\$ -	\$ 16,706,990	\$ -	\$ -	\$ 16,706,990	\$ -	\$ -	\$ 10,383,874	\$ 6,323,116	
6.2 Land for Public Works Buildings												
6.2.1 Works Yard - Expansion	2018	\$ 19,722,527	\$ -	\$ 19,722,527	\$ -	\$ -	\$ 19,722,527	\$ -	\$ 13,709,797	\$ 6,012,730	\$ -	
Subtotal Land for Public Works Buildings		\$ 19,722,527	\$ -	\$ 19,722,527	\$ -	\$ -	\$ 19,722,527	\$ -	\$ 13,709,797	\$ 6,012,730	\$ -	
6.3 Furniture and Equipment												
6.3.1 Works Yard - Expansion	2018	\$ 285,560	\$ -	\$ 285,560	\$ -	\$ -	\$ 285,560	\$ -	\$ -	\$ 285,560	\$ -	
Subtotal Furniture and Equipment		\$ 285,560	\$ -	\$ 285,560	\$ -	\$ -	\$ 285,560	\$ -	\$ -	\$ 285,560	\$ -	
6.4 Fleet												
6.4.1 Excavator Vacuum	2017	\$ 78,000	\$ -	\$ 78,000	\$ -	\$ -	\$ 78,000	\$ -	\$ 78,000	\$ -	\$ -	
6.4.2 Rotary Mower	2017	\$ 27,800	\$ -	\$ 27,800	\$ -	\$ -	\$ 27,800	\$ -	\$ 27,800	\$ -	\$ -	
6.4.3 1 Ton Flat Bed	2017	\$ 49,500	\$ -	\$ 49,500	\$ -	\$ -	\$ 49,500	\$ -	\$ 49,500	\$ -	\$ -	
6.4.4 Compact Van	2017	\$ 25,500	\$ -	\$ 25,500	\$ -	\$ -	\$ 25,500	\$ -	\$ 25,500	\$ -	\$ -	
6.4.5 Trailers	2017	\$ 7,500	\$ -	\$ 7,500	\$ -	\$ -	\$ 7,500	\$ -	\$ 7,500	\$ -	\$ -	
6.4.6 Zero Turn Mower	2017	\$ 17,500	\$ -	\$ 17,500	\$ -	\$ -	\$ 17,500	\$ -	\$ 17,500	\$ -	\$ -	
6.4.7 Full Size Van	2017	\$ 32,500	\$ -	\$ 32,500	\$ -	\$ -	\$ 32,500	\$ -	\$ 32,500	\$ -	\$ -	
6.4.8 Sidewalk Tractors Articulated	2018	\$ 150,000	\$ -	\$ 150,000	\$ -	\$ -	\$ 150,000	\$ -	\$ -	\$ 150,000	\$ -	
6.4.9 Forklift	2018	\$ 40,000	\$ -	\$ 40,000	\$ -	\$ -	\$ 40,000	\$ -	\$ -	\$ 40,000	\$ -	
6.4.10 Tandem Dump Truck	2018	\$ 301,000	\$ -	\$ 301,000	\$ -	\$ -	\$ 301,000	\$ -	\$ -	\$ 301,000	\$ -	
6.4.11 Car Compact	2018	\$ 20,800	\$ -	\$ 20,800	\$ -	\$ -	\$ 20,800	\$ -	\$ -	\$ 20,800	\$ -	
6.4.12 Full Size 2WD Pick-Up	2018	\$ 27,500	\$ -	\$ 27,500	\$ -	\$ -	\$ 27,500	\$ -	\$ -	\$ 27,500	\$ -	
6.4.13 Compact Pick-Up	2018	\$ 24,500	\$ -	\$ 24,500	\$ -	\$ -	\$ 24,500	\$ -	\$ -	\$ 24,500	\$ -	
6.4.14 Full Size 4WD Pick-Up	2018	\$ 42,300	\$ -	\$ 42,300	\$ -	\$ -	\$ 42,300	\$ -	\$ -	\$ 42,300	\$ -	
6.4.15 Flatbed (>8,000 KG RGWW)	2018	\$ 78,000	\$ -	\$ 78,000	\$ -	\$ -	\$ 78,000	\$ -	\$ -	\$ 78,000	\$ -	

CITY OF MARKHAM
DEVELOPMENT-RELATED CAPITAL PROGRAM
PUBLIC WORKS

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs			
					Replacement & BTE Shares	0% Reduction		Prior Growth	Available DC Reserves	2017-2026	Post 2026
6.4 Fleet - Cont'd											
6.4.16 1 Ton Flat Bed	2018	\$ 49,500	\$ -	\$ 49,500	\$ -	\$ -	\$ 49,500	\$ -	\$ -	\$ 49,500	\$ -
6.4.17 Zero Turn Mower	2018	\$ 17,500	\$ -	\$ 17,500	\$ -	\$ -	\$ 17,500	\$ -	\$ -	\$ 17,500	\$ -
6.4.18 Full Size Van	2018	\$ 32,500	\$ -	\$ 32,500	\$ -	\$ -	\$ 32,500	\$ -	\$ -	\$ 32,500	\$ -
6.4.19 Articulating Loader	2018	\$ 198,500	\$ -	\$ 198,500	\$ -	\$ -	\$ 198,500	\$ -	\$ -	\$ 198,500	\$ -
6.4.20 Full Size 4WD Pick-Up	2019	\$ 42,300	\$ -	\$ 42,300	\$ -	\$ -	\$ 42,300	\$ -	\$ -	\$ 42,300	\$ -
6.4.21 Flatbed (>8,000 KG RGWW)	2019	\$ 78,000	\$ -	\$ 78,000	\$ -	\$ -	\$ 78,000	\$ -	\$ -	\$ 78,000	\$ -
6.4.22 Compact Van	2019	\$ 25,500	\$ -	\$ 25,500	\$ -	\$ -	\$ 25,500	\$ -	\$ -	\$ 25,500	\$ -
6.4.23 Trailers	2019	\$ 7,500	\$ -	\$ 7,500	\$ -	\$ -	\$ 7,500	\$ -	\$ -	\$ 7,500	\$ -
6.4.24 Full Size Van	2019	\$ 32,500	\$ -	\$ 32,500	\$ -	\$ -	\$ 32,500	\$ -	\$ -	\$ 32,500	\$ -
6.4.25 Sidewalk Tractors Articulated	2019	\$ 150,000	\$ -	\$ 150,000	\$ -	\$ -	\$ 150,000	\$ -	\$ -	\$ 150,000	\$ -
6.4.26 Car Mid Size	2020	\$ 27,800	\$ -	\$ 27,800	\$ -	\$ -	\$ 27,800	\$ -	\$ -	\$ -	\$ 27,800
6.4.27 Utility Truckster	2020	\$ 22,900	\$ -	\$ 22,900	\$ -	\$ -	\$ 22,900	\$ -	\$ -	\$ -	\$ 22,900
6.4.28 Sport Utility Vehicle	2020	\$ 38,900	\$ -	\$ 38,900	\$ -	\$ -	\$ 38,900	\$ -	\$ -	\$ -	\$ 38,900
6.4.29 1 Ton Flat Bed	2020	\$ 49,500	\$ -	\$ 49,500	\$ -	\$ -	\$ 49,500	\$ -	\$ -	\$ -	\$ 49,500
6.4.30 Compact Van	2020	\$ 25,500	\$ -	\$ 25,500	\$ -	\$ -	\$ 25,500	\$ -	\$ -	\$ -	\$ 25,500
6.4.31 Trailers	2020	\$ 7,500	\$ -	\$ 7,500	\$ -	\$ -	\$ 7,500	\$ -	\$ -	\$ -	\$ 7,500
6.4.32 Zero Turn Mower	2020	\$ 17,500	\$ -	\$ 17,500	\$ -	\$ -	\$ 17,500	\$ -	\$ -	\$ -	\$ 17,500
6.4.33 Rotary Mower	2021	\$ 27,800	\$ -	\$ 27,800	\$ -	\$ -	\$ 27,800	\$ -	\$ -	\$ -	\$ 27,800
6.4.34 Full Size 2WD Pick-Up	2021	\$ 27,500	\$ -	\$ 27,500	\$ -	\$ -	\$ 27,500	\$ -	\$ -	\$ -	\$ 27,500
6.4.35 Zero Turn Mower	2021	\$ 17,500	\$ -	\$ 17,500	\$ -	\$ -	\$ 17,500	\$ -	\$ -	\$ -	\$ 17,500
6.4.36 Full Size Van	2021	\$ 32,500	\$ -	\$ 32,500	\$ -	\$ -	\$ 32,500	\$ -	\$ -	\$ -	\$ 32,500
6.4.37 Sidewalk Tractors Articulated	2022	\$ 150,000	\$ -	\$ 150,000	\$ -	\$ -	\$ 150,000	\$ -	\$ -	\$ -	\$ 150,000
6.4.38 Full Size 4WD Pick-Up	2022	\$ 42,300	\$ -	\$ 42,300	\$ -	\$ -	\$ 42,300	\$ -	\$ -	\$ -	\$ 42,300
6.4.39 Flatbed (>8,000 KG RGWW)	2022	\$ 78,000	\$ -	\$ 78,000	\$ -	\$ -	\$ 78,000	\$ -	\$ -	\$ -	\$ 78,000
6.4.40 1 Ton Flat Bed	2022	\$ 49,500	\$ -	\$ 49,500	\$ -	\$ -	\$ 49,500	\$ -	\$ -	\$ -	\$ 49,500
6.4.41 Compact Van	2022	\$ 25,500	\$ -	\$ 25,500	\$ -	\$ -	\$ 25,500	\$ -	\$ -	\$ -	\$ 25,500
6.4.42 Trailers	2022	\$ 7,500	\$ -	\$ 7,500	\$ -	\$ -	\$ 7,500	\$ -	\$ -	\$ -	\$ 7,500
6.4.43 Full Size Van	2022	\$ 32,500	\$ -	\$ 32,500	\$ -	\$ -	\$ 32,500	\$ -	\$ -	\$ -	\$ 32,500
6.4.44 Sidewalk Tractors Articulated	2023	\$ 150,000	\$ -	\$ 150,000	\$ -	\$ -	\$ 150,000	\$ -	\$ -	\$ -	\$ 150,000
6.4.45 Car Compact	2023	\$ 20,800	\$ -	\$ 20,800	\$ -	\$ -	\$ 20,800	\$ -	\$ -	\$ -	\$ 20,800
6.4.46 Full Size 2WD Pick-Up	2023	\$ 27,500	\$ -	\$ 27,500	\$ -	\$ -	\$ 27,500	\$ -	\$ -	\$ -	\$ 27,500
6.4.47 Full Size 4WD Pick-Up	2023	\$ 42,300	\$ -	\$ 42,300	\$ -	\$ -	\$ 42,300	\$ -	\$ -	\$ -	\$ 42,300
6.4.48 Flatbed (>8,000 KG RGWW)	2023	\$ 78,000	\$ -	\$ 78,000	\$ -	\$ -	\$ 78,000	\$ -	\$ -	\$ -	\$ 78,000
6.4.49 1 Ton Flat Bed	2023	\$ 49,500	\$ -	\$ 49,500	\$ -	\$ -	\$ 49,500	\$ -	\$ -	\$ -	\$ 49,500
6.4.50 Zero Turn Mower	2024	\$ 17,500	\$ -	\$ 17,500	\$ -	\$ -	\$ 17,500	\$ -	\$ -	\$ -	\$ 17,500

CITY OF MARKHAM
DEVELOPMENT-RELATED CAPITAL PROGRAM
PUBLIC WORKS

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs			
					Replacement & BTE Shares	0% Reduction		Prior Growth	Available DC Reserves	2017-2026	Post 2026
6.4 Fleet - Cont'd											
6.4.51 Full Size Van	2024	\$ 32,500	\$ -	\$ 32,500	\$ -	\$ -	\$ 32,500	\$ -	\$ -	\$ -	\$ 32,500
6.4.52 Full Size 4WD Pick-Up	2024	\$ 42,300	\$ -	\$ 42,300	\$ -	\$ -	\$ 42,300	\$ -	\$ -	\$ -	\$ 42,300
6.4.53 Flatbed (>8,000 KG RGWV)	2024	\$ 78,000	\$ -	\$ 78,000	\$ -	\$ -	\$ 78,000	\$ -	\$ -	\$ -	\$ 78,000
6.4.54 Compact Van	2024	\$ 25,500	\$ -	\$ 25,500	\$ -	\$ -	\$ 25,500	\$ -	\$ -	\$ -	\$ 25,500
6.4.55 Trailers	2024	\$ 7,500	\$ -	\$ 7,500	\$ -	\$ -	\$ 7,500	\$ -	\$ -	\$ -	\$ 7,500
6.4.56 Full Size Van	2024	\$ 32,500	\$ -	\$ 32,500	\$ -	\$ -	\$ 32,500	\$ -	\$ -	\$ -	\$ 32,500
6.4.57 Sidewalk Tractors Articulated	2024	\$ 150,000	\$ -	\$ 150,000	\$ -	\$ -	\$ 150,000	\$ -	\$ -	\$ -	\$ 150,000
6.4.58 Car Mid Size	2025	\$ 27,800	\$ -	\$ 27,800	\$ -	\$ -	\$ 27,800	\$ -	\$ -	\$ -	\$ 27,800
6.4.59 Utility Truckster	2025	\$ 22,900	\$ -	\$ 22,900	\$ -	\$ -	\$ 22,900	\$ -	\$ -	\$ -	\$ 22,900
6.4.60 Sport Utility Vehicle	2025	\$ 38,900	\$ -	\$ 38,900	\$ -	\$ -	\$ 38,900	\$ -	\$ -	\$ -	\$ 38,900
6.4.61 1 Ton Flat Bed	2025	\$ 49,500	\$ -	\$ 49,500	\$ -	\$ -	\$ 49,500	\$ -	\$ -	\$ -	\$ 49,500
6.4.62 Compact Van	2025	\$ 25,500	\$ -	\$ 25,500	\$ -	\$ -	\$ 25,500	\$ -	\$ -	\$ -	\$ 25,500
6.4.63 Trailers	2025	\$ 7,500	\$ -	\$ 7,500	\$ -	\$ -	\$ 7,500	\$ -	\$ -	\$ -	\$ 7,500
6.4.64 Zero Turn Mower	2025	\$ 17,500	\$ -	\$ 17,500	\$ -	\$ -	\$ 17,500	\$ -	\$ -	\$ -	\$ 17,500
6.4.65 Rotary Mower	2025	\$ 27,800	\$ -	\$ 27,800	\$ -	\$ -	\$ 27,800	\$ -	\$ -	\$ -	\$ 27,800
6.4.66 Full Size 2WD Pick-Up	2025	\$ 27,500	\$ -	\$ 27,500	\$ -	\$ -	\$ 27,500	\$ -	\$ -	\$ -	\$ 27,500
6.4.67 Zero Turn Mower	2025	\$ 17,500	\$ -	\$ 17,500	\$ -	\$ -	\$ 17,500	\$ -	\$ -	\$ -	\$ 17,500
6.4.68 Full Size Van	2025	\$ 32,500	\$ -	\$ 32,500	\$ -	\$ -	\$ 32,500	\$ -	\$ -	\$ -	\$ 32,500
6.4.69 Sidewalk Tractors Articulated	2026	\$ 150,000	\$ -	\$ 150,000	\$ -	\$ -	\$ 150,000	\$ -	\$ -	\$ -	\$ 150,000
6.4.70 Full Size 4WD Pick-Up	2026	\$ 42,300	\$ -	\$ 42,300	\$ -	\$ -	\$ 42,300	\$ -	\$ -	\$ -	\$ 42,300
6.4.71 Flatbed (>8,000 KG RGWV)	2026	\$ 78,000	\$ -	\$ 78,000	\$ -	\$ -	\$ 78,000	\$ -	\$ -	\$ -	\$ 78,000
6.4.72 1 Ton Flat Bed	2026	\$ 49,500	\$ -	\$ 49,500	\$ -	\$ -	\$ 49,500	\$ -	\$ -	\$ -	\$ 49,500
6.4.73 Compact Van	2026	\$ 25,500	\$ -	\$ 25,500	\$ -	\$ -	\$ 25,500	\$ -	\$ -	\$ -	\$ 25,500
6.4.74 Trailers	2026	\$ 7,500	\$ -	\$ 7,500	\$ -	\$ -	\$ 7,500	\$ -	\$ -	\$ -	\$ 7,500
6.4.75 Full Size Van	2026	\$ 32,500	\$ -	\$ 32,500	\$ -	\$ -	\$ 32,500	\$ -	\$ -	\$ -	\$ 32,500
Subtotal Fleet		\$ 3,670,500	\$ -	\$ 3,670,500	\$ -	\$ -	\$ 3,670,500	\$ -	\$ 238,300	\$ 1,317,900	\$ 2,114,300
TOTAL PUBLIC WORKS		\$ 40,385,577	\$ -	\$ 40,385,577	\$ -	\$ -	\$ 40,385,577	\$ -	\$ 13,948,097	\$ 18,000,064	\$ 8,437,416

Residential Development Charge Calculation		
Residential Share of 2017 - 2026 DC Eligible Costs	64.5%	\$11,611,858
10-Year Growth in Population in New Units		75,375
Unadjusted Development Charge Per Capita		\$154.05
Non-Residential Development Charge Calculation		
Non-Residential Share of 2017 - 2026 DC Eligible Costs	35.5%	\$6,388,207
10-Year Growth in Square Metres		1,997,205
Unadjusted Development Charge Per Square Metre		\$3.20

2017 - 2026 Net Funding Envelope	\$18,000,064
Reserve Fund Balance	\$13,948,097

Non-Residential Development Charge Calculation		
Retail Commercial		
Non-Residential Share of 2017 - 2026 DC Eligible Costs	9.3%	\$ 1,667,734
10-Year Growth in Square Metres		421,920
Unadjusted Development Charge Per Square Metre		\$3.95
Industrial/Office/Institutional		
Non-Residential Share of 2017 - 2026 DC Eligible Costs	26.0%	\$ 4,677,711
10-Year Growth in Square Metres		1,553,080
Unadjusted Development Charge Per Square Metre		\$3.01
Mixed-Use		
Non-Residential Share of 2017 - 2026 DC Eligible Costs	0.2%	\$ 42,762
10-Year Growth in Square Metres		22,205
Unadjusted Development Charge Per Square Metre		\$1.93

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APPENDIX B.6
TABLE 3

CITY OF MARKHAM
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
PUBLIC WORKS
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

PUBLIC WORKS	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	\$0.00	\$1,180.59	(\$2,454.94)	(\$8,680.90)	(\$7,811.55)	(\$6,834.13)	(\$5,740.03)	(\$4,520.11)	(\$3,163.59)	(\$1,660.60)	
2017 - 2026 RESIDENTIAL FUNDING REQUIREMENTS											
- Public Works: Non Inflated	\$0.0	\$4,696.6	\$6,915.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$11,611.9
- Public Works: Inflated	\$0.0	\$4,790.5	\$7,194.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$11,985.2
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	6,748	6,911	7,081	7,254	7,430	7,610	7,794	7,987	8,181	8,379	75,375
REVENUE											
- DC Receipts: Inflated	\$1,160.3	\$1,212.1	\$1,266.7	\$1,323.6	\$1,382.9	\$1,444.7	\$1,509.2	\$1,577.5	\$1,648.2	\$1,721.8	\$14,246.9
INTEREST											
- Interest on Opening Balance	\$0.0	\$41.3	(\$135.0)	(\$477.4)	(\$429.6)	(\$375.9)	(\$315.7)	(\$248.6)	(\$174.0)	(\$91.3)	(\$2,206.3)
- Interest on In-year Transactions	\$20.3	(\$98.4)	(\$163.0)	\$23.2	\$24.2	\$25.3	\$26.4	\$27.6	\$28.8	\$30.1	(\$55.5)
TOTAL REVENUE	\$1,180.6	\$1,155.0	\$968.7	\$869.3	\$977.4	\$1,094.1	\$1,219.9	\$1,356.5	\$1,503.0	\$1,660.6	\$11,985.2
CLOSING CASH BALANCE	\$1,180.6	(\$2,454.9)	(\$8,680.9)	(\$7,811.6)	(\$6,834.1)	(\$5,740.0)	(\$4,520.1)	(\$3,163.6)	(\$1,660.6)	(\$0.0)	

2017 Adjusted Charge Per Capita	\$171.94
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Allocation of Capital Program	
Residential Sector	64.5%
Non-Residential Sector	35.5%
Rates for 2017	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

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TABLE 3

**CITY OF MARKHAM
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
PUBLIC WORKS
RETAIL NON-RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)**

PUBLIC WORKS	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	\$0.00	\$172.56	(\$347.01)	(\$1,239.12)	(\$1,112.79)	(\$971.59)	(\$814.37)	(\$639.96)	(\$447.03)	(\$234.20)	
2017 - 2026 NON-RESIDENTIAL FUNDING REQUIREMENTS											
- Public Works: Non Inflated	\$0.0	\$674.5	\$993.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1,667.7
- Public Works: Inflated	\$0.0	\$688.0	\$1,033.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1,721.3
NON-RESIDENTIAL SPACE GROWTH - RETAIL											
- Growth in Square Metres	38,483	39,262	40,058	40,871	41,701	42,549	43,408	44,291	45,190	46,107	421,920
REVENUE											
- DC Receipts: Inflated	\$169.6	\$176.5	\$183.7	\$191.1	\$198.9	\$207.0	\$215.4	\$224.2	\$233.3	\$242.8	\$2,042.6
INTEREST											
- Interest on Opening Balance	\$0.0	\$6.0	(\$19.1)	(\$68.2)	(\$61.2)	(\$53.4)	(\$44.8)	(\$35.2)	(\$24.6)	(\$12.9)	(\$313.3)
- Interest on In-year Transactions	\$3.0	(\$14.1)	(\$23.4)	\$3.3	\$3.5	\$3.6	\$3.8	\$3.9	\$4.1	\$4.2	(\$8.0)
TOTAL REVENUE	\$172.6	\$168.5	\$141.2	\$126.3	\$141.2	\$157.2	\$174.4	\$192.9	\$212.8	\$234.2	\$1,721.3
CLOSING CASH BALANCE	\$172.6	(\$347.0)	(\$1,239.1)	(\$1,112.8)	(\$971.6)	(\$814.4)	(\$640.0)	(\$447.0)	(\$234.2)	\$0.0	

2017 Adjusted Charge Per Square Metre	\$4.41
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Allocation of Capital Program	
Retail Sector	9.3%
Industrial/Office/Institutional Sector	26.0%
Mixed-Use	0.2%
Rates for 2017	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

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APPENDIX B.6
TABLE 3

CITY OF MARKHAM
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
PUBLIC WORKS
INDUSTRIAL/OFFICE/INSTITUTIONAL NON-RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

PUBLIC WORKS	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	\$0.00	\$477.34	(\$985.97)	(\$3,492.98)	(\$3,142.11)	(\$2,748.01)	(\$2,307.55)	(\$1,816.51)	(\$1,270.93)	(\$666.95)	
2017 - 2026 NON-RESIDENTIAL FUNDING REQUIREMENTS											
- Public Works: Non Inflated	\$0.0	\$1,892.0	\$2,785.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$4,677.7
- Public Works: Inflated	\$0.0	\$1,929.8	\$2,898.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$4,828.1
NON-RESIDENTIAL SPACE GROWTH - I.O.I.											
- Growth in Square Metres	139,580	142,758	146,175	149,617	153,150	156,683	160,455	164,318	168,182	172,162	1,553,080
REVENUE											
- DC Receipts: Inflated	\$469.1	\$489.4	\$511.1	\$533.6	\$557.2	\$581.4	\$607.3	\$634.4	\$662.3	\$691.5	\$5,737.5
INTEREST											
- Interest on Opening Balance	\$0.0	\$16.7	(\$54.2)	(\$192.1)	(\$172.8)	(\$151.1)	(\$126.9)	(\$99.9)	(\$69.9)	(\$36.7)	(\$887.0)
- Interest on In-year Transactions	\$8.2	(\$39.6)	(\$65.6)	\$9.3	\$9.8	\$10.2	\$10.6	\$11.1	\$11.6	\$12.1	(\$22.4)
TOTAL REVENUE	\$477.3	\$466.5	\$391.3	\$350.9	\$394.1	\$440.5	\$491.0	\$545.6	\$604.0	\$666.9	\$4,828.1
CLOSING CASH BALANCE	\$477.3	(\$986.0)	(\$3,493.0)	(\$3,142.1)	(\$2,748.0)	(\$2,307.6)	(\$1,816.5)	(\$1,270.9)	(\$666.9)	(\$0.0)	

2017 Adjusted Charge Per Square Metre	\$3.36
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Allocation of Capital Program	
Retail Sector	9.3%
Industrial/Office/Institutional Sector	26.0%
Mixed-Use	0.2%
Rates for 2017	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

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APPENDIX B.6
TABLE 3

CITY OF MARKHAM
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
PUBLIC WORKS
MIXED-USE NON-RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

PUBLIC WORKS	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	\$0.00	\$4.42	(\$8.90)	(\$31.77)	(\$28.53)	(\$24.91)	(\$20.88)	(\$16.41)	(\$11.46)	(\$6.01)	
2017 - 2026 NON-RESIDENTIAL FUNDING REQUIREMENTS											
- Public Works: Non Inflated	\$0.0	\$17.3	\$25.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$42.8
- Public Works: Inflated	\$0.0	\$17.6	\$26.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$44.1
NON-RESIDENTIAL SPACE GROWTH - I.O.I.											
- Growth in Square Metres	2,025	2,066	2,108	2,151	2,195	2,239	2,285	2,331	2,378	2,427	22,205
REVENUE											
- DC Receipts: Inflated	\$4.3	\$4.5	\$4.7	\$4.9	\$5.1	\$5.3	\$5.5	\$5.7	\$6.0	\$6.2	\$52.4
INTEREST											
- Interest on Opening Balance	\$0.0	\$0.2	(\$0.5)	(\$1.7)	(\$1.6)	(\$1.4)	(\$1.1)	(\$0.9)	(\$0.6)	(\$0.3)	(\$8.0)
- Interest on In-year Transactions	\$0.1	(\$0.4)	(\$0.6)	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	(\$0.2)
TOTAL REVENUE	\$4.4	\$4.3	\$3.6	\$3.2	\$3.6	\$4.0	\$4.5	\$4.9	\$5.5	\$6.0	\$44.1
CLOSING CASH BALANCE	\$4.4	(\$8.9)	(\$31.8)	(\$28.5)	(\$24.9)	(\$20.9)	(\$16.4)	(\$11.5)	(\$6.0)	\$0.0	

2017 Adjusted Charge Per Square Metre \$2.15

Allocation of Capital Program	
Retail Sector	9.3%
Industrial/Office/Institutional Sector	26.0%
Mixed-Use	0.2%
Rates for 2017	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

APPENDIX B.7

PARKING

APPENDIX B.7

PARKING

The City of Markham owns and operates both on street and off street parking spaces.

TABLE 1 2007-2016 HISTORICAL SERVICE LEVELS

The ten-year historical inventory of capital assets for parking includes 178 on street parking spaces, with 17 meters, valued at \$3.43 million. There are two parking lots with a total of 50 parking spaces valued at \$0.13 million. The land for these parking lots add another \$0.86 million to the inventory.

The total replacement value of the parking capital infrastructure is estimated to be \$4.42 million. The ten-year historical average service level is \$10.11 per net population and employment, and multiplied by the ten-year forecast net population and employment growth (114,628), results in a ten-year maximum allowable funding envelope of \$1.16 million. There is no uncommitted excess capacity for parking and is therefore not reduced from the funding envelope. The required ten per cent deduction as per the *DCA* of \$0.12 million is deducted. The resulting net maximum allowable funding envelope brought forward to the development charges calculation is \$1.04 million.

TABLE 2 2017 – 2026 DEVELOPMENT-RELATED CAPITAL PROGRAM AND CALCULATION OF THE UNADJUSTED DEVELOPMENT CHARGES

The ten-year development-related capital plan for Parking provides for additional on-street parking spaces for \$604,800. Additional parking meters are also anticipated for \$723,500. The capital program also includes a provision for a Parking Study in 2018 valued at \$20,000.

Altogether, the ten-year capital program for parking amounts to \$1.35 million. No grants or replacement shares have been identified. The legislated ten per cent discount of \$134,800 is netted off of the net municipal costs, leaving \$1.21 million as the total DC eligible costs. An amount of \$81,000 is available in the Parking DC reserve fund and is applied to projects occurring in the initial years of the planning period. Some of the DC eligible costs are considered to be a post-period benefit beyond 2026, and as such, \$89,400 will be considered for recovery as part of subsequent development charge updates.

The 2017–2026 DC costs eligible for recovery amount to \$1.04 million is allocated 64.5 per cent, or \$0.67 million, against new residential development, and 35.5 per cent, or \$0.37 million, against non-residential development. This yields an unadjusted development charge of \$8.93 per capita for residential development. The non-residential unadjusted charge is allocated between retail, industrial/office/institutional (I.O.I) and mixed use at rates of \$0.23, \$0.17, and \$0.11 per square metre, respectively.

TABLE 3 CASH FLOW ANALYSIS

After cash flow analysis, the residential charge increases to \$9.04 per capita. The retail development charge remains the same at \$0.23 per square metre, and the industrial/office/institutional development charge increases slightly to \$0.18 per square metre. The mixed use charge remains the same at \$0.11 per square metre.

The following table summarizes the calculation of the parking development charge.

10-year Hist. Service Level per pop & emp	2017 - 2026		PARKING SUMMARY				Adjusted			
	Development-Related Total	Capital Program Net DC Recoverable	Residential \$/capita	Unadjusted Development Charge			Development Charge			
				Retail \$/sq.m	I.O.I. \$/sq.m	Mixed-Use \$/sq.m	Residential \$/capita	Retail \$/sq.m	I.O.I. \$/sq.m	Mixed-Use \$/sq.m
\$10.11	\$1,348,294	\$1,043,002	\$8.93	\$0.23	\$0.17	\$0.11	\$9.04	\$0.23	\$0.18	\$0.11

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 APPENDIX B.7
 TABLE 1

CITY OF MARKHAM
 INVENTORY OF CAPITAL ASSETS
 PARKING

ON STREET PARKING	# of Spaces										UNIT COST (\$/km)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Parking Meters	17	17	17	17	17	17	17	17	17	17	\$12,058
Parking Spaces	178	178	178	178	178	178	178	178	178	178	\$3,476
Land	178	178	178	178	178	178	178	178	178	178	\$14,658
Total (#)	373.0	373.0	373	373	373	373	373	373	373	373	
Total (\$000)	\$3,432.8	\$3,432.8	\$3,432.8	\$3,432.8	\$3,432.8	\$3,432.8	\$3,432.8	\$3,432.8	\$3,432.8	\$3,432.8	\$3,432.8

OFF STREET PARKING	# of Spaces										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Parking Lots											
14 Joseph Street	22	22	22	22	22	22	22	22	22	22	\$2,694
22 Washington Street	28	28	28	28	28	28	28	28	28	28	\$2,694
Total (#)	50	50	50	50	50	50	50	50	50	50	
Total (\$000)	\$134.7	\$134.7	\$134.7	\$134.7	\$134.7	\$134.7	\$134.7	\$134.7	\$134.7	\$134.7	\$134.7

LAND	# of Hectares										UNIT COST (\$/ha)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Parking Lots											
14 Joseph Street	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	\$9,489,000
22 Washington Street	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	\$9,489,000
Total (ha)	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	
Total (\$000)	\$856.9	\$856.9	\$856.9	\$856.9	\$856.9	\$856.9	\$856.9	\$856.9	\$856.9	\$856.9	\$856.9

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APPENDIX B.7
TABLE 1

**CITY OF MARKHAM
CALCULATION OF SERVICE LEVELS
PARKING**

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Historic Population	269,149	276,944	284,965	293,218	301,709	306,973	312,329	317,779	323,324	328,966
Historic Employment	<u>132,184</u>	<u>132,225</u>	<u>132,360</u>	<u>132,593</u>	<u>132,925</u>	<u>136,151</u>	<u>139,447</u>	<u>142,816</u>	<u>146,260</u>	<u>149,779</u>
Total Historic Population & Employment	401,333	409,169	417,325	425,811	434,634	443,124	451,776	460,595	469,584	478,745

INVENTORY SUMMARY (\$000)

On Street Parking	\$3,432.8	\$3,432.8	\$3,432.8	\$3,432.8	\$3,432.8	\$3,432.8	\$3,432.8	\$3,432.8	\$3,432.8	\$3,432.8
Off Street Parking	\$134.7	\$134.7	\$134.7	\$134.7	\$134.7	\$134.7	\$134.7	\$134.7	\$134.7	\$134.7
Land	\$856.9	\$856.9	\$856.9	\$856.9	\$856.9	\$856.9	\$856.9	\$856.9	\$856.9	\$856.9
Total (\$000)	\$4,424.4	\$4,424.4	\$4,424.4	\$4,424.4	\$4,424.4	\$4,424.4	\$4,424.4	\$4,424.4	\$4,424.4	\$4,424.4

SERVICE LEVEL (\$/pop & emp)

											Average Service Level
On Street Parking	\$8.55	\$8.39	\$8.23	\$8.06	\$7.90	\$7.75	\$7.60	\$7.45	\$7.31	\$7.17	\$7.84
Off Street Parking	\$0.34	\$0.33	\$0.32	\$0.32	\$0.31	\$0.30	\$0.30	\$0.29	\$0.29	\$0.28	\$0.31
Land	\$2.14	\$2.09	\$2.05	\$2.01	\$1.97	\$1.93	\$1.90	\$1.86	\$1.82	\$1.79	\$1.96
Total (\$/pop & emp)	\$11.02	\$10.81	\$10.60	\$10.39	\$10.18	\$9.98	\$9.79	\$9.61	\$9.42	\$9.24	\$10.11

**CITY OF MARKHAM
CALCULATION OF MAXIMUM ALLOWABLE
PARKING**

10-Year Funding Envelope Calculation	
10 Year Average Service Level 2007 - 2016	\$10.11
Net Population & Employment Growth 2017 - 2026	114,628
Maximum Allowable Funding Envelope	\$1,158,891
Less: Uncommitted Excess Capacity	\$0
Less: 10% Legislated Reduction	\$115,889
Discounted Maximum Allowable Funding Envelope	\$1,043,002

Excess Capacity Calculation	
Total Value of Inventory in 2016	\$4,424,375
Inventory Using Average Service Level	\$4,840,113
Excess Capacity	\$0
Excess Capacity:	Uncommitted

CITY OF MARKHAM
DEVELOPMENT-RELATED CAPITAL PROGRAM
PARKING

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs				
					Replacement & BTE Shares	10% Reduction		Prior Growth	Available DC Reserves	2017-2026	Post 2026	
7.0 PARKING												
7.1 Parking Studies												
7.1.1 Parking Studies	2018	\$ 20,000	\$ -	\$ 20,000	\$ -	\$ 2,000	\$ 18,000	\$ -	\$ 18,000	\$ -	\$ -	
Subtotal Parking Studies		\$ 20,000	\$ -	\$ 20,000	\$ -	\$ 2,000	\$ 18,000	\$ -	\$ 18,000	\$ -	\$ -	
7.2 Parking Equipment												
7.2.1 Parking Meters	2018	\$ 144,699	\$ -	\$ 144,699	\$ -	\$ 14,470	\$ 130,229	\$ -	\$ 63,027	\$ 67,202	\$ -	
7.2.2 Parking Meters	2020	\$ 144,699	\$ -	\$ 144,699	\$ -	\$ 14,470	\$ 130,229	\$ -	\$ -	\$ 130,229	\$ -	
7.2.3 Parking Meters	2022	\$ 144,699	\$ -	\$ 144,699	\$ -	\$ 14,470	\$ 130,229	\$ -	\$ -	\$ 130,229	\$ -	
7.2.4 Parking Meters	2022	\$ 144,699	\$ -	\$ 144,699	\$ -	\$ 14,470	\$ 130,229	\$ -	\$ -	\$ 130,229	\$ -	
7.2.5 Parking Meters	2026	\$ 144,699	\$ -	\$ 144,699	\$ -	\$ 14,470	\$ 130,229	\$ -	\$ -	\$ 130,229	\$ -	
Subtotal Parking Equipment		\$ 723,495	\$ -	\$ 723,495	\$ -	\$ 72,350	\$ 651,146	\$ -	\$ 63,027	\$ 588,119	\$ -	
7.3 Parking Spaces												
7.3.1 On Street Parking	2018	\$ 145,986	\$ -	\$ 145,986	\$ -	\$ 14,599	\$ 131,387	\$ -	\$ -	\$ 131,387	\$ -	
7.3.2 On Street Parking	2020	\$ 83,421	\$ -	\$ 83,421	\$ -	\$ 8,342	\$ 75,079	\$ -	\$ -	\$ 75,079	\$ -	
7.3.3 On Street Parking	2022	\$ 145,986	\$ -	\$ 145,986	\$ -	\$ 14,599	\$ 131,387	\$ -	\$ -	\$ 131,387	\$ -	
7.3.4 On Street Parking	2024	\$ 83,421	\$ -	\$ 83,421	\$ -	\$ 8,342	\$ 75,079	\$ -	\$ -	\$ 75,079	\$ -	
7.3.5 On Street Parking	2026	\$ 145,986	\$ -	\$ 145,986	\$ -	\$ 14,599	\$ 131,387	\$ -	\$ -	\$ 41,951	\$ 89,436	
Subtotal Parking Spaces		\$ 604,799	\$ -	\$ 604,799	\$ -	\$ 60,480	\$ 544,319	\$ -	\$ -	\$ 454,883	\$ 89,436	
TOTAL PARKING		\$ 1,348,294	\$ -	\$ 1,348,294	\$ -	\$ 134,829	\$ 1,213,465	\$ -	\$ 81,027	\$ 1,043,002	\$ 89,436	

Residential Development Charge Calculation		
Residential Share of 2017 - 2026 DC Eligible Costs	64.5%	\$672,841
10-Year Growth in Population in New Units		75,375
Unadjusted Development Charge Per Capita		\$8.93
Non-Residential Development Charge Calculation		
Non-Residential Share of 2017 - 2026 DC Eligible Costs	35.5%	\$370,160
10-Year Growth in Square Metres		1,997,205
Unadjusted Development Charge Per Square Metre		\$0.19

2017 - 2026 Net Funding Envelope	\$1,043,002
Reserve Fund Balance	\$81,027

Non-Residential Development Charge Calculation		
<i>Retail Commercial</i>		
Non-Residential Share of 2017 - 2026 DC Eligible Costs	9.3%	\$ 96,635.7
10-Year Growth in Square Metres		\$ 421,920.0
Unadjusted Development Charge Per Square Metre		\$0.23
<i>Industrial/Office/Institutional</i>		
Non-Residential Share of 2017 - 2026 DC Eligible Costs	26.0%	\$ 271,046.9
10-Year Growth in Square Metres		\$ 1,553,080.0
Unadjusted Development Charge Per Square Metre		\$0.17
<i>Mixed-Use</i>		
Non-Residential Share of 2017 - 2026 DC Eligible Costs	0.2%	\$ 2,478
10-Year Growth in Square Metres		22,205
Unadjusted Development Charge Per Square Metre		\$0.11

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APPENDIX B.7
TABLE 3

CITY OF MARKHAM
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
PARKING
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

PARKING	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	\$0.00	\$62.05	(\$4.59)	\$62.90	(\$7.84)	\$65.68	(\$140.77)	(\$67.81)	(\$43.78)	\$41.95	
2017 - 2026 RESIDENTIAL FUNDING REQUIREMENTS											
- Parking: Non Inflated	\$0.0	\$128.1	\$0.0	\$132.4	\$0.0	\$252.8	\$0.0	\$48.4	\$0.0	\$111.1	\$672.8
- Parking: Inflated	\$0.0	\$130.7	\$0.0	\$140.6	\$0.0	\$279.1	\$0.0	\$55.6	\$0.0	\$132.7	\$738.7
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	6,748	6,911	7,081	7,254	7,430	7,610	7,794	7,987	8,181	8,379	75,375
REVENUE											
- DC Receipts: Inflated	\$61.0	\$63.7	\$66.6	\$69.6	\$72.7	\$75.9	\$79.3	\$82.9	\$86.6	\$90.5	\$748.8
INTEREST											
- Interest on Opening Balance	\$0.0	\$2.2	(\$0.3)	\$2.2	(\$0.4)	\$2.3	(\$7.7)	(\$3.7)	(\$2.4)	\$1.5	(\$6.4)
- Interest on In-year Transactions	\$1.1	(\$1.8)	\$1.2	(\$2.0)	\$1.3	(\$5.6)	\$1.4	\$0.5	\$1.5	(\$1.2)	(\$3.7)
TOTAL REVENUE	\$62.0	\$64.0	\$67.5	\$69.8	\$73.5	\$72.6	\$73.0	\$79.7	\$85.7	\$90.8	\$738.7
CLOSING CASH BALANCE	\$62.0	(\$4.6)	\$62.9	(\$7.8)	\$65.7	(\$140.8)	(\$67.8)	(\$43.8)	\$41.9	\$0.0	

2017 Adjusted Charge Per Capita	\$9.04
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Allocation of Capital Program	
Residential Sector	64.5%
Non-Residential Sector	35.5%
Rates for 2017	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

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APPENDIX B.7
TABLE 3

CITY OF MARKHAM
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
PARKING
RETAIL NON-RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

PARKING	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	\$0.00	\$9.07	(\$0.36)	\$9.44	(\$0.64)	\$9.96	(\$19.70)	(\$9.26)	(\$5.90)	\$6.25	
2017 - 2026 NON-RESIDENTIAL FUNDING REQUIREMENTS											
- Parking: Non Inflated	\$0.0	\$18.4	\$0.0	\$19.0	\$0.0	\$36.3	\$0.0	\$7.0	\$0.0	\$16.0	\$96.6
- Parking: Inflated	\$0.0	\$18.8	\$0.0	\$20.2	\$0.0	\$40.1	\$0.0	\$8.0	\$0.0	\$19.1	\$106.1
NON-RESIDENTIAL SPACE GROWTH - RETAIL											
- Growth in Square Metres	38,483	39,262	40,058	40,871	41,701	42,549	43,408	44,291	45,190	46,107	421,920
REVENUE											
- DC Receipts: Inflated	\$8.9	\$9.3	\$9.7	\$10.0	\$10.5	\$10.9	\$11.3	\$11.8	\$12.3	\$12.8	\$107.4
INTEREST											
- Interest on Opening Balance	\$0.0	\$0.3	(\$0.0)	\$0.3	(\$0.0)	\$0.3	(\$1.1)	(\$0.5)	(\$0.3)	\$0.2	(\$0.8)
- Interest on In-year Transactions	\$0.2	(\$0.3)	\$0.2	(\$0.3)	\$0.2	(\$0.8)	\$0.2	\$0.1	\$0.2	(\$0.2)	(\$0.5)
TOTAL REVENUE	\$9.1	\$9.3	\$9.8	\$10.1	\$10.6	\$10.4	\$10.4	\$11.3	\$12.2	\$12.8	\$106.1
CLOSING CASH BALANCE	\$9.1	(\$0.4)	\$9.4	(\$0.6)	\$10.0	(\$19.7)	(\$9.3)	(\$5.9)	\$6.3	\$0.0	

2017 Adjusted Charge Per Square Metre \$0.23

Allocation of Capital Program	
Retail Sector	9.3%
Industrial/Office/Institutional Sector	26.0%
Mixed-Use	0.2%
Rates for 2017	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

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APPENDIX B.7
TABLE 3

CITY OF MARKHAM
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
PARKING
INDUSTRIAL/OFFICE/INSTITUTIONAL NON-RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

PARKING	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	\$0.00	\$25.09	(\$1.69)	\$25.55	(\$2.91)	\$26.72	(\$56.46)	(\$27.09)	(\$17.45)	\$17.00	
2017 - 2026 NON-RESIDENTIAL FUNDING REQUIREMENTS											
- Parking: Non Inflated	\$0.0	\$51.6	\$0.0	\$53.4	\$0.0	\$101.8	\$0.0	\$19.5	\$0.0	\$44.7	\$271.0
- Parking: Inflated	\$0.0	\$52.6	\$0.0	\$56.6	\$0.0	\$112.4	\$0.0	\$22.4	\$0.0	\$53.5	\$297.6
NON-RESIDENTIAL SPACE GROWTH - I.O.I.											
- Growth in Square Metres	139,580	142,758	146,175	149,617	153,150	156,683	160,455	164,318	168,182	172,162	1,553,080
REVENUE											
- DC Receipts: Inflated	\$24.7	\$25.7	\$26.9	\$28.0	\$29.3	\$30.6	\$31.9	\$33.3	\$34.8	\$36.3	\$301.6
INTEREST											
- Interest on Opening Balance	\$0.0	\$0.9	(\$0.1)	\$0.9	(\$0.2)	\$0.9	(\$3.1)	(\$1.5)	(\$1.0)	\$0.6	(\$2.5)
- Interest on In-year Transactions	\$0.4	(\$0.7)	\$0.5	(\$0.8)	\$0.5	(\$2.3)	\$0.6	\$0.2	\$0.6	(\$0.5)	(\$1.5)
TOTAL REVENUE	\$25.1	\$25.9	\$27.2	\$28.2	\$29.6	\$29.2	\$29.4	\$32.0	\$34.5	\$36.5	\$297.6
CLOSING CASH BALANCE	\$25.1	(\$1.7)	\$25.6	(\$2.9)	\$26.7	(\$56.5)	(\$27.1)	(\$17.5)	\$17.0	\$0.0	

2017 Adjusted Charge Per Square Metre \$0.18

Allocation of Capital Program	
Retail Sector	9.3%
Industrial/Office/Institutional Sector	26.0%
Mixed-Use	0.2%
Rates for 2017	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

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APPENDIX B.7
TABLE 3

CITY OF MARKHAM
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
PARKING
MIXED-USE NON-RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

PARKING	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	\$0.00	\$0.23	(\$0.01)	\$0.24	(\$0.02)	\$0.26	(\$0.50)	(\$0.24)	(\$0.15)	\$0.16	
2017 - 2026 NON-RESIDENTIAL FUNDING REQUIREMENTS											
- Parking: Non Inflated	\$0.0	\$0.5	\$0.0	\$0.5	\$0.0	\$0.9	\$0.0	\$0.2	\$0.0	\$0.4	\$2.5
- Parking: Inflated	\$0.0	\$0.5	\$0.0	\$0.5	\$0.0	\$1.0	\$0.0	\$0.2	\$0.0	\$0.5	\$2.7
NON-RESIDENTIAL SPACE GROWTH - I.O.I.											
- Growth in Square Metres	2,025	2,066	2,108	2,151	2,195	2,239	2,285	2,331	2,378	2,427	22,205
REVENUE											
- DC Receipts: Inflated	\$0.2	\$0.2	\$0.2	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$2.8
INTEREST											
- Interest on Opening Balance	\$0.0	\$0.0	(\$0.0)	\$0.0	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)
- 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)	(\$0.0)
TOTAL REVENUE	\$0.2	\$0.2	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$2.7
CLOSING CASH BALANCE	\$0.2	(\$0.0)	\$0.2	(\$0.0)	\$0.3	(\$0.5)	(\$0.2)	(\$0.2)	\$0.2	\$0.0	

2017 Adjusted Charge Per Square Metre \$0.11

Allocation of Capital Program	
Retail Sector	9.3%
Industrial/Office/Institutional Sector	26.0%
Mixed-Use	0.2%
Rates for 2017	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

APPENDIX B.8

WASTE MANAGEMENT SERVICES

APPENDIX B.8

WASTE MANAGEMENT SERVICES

The City of Markham provides Waste Management Services for its residents this includes both ground-related dwelling and multi-residential buildings. The City does not provide collection services to non-residential users.

As of January 1, 2016, the *Development Charges Act* permits the inclusion of capital costs associated with all waste management operations with the exception of incineration and landfill activities. These shares of facilities, land, vehicles and equipment have been excluded from the development charges calculation.

TABLE 1 2007-2016 HISTORICAL SERVICE LEVELS

The total square footage the City's existing Waste Management depots and sheds that relate to eligible operations of Waste Management Services was 11,825 square feet at a cost of \$3.55 million in 2016. The land related to these buildings total 0.63 hectares, valued at \$5.99 million. In total, 40 vehicles are used to provide DC eligible Waste Management services in the City of Markham and are valued at \$8.18 million. Finally, the waste-related furniture and equipment total \$0.75 million.

The total value of the inventory of capital assets for Waste Management Services in 2016 was \$18.47 million, resulting in a ten-year historical average service level of \$61.50 per capita. The historical service level, multiplied by the ten-year net population growth, results in a ten-year maximum allowable funding envelope of \$4.50 million (73,161 net population growth X historical average service level of \$61.50). No excess capacity has been calculated for this service and as such, no reduction has been made. The ten per cent statutory reduction totals \$0.45 million and must be removed from the maximum permissible funding envelope calculation. As such, the maximum allowable funding envelope brought forward to the development charges calculation is reduced to \$4.05 million.

**TABLE 2 2017 – 2026 DEVELOPMENT-RELATED CAPITAL PROGRAM AND
CALCULATION OF THE UNADJUSTED DEVELOPMENT CHARGES**

The ten-year development-related capital plan for Waste Management Services includes a provision for additional collection trucks and other City-owned development-related vehicles and equipment for a total cost of \$6.97 million. No grant, subsidies or other recoveries are identified and as such, the total is carried forward to the net municipal costs.

No benefit to existing shares have been calculated as the projects in the capital program only relate to the increase in need for service relating to new development. The ten per cent deduction required by legislation totals \$0.7 million, which reduces the DC eligible costs to \$6.27 million. As this is a new service proposed to be introduced as part of the 2017 DC By-law update, there are no reserve funds available to fund a portion of the DC eligible costs. A post-period share of \$2.22 million has been identified for this service, and will be considered for recovery under subsequent DC by-law updates. After these adjustments, \$4.05 million is considered to be eligible for recovery through development charges over the 2017-2026 planning period.

This amount is allocated entirely to the residential sector and yields an unadjusted development charge of \$53.72 per capita.

TABLE 3 CASH FLOW ANALYSIS

After cash flow and reserve fund analysis, the residential charge increases to \$54.76 per capita.

The following table summarizes the calculation of the waste management development charge.

WASTE MANAGEMENT SUMMARY										
10-year Hist. Service Level per capita	2017 - 2026		Residential \$/capita	Unadjusted Development Charge			Adjusted Development Charge			
	Development-Related Total	Capital Program Net DC Recoverable		Retail \$/sq.m	I.O.I. \$/sq.m	Mixed-Use \$/sq.m	Residential \$/capita	Retail \$/sq.m	I.O.I. \$/sq.m	Mixed-Use \$/sq.m
\$61.50	\$6,967,137	\$4,049,461	\$53.72	\$0.00	\$0.00	\$0.00	\$54.76	\$0.00	\$0.00	\$0.00

**APPENDIX B.8
TABLE 1**

**CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
WASTE MANAGEMENT**

BUILDINGS	# of Square Feet										UNIT COST (\$/sq.ft.)	
	Facility Name	2007	2008	2009	2010	2011	2012	2013	2014	2015		2016
Markham Depot - 6041 Hwy 7 East, Markham	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	\$300
Unionville Depot - 137A Unionville Main Street, Markham	1,575	1,575	1,575	1,575	1,575	1,575	1,575	1,575	1,575	1,575	1,575	\$300
Thornhill Depot - 5 Green Lane, Thornhill	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	\$300
Milliken Depot - 7760 Kennedy Road, Markham	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	\$300
8100 Warden Sheds	4,800	4,800	4,800	4,800	4,800	4,800	4,800	4,800	4,800	4,800	4,800	\$300
Total (#)	11,825.0	11,825.0	11,825	11,825	11,825	11,825	11,825	11,825	11,825	11,825	11,825	
Total (\$000)	\$3,547.5	\$3,547.5	\$3,547.5	\$3,547.5	\$3,547.5	\$3,547.5	\$3,547.5	\$3,547.5	\$3,547.5	\$3,547.5	\$3,547.5	

LAND	# of Hectares										UNIT COST (\$/ha)	
	Facility Name	2007	2008	2009	2010	2011	2012	2013	2014	2015		2016
Markham Depot	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	\$9,489,000
Unionville Depot	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	\$9,489,000
Thornhill Depot	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	\$9,489,000
Milliken Depot	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	\$9,489,000
8100 Warden Sheds	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	\$9,489,000
Total (ha)	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	
Total (\$000)	\$5,990.2	\$5,990.2	\$5,990.2	\$5,990.2	\$5,990.2	\$5,990.2	5,990.18	5,990.18	5,990.18	5,990.18	5,990.18	

APPENDIX B.8
TABLE 1CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
WASTE MANAGEMENT

VEHICLES Description	# of Vehicles										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Single Stream Rear Loaders	10	10	10	10	10	10	10	10	10	10	\$250,000
Dual Stream Rear Loaders	12	12	12	12	12	12	12	12	12	12	\$270,000
Top Loaders	7	7	7	7	7	7	7	7	7	7	\$210,000
Front End Loader	1	1	1	1	1	1	1	1	1	1	\$320,000
Single stream Side Load	1	1	1	1	1	1	1	1	1	1	\$269,000
Large Truck	1	1	1	1	1	1	1	1	1	1	\$25,000
Small Truck	1	1	1	1	1	1	1	1	1	1	\$15,000
Fork lift	2	2	2	2	2	2	2	2	2	2	\$6,000
Pick-up Truck	4	4	4	4	4	4	4	4	4	4	\$25,500
Roll-Off Truck	1	1	1	1	1	1	1	1	1	1	\$236,000
Total (#)	40	40	40	40	40	40	40	40	40	40	
Total (\$000)	\$8,181.4	\$8,181.4	\$8,181.4	\$8,181.4	\$8,181.4	\$8,181.4	\$8,181.4	\$8,181.4	\$8,181.4	\$8,181.4	

FURNITURE & EQUIPMENT	Total Value of Furniture & Equipment (\$)									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Containers	\$418,148	\$418,148	\$418,148	\$418,148	\$418,148	\$418,148	\$418,148	\$418,148	\$418,148	\$418,148
Other Equipment	\$332,222	\$332,222	\$332,222	\$332,222	\$332,222	\$332,222	\$332,222	\$332,222	\$332,222	\$332,222
Total (\$000)	\$750.4	\$750.4	\$750.4	\$750.4	\$750.4	\$750.4	\$750.4	\$750.4	\$750.4	\$750.4

**APPENDIX B.8
TABLE 1**

**CITY OF MARKHAM
CALCULATION OF SERVICE LEVELS
WASTE MANAGEMENT**

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Historic Population	269,149	276,944	284,965	293,218	301,709	306,973	312,329	317,779	323,324	328,966

INVENTORY SUMMARY (\$000)

Buildings	\$3,547.5	\$3,547.5	\$3,547.5	\$3,547.5	\$3,547.5	\$3,547.5	\$3,547.5	\$3,547.5	\$3,547.5	\$3,547.5
Land	\$5,990.2	\$5,990.2	\$5,990.2	\$5,990.2	\$5,990.2	\$5,990.2	\$5,990.2	\$5,990.2	\$5,990.2	\$5,990.2
Vehicles	\$8,181.4	\$8,181.4	\$8,181.4	\$8,181.4	\$8,181.4	\$8,181.4	\$8,181.4	\$8,181.4	\$8,181.4	\$8,181.4
Furniture & Equipment	\$750.4	\$750.4	\$750.4	\$750.4	\$750.4	\$750.4	\$750.4	\$750.4	\$750.4	\$750.4
Total (\$000)	\$18,469.4	\$18,469.4	\$18,469.4	\$18,469.4	\$18,469.4	\$18,469.4	\$18,469.4	\$18,469.4	\$18,469.4	\$18,469.4

SERVICE LEVEL (\$/pop)

											Average Service Level
Buildings	\$13.18	\$12.81	\$12.45	\$12.10	\$11.76	\$11.56	\$11.36	\$11.16	\$10.97	\$10.78	\$11.81
Land	\$22.26	\$21.63	\$21.02	\$20.43	\$19.85	\$19.51	\$19.18	\$18.85	\$18.53	\$18.21	\$19.95
Vehicles	\$30.40	\$29.54	\$28.71	\$27.90	\$27.12	\$26.65	\$26.19	\$25.75	\$25.30	\$24.87	\$27.24
Furniture & Equipment	\$2.79	\$2.71	\$2.63	\$2.56	\$2.49	\$2.44	\$2.40	\$2.36	\$2.32	\$2.28	\$2.50
Total (\$/pop)	\$68.62	\$66.69	\$64.81	\$62.99	\$61.22	\$60.17	\$59.13	\$58.12	\$57.12	\$56.14	\$61.50

**CITY OF MARKHAM
CALCULATION OF MAXIMUM ALLOWABLE
WASTE MANAGEMENT**

10-Year Funding Envelope Calculation	
10-Year Average Service Level 2003 - 2012	\$61.50
Net Population 2017 - 2026	73,161
Maximum Allowable Funding Envelope	\$4,499,402
Less: Uncommitted Excess Capacity	\$0
Less: 10% Legislated Reduction	\$449,940
Discounted Maximum Allowable Funding Envelope	\$4,049,461

Excess Capacity Calculation	
Total Value of Inventory in 2016	\$18,469,399
Inventory Using Average Service Level	\$20,231,409
Excess Capacity	\$0
Excess Capacity:	Uncommitted

APPENDIX B.8
TABLE 1

CITY OF MARKHAM
DEVELOPMENT-RELATED CAPITAL PROGRAM
WASTE MANAGEMENT

Project Description	Timing	Gross Project Cost	Grants/ Subsidies/Other Recoveries	Net Municipal Cost	Ineligible Costs		Total DC Eligible Costs	DC Eligible Costs			
					Replacement & BTE Shares	10% Reduction		Prior Growth	Available DC Reserves (1)	2017-2026	Post 2026
8.0 WASTE MANAGEMENT											
8.1 Waste Buildings											
8.1.1 Milliken Depot - Expansion (1,000 sq ft)	2019	\$ 300,000	\$ -	\$ 300,000	\$ -	\$ 30,000	\$ 270,000	\$ -	\$ -	\$ 270,000	\$ -
8.1.2 New Depot - Future Urban Area (2,100 sq ft)	2023	\$ 630,000	\$ -	\$ 630,000	\$ -	\$ 63,000	\$ 567,000	\$ -	\$ -	\$ 567,000	\$ -
8.1.3 New Depot - Cornell (2,100 sq ft)	2026	\$ 630,000	\$ -	\$ 630,000	\$ -	\$ 63,000	\$ 567,000	\$ -	\$ -	\$ 25,216	\$ 541,784
Subtotal Waste Buildings		\$ 1,560,000	\$ -	\$ 1,560,000	\$ -	\$ 156,000	\$ 1,404,000	\$ -	\$ -	\$ 862,216	\$ 541,784
8.2 Land for Waste Buildings											
8.2.1 New Depot - Future Urban Area (0.15 Ha)	2022	\$ 1,445,753	\$ -	\$ 1,445,753	\$ -	\$ 144,575	\$ 1,301,178	\$ -	\$ -	\$ 1,301,178	\$ -
8.2.2 New Depot - Cornell (0.15 Ha)	2025	\$ 1,445,753	\$ -	\$ 1,445,753	\$ -	\$ 144,575	\$ 1,301,178	\$ -	\$ -	\$ -	\$ 1,301,178
Subtotal Land for Waste Buildings		\$ 2,891,507	\$ -	\$ 2,891,507	\$ -	\$ 289,151	\$ 2,602,356	\$ -	\$ -	\$ 1,301,178	\$ 1,301,178
8.3 Furniture and Equipment											
8.3.1 Containers	2017	\$ 70,800	\$ -	\$ 70,800	\$ -	\$ 7,080	\$ 63,720	\$ -	\$ -	\$ 63,720	\$ -
8.3.2 Other Equipment	2017	\$ 16,330	\$ -	\$ 16,330	\$ -	\$ 1,633	\$ 14,697	\$ -	\$ -	\$ 14,697	\$ -
8.3.3 New Depot - Future Urban Area	2023	\$ 150,000	\$ -	\$ 150,000	\$ -	\$ 15,000	\$ 135,000	\$ -	\$ -	\$ 135,000	\$ -
8.3.4 SMART bins	2023	\$ 28,500	\$ -	\$ 28,500	\$ -	\$ 2,850	\$ 25,650	\$ -	\$ -	\$ 25,650	\$ -
8.3.5 New Depot - Cornell	2026	\$ 150,000	\$ -	\$ 150,000	\$ -	\$ 15,000	\$ 135,000	\$ -	\$ -	\$ -	\$ 135,000
Subtotal Furniture and Equipment		\$ 415,630	\$ -	\$ 415,630	\$ -	\$ 41,563	\$ 374,067	\$ -	\$ -	\$ 239,067	\$ 135,000
8.4 Fleet											
8.4.1 Single Stream Rear Packing Truck	2018	\$ 250,000	\$ -	\$ 250,000	\$ -	\$ 25,000	\$ 225,000	\$ -	\$ -	\$ 225,000	\$ -
8.4.2 Dual Stream Read Packing Truck	2019	\$ 270,000	\$ -	\$ 270,000	\$ -	\$ 27,000	\$ 243,000	\$ -	\$ -	\$ 243,000	\$ -
8.4.3 Dual Stream Read Packing Truck	2020	\$ 270,000	\$ -	\$ 270,000	\$ -	\$ 27,000	\$ 243,000	\$ -	\$ -	\$ 243,000	\$ -
8.4.4 Single Stream Rear Packing Truck	2021	\$ 250,000	\$ -	\$ 250,000	\$ -	\$ 25,000	\$ 225,000	\$ -	\$ -	\$ 225,000	\$ -
8.4.5 Dual Stream Read Packing Truck	2022	\$ 270,000	\$ -	\$ 270,000	\$ -	\$ 27,000	\$ 243,000	\$ -	\$ -	\$ 243,000	\$ -
8.4.6 Dual Stream Read Packing Truck	2023	\$ 270,000	\$ -	\$ 270,000	\$ -	\$ 27,000	\$ 243,000	\$ -	\$ -	\$ 243,000	\$ -
8.4.7 Single Stream Rear Packing Truck	2024	\$ 250,000	\$ -	\$ 250,000	\$ -	\$ 25,000	\$ 225,000	\$ -	\$ -	\$ 225,000	\$ -
8.4.8 Dual Stream Read Packing Truck	2026	\$ 270,000	\$ -	\$ 270,000	\$ -	\$ 27,000	\$ 243,000	\$ -	\$ -	\$ -	\$ 243,000
Subtotal Fleet		\$ 2,100,000	\$ -	\$ 2,100,000	\$ -	\$ 210,000	\$ 1,890,000	\$ -	\$ -	\$ 1,647,000	\$ 243,000
TOTAL WASTE MANAGEMENT		\$ 6,967,137	\$ -	\$ 6,967,137	\$ -	\$ 696,714	\$ 6,270,423	\$ -	\$ -	\$ 4,049,461	\$ 2,220,962

(1) Waste Management is a new service. Therefore no existing reserve fund balance is available.

Residential Development Charge Calculation		
Residential Share of 2017 - 2026 DC Eligible Costs	100%	\$4,049,461
10-Year Growth in Population in New Units		75,375
Unadjusted Development Charge Per Capita		\$53.72
Non-Residential Development Charge Calculation		
Non-Residential Share of 2017 - 2026 DC Eligible Costs	0%	\$0
10-Year Growth in Square Metres		1,997,205
Unadjusted Development Charge Per Square Metre		\$0.00

2017 - 2026 Net Funding Envelope	\$4,049,461
Reserve Fund Balance	\$0

APPENDIX B.8
TABLE 3

CITY OF MARKHAM
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
WASTE MANAGEMENT
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

WASTE MANAGEMENT	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	\$0.00	\$296.22	\$465.86	\$348.30	\$527.05	\$745.83	(\$507.07)	(\$1,164.24)	(\$980.03)	(\$499.82)	
2017 - 2026 RESIDENTIAL FUNDING REQUIREMENTS											
- Waste Management : Non Inflated	\$78.4	\$225.0	\$513.0	\$243.0	\$225.0	\$1,544.2	\$970.7	\$225.0	\$0.0	\$25.2	\$4,049.5
- Waste Management : Inflated	\$78.4	\$229.5	\$533.7	\$257.9	\$243.5	\$1,704.9	\$1,093.1	\$258.5	\$0.0	\$30.1	\$4,429.7
NEW RESIDENTIAL DEVELOPMENT											
- Population Growth in New Units	6,748	6,911	7,081	7,254	7,430	7,610	7,794	7,987	8,181	8,379	75,375
REVENUE											
- DC Receipts: Inflated	\$369.5	\$386.0	\$403.4	\$421.6	\$440.4	\$460.1	\$480.7	\$502.4	\$524.9	\$548.4	\$4,537.5
INTEREST											
- Interest on Opening Balance	\$0.0	\$10.4	\$16.3	\$12.2	\$18.4	\$26.1	(\$27.9)	(\$64.0)	(\$53.9)	(\$27.5)	(\$89.9)
- Interest on In-year Transactions	\$5.1	\$2.7	(\$3.6)	\$2.9	\$3.4	(\$34.2)	(\$16.8)	\$4.3	\$9.2	\$9.1	(\$18.0)
TOTAL REVENUE	\$374.6	\$399.1	\$416.2	\$436.6	\$462.3	\$452.0	\$435.9	\$442.7	\$480.2	\$530.0	\$4,429.7
CLOSING CASH BALANCE	\$296.2	\$465.9	\$348.3	\$527.1	\$745.8	(\$507.1)	(\$1,164.2)	(\$980.0)	(\$499.8)	\$0.0	

2017 Adjusted Charge Per Capita

\$54.76

Allocation of Capital Program

Residential Sector	100.0%
Non-Residential Sector	0.0%

Rates for 2017

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

APPENDIX C

CITY-WIDE HARD SERVICES

TECHNICAL APPENDIX

APPENDIX C

CITY-WIDE HARD SERVICES DEVELOPMENT-RELATED CAPITAL FORECAST AND DEVELOPMENT CHARGES CALCULATION

The Engineering Department is responsible for the design and construction of the City's network of public roads, its water distribution system, the sanitary sewage collection system and the storm water management infrastructure. This appendix provides an overview of the City-wide hard services included in the development charges calculation.

Other elements of required development-related infrastructure for the City are analysed and calculated on an area-specific basis for development charges purposes. These components are included in Appendix D. In addition, the City has reviewed and updated the applicable local service definitions, as discussed in the main body of the report.

As permitted under the *Development Charges Act, 1997 (DCA)*, the City-wide hard services are planned for the period from 2017–2031 so that the development-related capital costs are apportioned over the longer-term development anticipated within the City's designated urban boundary, including the Future Urban Area (FUA).

This appendix provides a review of the 2017–2031 development-related capital forecast and the calculation of the development charges for City-wide hard services. Consistent with s. 5. (1) 7 of the *DCA*, there is no legislated percentage reduction in the eligible development-related capital costs for the provision of these City-wide hard services.

The cost, quantum and timing of the projects identified in the forecast have been provided by the Engineering Department based on estimates prepared by City staff and various engineer consultants. The estimates include provision for engineering and contingencies.

Table 1 Historical Service Levels

City-wide hard services include a range of engineering related infrastructure such as roads, storm water management, watermain infrastructure etc. In accordance with the

DCA, the increase in need for service cannot exceed the ten-year historical average level of service unless a standard level of service is required under another Act (O.Reg. 82/98 4(3)). For services such as stormwater management, water and wastewater related infrastructure, the projects identified in the City-wide hard capital program are required to achieve health and safety standards set out in relevant legislation including, but not limited to, the *Planning Act*, the *Ontario Water Resources Act* and the *Municipal Act*. As such, in accordance with section 4(3) of O.Reg. 82/98, the ten-year historical service level does not apply.

However, an analysis of the ten-year historical inventory for all City roads related infrastructure has been provided in Table 1. In 2016, the City's current inventory includes 816 ha of roads related property valued at \$5.84 billion and 340 kilometres of roads valued at \$1.31 billion. There are roughly 360 bridges and culverts in the City that provide for a combined value of \$234.41 million. Approximately 32,100 streetlights add another \$187.80 million to the total value of capital assets and approximately 100 traffic signals add an additional \$55.62 million. Finally, roughly 1,100 kilometres of sidewalks add an additional \$373.12 million to the total value of capital assets.

The total value of all roads related infrastructure in 2016 amounts to \$8.00 billion. This results in a ten-year historical average service level of \$16,817.09 per population and employment. The historical service level, multiplied by the long-term net population and employment in growth of 77,880, results in a ten-year maximum allowable funding envelope of \$1.31 billion. There is no required ten per cent discount and, as such, the full maximum allowable funding envelope is brought forward to the development charges calculation.

Table 2&3 City-wide Hard Capital Program

Table 2 provides a summary of the development-related capital program for City-wide hard services (the projects included in the capital program are identified in Table 3).

As shown in Table 2, the gross cost of the capital program totals \$1.48 billion. A local service or "internal" component is identified for some of the projects, reflecting the cost that a development would have to pay for required local servicing for a particular subdivision. In keeping with historical practice, the City will continue to require these contributions through the normal subdivision process, but excluding them from the development charges calculation ensures that only the oversized portion of costs is

shared by other developments. The total recoveries anticipated from local costs are estimated at \$394.90 million.

A further \$35.62 million has been identified as a non-growth or benefit to existing share and will be recovered from other municipal funding sources. Another share of the City-wide program, \$5.43 million, will either be recovered through area-specific by-laws, or are subsidies received from the Region of York or other local area municipalities. A further \$105.97 million has been deemed to benefit growth occurring beyond 2031 and will be considered for recovery in subsequent development charge by-law updates. The remaining capital cost of \$940.40 million is deemed development-related.

Of the development-related costs, approximately 35.2 per cent relates to the provision of structures or \$331.14 million, roads, \$208.18 million or 22.1 per cent; properties acquisition, \$206.59 million or 22.0 per cent; and special projects which are largely streetscaping at \$36.46 million or 3.9 per cent. The balance of the DC eligible costs comprise of illumination (\$25.05 million), intersections (\$31.80 million), sidewalks (\$29.00 million), storm water management (\$28.74 million), studies (\$10.60 million), watermains (\$28.94 million), and credit agreement projects (\$3.90 million).

Table 2 shows the development-related net capital cost for City-wide hard services of \$940.40 million. However, \$41.47 million is available in the City's existing City-wide hard development charges reserve accounts, \$2.65 million from credits already paid, and \$14.79 million for projects, or shares of projects, already funded but are still included in the capital program. Therefore, after these adjustments approximately \$881.49 million is included in the development charges calculation.

The total costs eligible for development charge recovery amounts to \$881.49 million and is allocated 64.6 per cent, or \$569.37 million to the residential sector, 9.2 per cent, or \$80.89 million to the retail sector, 26.0 per cent, or \$229.16 million, to the other industrial/office/institutional sector and 0.2 per cent, or \$2.07 million to the mixed-use sector, based on 2017-2031 shares of growth in population in new units and employment. The resulting unadjusted per capita residential charge is \$4,727.60 before cash flow adjustments. The non-residential retail unadjusted charge is \$121.30 per square metre, the industrial/office/institutional is \$92.47 per square metre and the mixed used charge is \$59.10 per square meter.

Table 3 provides detail on the capital projects included in the City-wide hard development charge calculation and allocations of benefit and costs.

Table 4 Cash Flow Considerations

The long term cash flow analysis, shown on Table 4 takes into consideration expenditure timing and revenue projections. After cash flow analysis, the residential charge increases to \$4,874.90 per capita, the retail charge increases to \$124.78 per square metre, the industrial/office/institutional increases to \$95.32 per square metre and the mixed use charge increases to \$60.80 per square metre.

2017 - 2031		CITY-WIDE HARD SUMMARY							
		Unadjusted				Adjusted			
Development-Related Capital Program		Residential	Development Charge			Development Charge			
Total	Net DC Recoverable	\$/capita	Retail	I.O.I.	Mixed-Use	Residential	Retail	I.O.I.	Mixed-Use
			\$/sq.m	\$/sq.m	\$/sq.m	\$/capita	\$/sq.m	\$/sq.m	\$/sq.m
\$1,482,316,992	\$881,493,839	\$4,727.60	\$121.30	\$92.47	\$59.10	\$4,874.90	\$124.78	\$95.32	\$60.80

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APPENDIX C
TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
ROADS & RELATED - CITY-WIDE INFRASTRUCTURE

ROADS - PROPERTY Type of Road	# of Hectares										UNIT COST (\$/Ha)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Majort Arterial	7.62	7.62	7.62	7.62	7.62	17.72	17.72	17.72	17.72	17.72	\$7,151,365
Major Collector	229.32	232.44	232.49	235.49	241.38	290.46	293.55	293.55	295.43	295.43	\$7,151,365
Minor Collector	446.09	461.44	461.97	469.48	475.62	489.46	495.90	496.41	497.98	502.92	\$7,151,365
Total (Ha)	683	702	702	713	725	798	807	808	811	816	
Total (\$000)	4,884,643.01	5,016,725.89	5,020,836.83	5,096,040.43	5,182,023.52	5,704,225.13	5,772,355.98	5,775,981.61	5,800,753.95	5,836,027.06	

ROADS Type of Road	# of Kilometres										UNIT COST (\$/km)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Majort Arterial	2.38	2.38	2.38	2.38	2.38	5.54	5.54	5.54	5.54	5.54	\$4,550,000
Major Collector	88.20	89.40	89.42	90.57	92.84	111.72	112.90	112.90	113.63	113.63	\$4,290,000
Minor Collector	193.95	200.63	200.85	204.12	206.79	212.81	215.61	215.83	216.52	218.66	\$3,640,000
Total (km)	285	292	293	297	302	330	334	334	336	338	
Total (\$000)	1,095,208.19	1,124,648.66	1,125,561.63	1,142,406.31	1,161,831.50	1,279,080.49	1,294,365.95	1,295,168.31	1,300,777.70	1,308,583.70	

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APPENDIX C
TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS
ROADS & RELATED - CITY-WIDE INFRASTRUCTURE

BRIDGES & CULVERTS Description	# of Bridges & Culverts										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
VEHICULAR BRIDGES	22	23	23	23	23	24	25	25	27	27	\$5,600,000
PEDESTRIAN BRIDGES	73	73	73	76	77	77	77	86	88	88	\$250,000
CULVERTS	211	216	221	226	231	236	241	241	244	244	\$250,855
Total (#)	306	312	317	325	331	337	343	352	359	359	
Total (\$000)	\$194,380.4	\$201,234.7	\$202,489.0	\$204,493.2	\$205,997.5	\$212,851.8	\$219,706.1	\$221,956.1	\$234,408.6	\$234,408.6	

STREETLIGHTS Description	# of Lights										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
HPS	10,302	10,863	11,424	11,985	12,546	13,107	13,668	14,229	14,790	15,351	\$5,850
LED	11,697	12,258	12,819	13,380	13,941	14,502	15,063	15,624	16,185	16,746	\$5,850
Total (#)	21,999	23,121	24,243	25,365	26,487	27,609	28,731	29,853	30,975	32,097	
Total (\$000)	\$128,694.2	\$135,257.9	\$141,821.6	\$148,385.3	\$154,949.0	\$161,512.7	\$168,076.4	\$174,640.1	\$181,203.8	\$187,767.5	

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APPENDIX C
TABLE 1

CITY OF MARKHAM
INVENTORY OF CAPITAL ASSETS

ROADS & RELATED - CITY-WIDE INFRASTRUCTURE

TRAFFIC SIGNALS Description	# of Traffic Signals										UNIT COST (\$/unit)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Signalized Intersections	80	82	82	83	84	93	94	94	94	95	\$585,000
Warning Flashers	7	7	7	7	7	8	8	8	8	8	\$6,000
Total (#)	87	89	89	90	91	101	102	102	102	103	
Total (\$000)	\$46,842.0	\$48,012.0	\$48,012.0	\$48,597.0	\$49,182.0	\$54,453.0	\$55,038.0	\$55,038.0	\$55,038.0	\$55,623.0	

SIDEWALKS Description	# of Kilometres										UNIT COST (\$/km)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Sidewalks	901	925	926	940	956	1,052	1,064	1,065	1,070	1,076	\$338,000
Multiple Use Pathways	23	24	24	24	25	27	27	27	28	28	\$338,000
Total (#)	924	949	950	964	981	1,079	1,091	1,092	1,098	1,104	
Total (\$000)	\$312,312.0	\$320,762.0	\$321,100.0	\$325,832.0	\$331,578.0	\$364,702.0	\$368,758.0	\$369,096.0	\$371,124.0	\$373,118.2	

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APPENDIX C
TABLE 1

CITY OF MARKHAM
CALCULATION OF SERVICE LEVELS

ROADS & RELATED - CITY-WIDE INFRASTRUCTURE

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Historic Population	269,149	276,944	284,965	293,218	301,709	306,973	312,329	317,779	323,324	328,966
Historic Employment	132,184	132,225	132,360	132,593	132,925	136,151	139,447	142,816	146,260	149,779
Total Historic Population & Employment	401,333	409,169	417,325	425,811	434,634	443,124	451,776	460,595	469,584	478,745

INVENTORY SUMMARY (\$000)

Property ROW	\$4,884,643.0	\$5,016,725.9	\$5,020,836.8	\$5,096,040.4	\$5,182,023.5	\$5,704,225.1	\$5,772,356.0	\$5,775,981.6	\$5,800,754.0	\$5,836,027.1
Roads	\$1,095,208.2	\$1,124,648.7	\$1,125,561.6	\$1,142,406.3	\$1,161,831.5	\$1,279,080.5	\$1,294,366.0	\$1,295,168.3	\$1,300,777.7	\$1,308,583.7
Streetlights	\$128,694.2	\$135,257.9	\$141,821.6	\$148,385.3	\$154,949.0	\$161,512.7	\$168,076.4	\$174,640.1	\$181,203.8	\$187,767.5
Bridges & Culverts	\$194,380.4	\$201,234.7	\$202,489.0	\$204,493.2	\$205,997.5	\$212,851.8	\$219,706.1	\$221,956.1	\$234,408.6	\$234,408.6
Traffic Signals	\$46,842.0	\$48,012.0	\$48,012.0	\$48,597.0	\$49,182.0	\$54,453.0	\$55,038.0	\$55,038.0	\$55,038.0	\$55,623.0
Sidewalks	\$312,312.0	\$320,762.0	\$321,100.0	\$325,832.0	\$331,578.0	\$364,702.0	\$368,758.0	\$369,096.0	\$371,124.0	\$373,118.2
Total (\$000)	\$6,662,079.8	\$6,846,641.1	\$6,859,821.0	\$6,965,754.2	\$7,085,561.5	\$7,776,825.1	\$7,878,300.3	\$7,891,880.0	\$7,943,306.0	\$7,995,528.0

Average
Service
Level

SERVICE LEVEL (\$/pop+empl)

Property ROW	\$12,171.05	\$12,260.77	\$12,031.00	\$11,967.85	\$11,922.72	\$12,872.74	\$12,777.03	\$12,540.25	\$12,352.97	\$12,190.26	\$12,308.66
Roads	\$2,728.93	\$2,748.62	\$2,697.09	\$2,682.90	\$2,673.12	\$2,886.50	\$2,865.06	\$2,811.94	\$2,770.07	\$2,733.36	\$2,759.76
Streetlights	\$320.67	\$330.57	\$339.83	\$348.48	\$356.50	\$364.49	\$372.03	\$379.16	\$385.88	\$392.21	\$358.98
Bridges & Culverts	\$484.34	\$491.81	\$485.21	\$480.24	\$473.96	\$480.34	\$486.32	\$481.89	\$499.18	\$489.63	\$485.29
Traffic Signals	\$116.72	\$117.34	\$115.05	\$114.13	\$113.16	\$122.88	\$121.83	\$119.49	\$117.21	\$116.19	\$117.40
Sidewalks	\$778.19	\$783.94	\$769.42	\$765.20	\$762.89	\$823.02	\$816.24	\$801.35	\$790.33	\$779.37	\$786.99
Total (\$/pop+empl)	\$16,599.88	\$16,733.04	\$16,437.60	\$16,358.79	\$16,302.35	\$17,549.98	\$17,438.50	\$17,134.09	\$16,915.63	\$16,701.01	\$16,817.09

CITY OF MARKHAM
CALCULATION OF MAXIMUM ALLOWABLE

ROADS & RELATED - CITY-WIDE INFRASTRUCTURE

20-Year Funding Envelope Calculation	
10 Year Average Service Level 2006 - 2015	\$16,817.09
Net Population & Employment Growth 2016 - 2036	77,878
Maximum Allowable Funding Envelope	\$1,309,685,455
Less: Uncommitted Excess Capacity	\$0
Less: 10% Legislated Reduction	\$0
Discounted Maximum Allowable Funding Envelope	\$1,309,685,455

Excess Capacity Calculation	
Total Value of Inventory in 2015	\$7,995,528,025
Inventory Using Average Service Level	\$8,051,098,725
Excess Capacity	\$0
Excess Capacity:	Uncommitted

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APPENDIX C
TABLE 2

CITY OF MARKHAM
CITY-WIDE HARD SERVICES DEVELOPMENT-RELATED PROJECTS SUMMARY

Service	Total Gross Cost	Non-Development Charge Recoverable Costs		Area Specific & Other Development Charges Recovery	Post-2031 Costs	City-Wide Development Charge Recoverable	Residential Share of TWH Development Charge Recoverable		Non-Residential Retail Share of TWH Development Charge Recoverable		Non-Residential I.O.I. Share of TWH Development Charge Recoverable		Non-Residential Mixed-Use Share of TWH Development Charge Recoverable	
		Local Costs	Non-Growth (Benefit to Existing)				%	\$	%	\$	%	\$	%	\$
		\$	\$	\$	\$	\$	%	\$	%	\$	%	\$	%	\$
ILLUMINATION	\$ 28,137,229	\$ 163,406	\$ 2,927,674	\$ -	\$ -	\$ 25,046,149	64.6%	\$ 16,177,772	9.2%	\$ 2,298,374	26.0%	\$ 6,511,070	0.2%	\$ 58,933
INTERSECTION	\$ 36,728,188	\$ 275,000	\$ 4,652,973	\$ -	\$ -	\$ 31,800,215	64.6%	\$ 20,540,349	9.2%	\$ 2,918,164	26.0%	\$ 8,266,877	0.2%	\$ 74,825
ROADS	\$ 475,333,010	\$ 195,311,949	\$ -	\$ -	\$ 71,837,187	\$ 208,183,873	64.6%	\$ 134,469,828	9.2%	\$ 19,104,107	26.0%	\$ 54,120,089	0.2%	\$ 489,849
PROPERTIES ACQUISITION	\$ 261,280,179	\$ 51,806,917	\$ 2,883,749	\$ 0	\$ -	\$ 206,589,514	64.6%	\$ 133,440,002	9.2%	\$ 18,957,800	26.0%	\$ 53,705,614	0.2%	\$ 486,097
SIDEWALKS	\$ 29,352,201	\$ -	\$ 179,535	\$ 175,780	\$ -	\$ 28,996,885	64.6%	\$ 18,729,627	9.2%	\$ 2,660,915	26.0%	\$ 7,538,115	0.2%	\$ 68,229
STORM WATER MANAGEMENT	\$ 56,504,680	\$ 13,733,472	\$ 12,255,393	\$ 1,777,999	\$ -	\$ 28,737,815	64.6%	\$ 18,562,288	9.2%	\$ 2,637,141	26.0%	\$ 7,470,767	0.2%	\$ 67,619
WATERMAIN	\$ 30,884,893	\$ -	\$ 555,649	\$ 1,386,496	\$ -	\$ 28,942,748	64.6%	\$ 18,694,658	9.2%	\$ 2,655,947	26.0%	\$ 7,524,041	0.2%	\$ 68,101
STUDIES	\$ 10,602,000	\$ -	\$ -	\$ -	\$ -	\$ 10,602,000	64.6%	\$ 6,848,029	9.2%	\$ 972,898	26.0%	\$ 2,756,127	0.2%	\$ 24,946
SPECIAL PROJECTS	\$ 62,651,308	\$ 14,028,248	\$ 12,163,084	\$ -	\$ -	\$ 36,459,976	64.6%	\$ 23,550,175	9.2%	\$ 3,345,770	26.0%	\$ 9,478,242	0.2%	\$ 85,789
STRUCTURES	\$ 484,854,006	\$ 119,576,786	\$ -	\$ 0	\$ 34,132,763	\$ 331,144,458	64.6%	\$ 213,892,352	9.2%	\$ 30,387,653	26.0%	\$ 86,085,282	0.2%	\$ 779,171
CREDIT AGREEMENT PROJECTS	\$ 5,989,298	\$ -	\$ -	\$ 2,093,566	\$ -	\$ 3,895,732	64.6%	\$ 2,516,325	9.2%	\$ 357,494	26.0%	\$ 1,012,746	0.2%	\$ 9,167
TOTAL	\$ 1,482,316,992	\$ 394,895,778	\$ 35,618,057	\$ 5,433,841	\$ 105,969,950	\$ 940,399,365		\$ 607,421,406		\$ 86,296,264		\$ 244,468,971		\$ 2,212,725

Adjustments														
Less Existing Unallocated Reserve Fund Balances														
Less Credit Agreements Paid														
Projects Funded From Reserves														
TOTAL TOWN-WIDE HARD DEVELOPMENT CHARGE RECOVERABLE														

RESIDENTIAL DEVELOPMENT CHARGE														
Population in New Units 2017 - 2031														
Unadjusted Development Charge Per Capita - Before Cash Flow														
Charge per Single and Semi														
City-Wide Hard Preliminary Draft Rate Calculation														

NON-RESIDENTIAL DEVELOPMENT CHARGE														
Non-residential Growth in Square Metres (GFA) 2017-2031														
Unadjusted Development Charge Per Square Metre of GFA - Before Cash Flow														

Notes:
1) Other includes costs allocated to the Region or other agencies and other post-period benefit.

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APPENDIX C
TABLE 3

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
CITY - WIDE GROWTH-RELATED PROJECTS

Location	From / To	Timing of Project	Total		Local - by others		City-wide Growth - Related		Others Sharing and/or Non-Growth Cost				Post 2031 (\$)	
			Gross Cost (\$)		Share (%)	Cost (\$)	Share (%)	Cost (\$)	Share (%)	Gross (\$)	Others Cost (\$)	Non-growth (\$)		
1.0 ILLUMINATION														
City-wide Illumination requests		2017 - 2031	\$ 3,344,000		0%	\$ -	100%	\$ 3,344,000	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Alden Road	N&W Esna Park to Warden Ave.	2017 - 2031	\$ 313,464		0%	\$ -	35%	\$ 109,712	65%	\$ 203,752	\$ -	\$ -	\$ 203,752	\$ -
Allstate Pkwy	E.S. Centurian Drive to South Limit of Buttonville	2017 - 2031	\$ 158,232		50%	\$ 79,116	50%	\$ 79,116	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Cachet Woods Crescent	E.S. 16th Avenue to Mid-block Crossing	2017 - 2031	\$ 313,464		0%	\$ -	100%	\$ 313,464	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Cedar Avenue	B.S. Langstaff North to Richmond Hill	2017 - 2031	\$ 172,720		0%	\$ -	100%	\$ 172,720	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Church Street	S.S. Country Glen to Bur Oak	2017 - 2031	\$ 85,008		0%	\$ -	35%	\$ 29,753	65%	\$ 55,255	\$ -	\$ -	\$ 55,255	\$ -
Clegg Road Extension	S.S. Rodick to Town-Centre	2017 - 2031	\$ 85,008		0%	\$ -	100%	\$ 85,008	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Denison Street	B.S. Birchmount Rd. to Esna Park Dr.	2017 - 2031	\$ 783,442		0%	\$ -	35%	\$ 274,205	65%	\$ 509,237	\$ -	\$ -	\$ 509,237	\$ -
Denison Street	S.S. East limit to 9th Line	2017 - 2031	\$ 230,674		0%	\$ -	35%	\$ 80,736	65%	\$ 149,938	\$ -	\$ -	\$ 149,938	\$ -
Don Mills	E.S. N of Simonston to John Street	2017 - 2031	\$ 63,756		0%	\$ -	35%	\$ 22,315	65%	\$ 41,441	\$ -	\$ -	\$ 41,441	\$ -
Donald Cousens Parkway	B.S. Main St. North to OHEPC	2017 - 2031	\$ 2,138,796		0%	\$ -	100%	\$ 2,138,796	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Donald Cousens Parkway	E.S. 9th Line to between 9th line and 16th Ave	2017 - 2031	\$ 209,976		0%	\$ -	100%	\$ 209,976	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Donald Cousens Parkway	W.S. Highway 407 N. to Hwy 7	2017 - 2031	\$ 189,278		0%	\$ -	100%	\$ 189,278	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Donald Cousens Parkway	B.S. Nineteenth Avenue to Warden Ave	2017 - 2031	\$ 662,582		0%	\$ -	100%	\$ 662,582	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Elgin Mills Road	B.S. Kennedy Rd to 1000m E of Kennedy Rd	2017 - 2031	\$ 416,952		0%	\$ -	100%	\$ 416,952	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Elgin Mills Road	B.S. Victoria Square Blvd to Warden Ave	2017 - 2031	\$ 904,301		0%	\$ -	100%	\$ 904,301	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Elgin Mills Road	B.S. Warden Ave to Kennedy Rd	2017 - 2031	\$ 904,301		0%	\$ -	100%	\$ 904,301	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Esna Park Road	W.S. Steeles to Alden Road	2017 - 2031	\$ 313,464		0%	\$ -	35%	\$ 109,712	65%	\$ 203,752	\$ -	\$ -	\$ 203,752	\$ -
Esna Park Road	N.S. Alden Road to Woodbine	2017 - 2031	\$ 189,278		0%	\$ -	35%	\$ 66,247	65%	\$ 123,031	\$ -	\$ -	\$ 123,031	\$ -
Highway 7	B.S. 9th Line to 300m East of Reesor Rd	2017 - 2031	\$ 984,874		0%	\$ -	100%	\$ 984,874	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Highway 7	S.S. Cornell Centre Blvd to Donald Cousens Pkwy	2017 - 2031	\$ 127,186		0%	\$ -	100%	\$ 127,186	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Highway 7	S.S. Donald Cousens Pkwy to Reesor Road	2017 - 2031	\$ 147,883		0%	\$ -	100%	\$ 147,883	0%	\$ -	\$ -	\$ -	\$ -	\$ -
John Street	N.S. 200m West of Aileen Rd to Woodbine	2017 - 2031	\$ 672,654		0%	\$ -	100%	\$ 672,654	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Kennedy Rd	B.S. Major Mackenzie Dr to Elgin Mills Rd	2017 - 2031	\$ 904,301		0%	\$ -	100%	\$ 904,301	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Kirkham Dr.	S.S. Karachi Drive to S limit Lot 4, Con. 8	2017 - 2031	\$ 120,976		0%	\$ -	100%	\$ 120,976	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Langstaff Rd	B.S. Bayview Avenue to South Limit of Langstaff Development	2017 - 2031	\$ 189,278		100%	\$ -	100%	\$ 189,278	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Main St. North	B.S. Major Mackenzie to Donald Cousens Pkwy	2017 - 2031	\$ 662,582		0%	\$ -	100%	\$ 662,582	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Main St. North	E.S. Parkway Avenue to 16th Avenue	2017 - 2031	\$ 261,720		0%	\$ -	35%	\$ 91,602	65%	\$ 170,118	\$ -	\$ -	\$ 170,118	\$ -
Major Mackenzie	B.S. Markham Rd. to Donald Cousens Pkwy	2017 - 2031	\$ 396,254		0%	\$ -	100%	\$ 396,254	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Major Mackenzie	S.S. Donald Cousens Parkway to Ninth Line	2017 - 2031	\$ 251,371		0%	\$ -	100%	\$ 251,371	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Middlefield Rd	E.S. Steeles Ave to 14 Ave	2017 - 2031	\$ 479,045		0%	\$ -	35%	\$ 167,666	65%	\$ 311,379	\$ -	\$ -	\$ 311,379	\$ -
Miller Extension	B.S. Warden Avenue to Birchmount Rd.	2017 - 2031	\$ 334,162		0%	\$ -	100%	\$ 334,162	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Miller Extension	B.S. Birchmount Rd. to Kennedy Rd.	2017 - 2031	\$ 702,869		0%	\$ -	100%	\$ 702,869	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Nineteenth Avenue	B.S. Highway 404 to Warden Ave.	2017 - 2031	\$ 904,301		0%	\$ -	100%	\$ 904,301	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Old Kennedy Rd	W.S. Steeles Ave. to Denison St	2017 - 2031	\$ 209,976		0%	\$ -	100%	\$ 209,976	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Reesor Rd.	W.S. Highway 407 to 14th Avenue	2017 - 2031	\$ 241,022		0%	\$ -	100%	\$ 241,022	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Reesor Rd.	E.S. Highway 7 to 1000m North of Highway 7	2017 - 2031	\$ 209,976		0%	\$ -	100%	\$ 209,976	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Reesor Rd.	B.S. Highway 7 to Highway 407	2017 - 2031	\$ 375,557		0%	\$ -	100%	\$ 375,557	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Rodick Road	B.S. 14th Avenue to Miller Avenue	2017 - 2031	\$ 313,464		0%	\$ -	100%	\$ 313,464	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Rodick Road	E.S. Yorktech Avenue to Woodbine Avenue	2017 - 2031	\$ 904,301		0%	\$ -	35%	\$ 316,505	65%	\$ 587,796	\$ -	\$ -	\$ 587,796	\$ -
Sixteenth Avenue	B.S. Highway 404 to Cachet Woods	2017 - 2031	\$ 209,976		0%	\$ -	100%	\$ 209,976	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Sixteenth Avenue	S.S. Cachet Woods to Woodbine	2017 - 2031	\$ 137,534		0%	\$ -	35%	\$ 48,137	65%	\$ 89,397	\$ -	\$ -	\$ 89,397	\$ -
Sixteenth Avenue	N.S. Warden Ave. to Kennedy Rd.	2017 - 2031	\$ 437,650		0%	\$ -	35%	\$ 153,177	65%	\$ 284,472	\$ -	\$ -	\$ 284,472	\$ -
Sixteenth Avenue	S.S. Markham Rd to 300m westerly	2017 - 2031	\$ 63,756		0%	\$ -	35%	\$ 22,315	65%	\$ 41,441	\$ -	\$ -	\$ 41,441	\$ -
Steeles Avenue	N.S. Markham Rd to OHEPC	2017 - 2031	\$ 803,585		0%	\$ -	100%	\$ 803,585	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Valleywood Dr	B.S. Frontenac Drive to North of Applecreek Blvd.	2017 - 2031	\$ 168,581		50%	\$ 84,290	50%	\$ 84,290	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Victoria Park	E.S. Denison to Steeles	2017 - 2031	\$ 241,022		0%	\$ -	35%	\$ 84,358	65%	\$ 156,665	\$ -	\$ -	\$ 156,665	\$ -
Warden Ave	B.S. Major Mackenzie Dr to Elgin Mills Rd	2017 - 2031	\$ 904,301		0%	\$ -	100%	\$ 904,301	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Warden Ave	B.S. Elgin Mills Rd to 19th Ave	2017 - 2031	\$ 904,301		0%	\$ -	100%	\$ 904,301	0%	\$ -	\$ -	\$ -	\$ -	\$ -
White Belt	B.S. Warden, Kennedy	2017 - 2031	\$ 2,416,920		0%	\$ -	100%	\$ 2,416,920	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Woodbine Avenue	E.S. N. limit of Cathedral to 19th Avenue	2017 - 2031	\$ 354,859		0%	\$ -	100%	\$ 354,859	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Yorktech Drive	B.S. Rodick Rd. to Enterprise Dr.	2017 - 2031	\$ 622,296		0%	\$ -	100%	\$ 622,296	0%	\$ -	\$ -	\$ -	\$ -	\$ -
	TOTAL ILLUMINATION		\$ 28,137,229			\$ 163,406		\$ 25,046,149		\$ 2,927,674	\$ -	\$ 2,927,674	\$ -	\$ -

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
CITY - WIDE GROWTH-RELATED PROJECTS

Location	From / To	Timing of Project	Total	Local - by others		City-wide Growth - Related		Others Sharing and/or Non-Growth Cost				Post 2031 (\$)
			Gross Cost (\$)	Share (%)	Cost (\$)	Share (%)	Cost (\$)	Share (%)	Gross (\$)	Others Cost (\$)	Non-growth (\$)	
2.0 INTERSECTION												
City-wide Intersection Improvements		2017 - 2031	\$ 1,291,180	0%	\$ -	100%	\$ 1,291,180	0%	\$ -	\$ -	\$ -	\$ -
City-wide Intersection Pedestrian Signal (Lump Sum) - 5		2017 - 2031	\$ 1,754,720	0%	\$ -	100%	\$ 1,754,720	0%	\$ -	\$ -	\$ -	\$ -
404 North employment Land N-S Road Internal Traffic Signals (3)		2017 - 2031	\$ 783,442	0%	\$ -	100%	\$ 783,442	0%	\$ -	\$ -	\$ -	\$ -
407 Westbound exit ramp to East Precinct		2017 - 2031	\$ 622,296	0%	\$ -	100%	\$ 622,296	0%	\$ -	\$ -	\$ -	\$ -
Allstate Parkway at Valleywood Dr		2017 - 2031	\$ 265,170	0%	\$ -	100%	\$ 265,170	0%	\$ -	\$ -	\$ -	\$ -
Allstate Parkway at Applecreek Blvd.		2017 - 2031	\$ 265,170	0%	\$ -	100%	\$ 265,170	0%	\$ -	\$ -	\$ -	\$ -
Apple Creek Boulevard at McIntosh Drive		2017 - 2031	\$ 265,170	0%	\$ -	35%	\$ 92,809	65%	\$ 172,360	\$ -	\$ 172,360	\$ -
Apple Creek Boulevard at Valleywood Dr		2017 - 2031	\$ 265,170	0%	\$ -	100%	\$ 265,170	0%	\$ -	\$ -	\$ -	\$ -
Birchmount Extension at Miller Avenue		2017 - 2031	\$ 265,170	0%	\$ -	100%	\$ 265,170	0%	\$ -	\$ -	\$ -	\$ -
Birchmount Rd at Verdale Rd		2017 - 2031	\$ 622,296	0%	\$ -	100%	\$ 622,296	0%	\$ -	\$ -	\$ -	\$ -
Birchmount Rd at Rougeside Promenade		2017 - 2031	\$ 622,296	0%	\$ -	100%	\$ 622,296	0%	\$ -	\$ -	\$ -	\$ -
Brimley Road at Cardiff / Worthing		2017 - 2031	\$ 265,170	0%	\$ -	35%	\$ 92,809	65%	\$ 172,360	\$ -	\$ 172,360	\$ -
Brimley Road at Randall Avenue		2017 - 2031	\$ 265,170	0%	\$ -	35%	\$ 92,809	65%	\$ 172,360	\$ -	\$ 172,360	\$ -
Cachet Wood Crt at Hwy 404 Mid-block Crossing		2017 - 2031	\$ 622,296	0%	\$ -	100%	\$ 622,296	0%	\$ -	\$ -	\$ -	\$ -
Carlton Road at Manhattan Drive		2017 - 2031	\$ 265,170	0%	\$ -	35%	\$ 92,809	65%	\$ 172,360	\$ -	\$ 172,360	\$ -
Carlton Road at Village Parkway		2017 - 2031	\$ 265,170	0%	\$ -	35%	\$ 92,809	65%	\$ 172,360	\$ -	\$ 172,360	\$ -
Centurian Drive at Frontenac Drive		2017 - 2031	\$ 790,156	0%	\$ -	100%	\$ 790,156	0%	\$ -	\$ -	\$ -	\$ -
Church Street at Wooten Way		2017 - 2031	\$ 622,296	0%	\$ -	35%	\$ 217,804	65%	\$ 404,492	\$ -	\$ 404,492	\$ -
Denison Street at Marydale Drive		2017 - 2031	\$ 265,170	0%	\$ -	100%	\$ 265,170	0%	\$ -	\$ -	\$ -	\$ -
Doncaster Avenue at Henderson Avenue		2017 - 2031	\$ 622,296	0%	\$ -	35%	\$ 217,804	65%	\$ 404,492	\$ -	\$ 404,492	\$ -
Elgin Mills Rd at Collector Rd 'E'		2017 - 2031	\$ 622,296	0%	\$ -	100%	\$ 622,296	0%	\$ -	\$ -	\$ -	\$ -
Elgin Mills Rd at Collector Rd 'I'		2017 - 2031	\$ 622,296	0%	\$ -	100%	\$ 622,296	0%	\$ -	\$ -	\$ -	\$ -
Elgin Mills Rd at Collector Rd 'K'		2017 - 2031	\$ 622,296	0%	\$ -	100%	\$ 622,296	0%	\$ -	\$ -	\$ -	\$ -
Enterprise Drive at Sciberras Road		2017 - 2031	\$ 265,170	0%	\$ -	100%	\$ 265,170	0%	\$ -	\$ -	\$ -	\$ -
Fairburn Drive at First Markham Place		2017 - 2031	\$ 265,170	0%	\$ -	35%	\$ 92,809	65%	\$ 172,360	\$ -	\$ 172,360	\$ -
Fourteenth Avenue at Mid Block (east of Woodbine)		2017 - 2031	\$ 265,170	0%	\$ -	35%	\$ 92,809	65%	\$ 172,360	\$ -	\$ 172,360	\$ -
Fourteenth Avenue at Rivera Drive (east of Rodick)		2017 - 2031	\$ 265,170	0%	\$ -	35%	\$ 92,809	65%	\$ 172,360	\$ -	\$ 172,360	\$ -
Future Signalized Intersections (2)		2017 - 2031	\$ 527,339	0%	\$ -	100%	\$ 527,339	0%	\$ -	\$ -	\$ -	\$ -
Future Signalized Intersections (4)		2017 - 2031	\$ 1,038,589	0%	\$ -	100%	\$ 1,038,589	0%	\$ -	\$ -	\$ -	\$ -
Future Signalized Intersections (6)		2017 - 2031	\$ 1,542,816	0%	\$ -	100%	\$ 1,542,816	0%	\$ -	\$ -	\$ -	\$ -
Future Signalized Intersections (5)		2017 - 2031	\$ 1,291,180	0%	\$ -	100%	\$ 1,291,180	0%	\$ -	\$ -	\$ -	\$ -
Future Signalized Intersections (7)		2017 - 2031	\$ 2,869,534	0%	\$ -	100%	\$ 2,869,534	0%	\$ -	\$ -	\$ -	\$ -
Future Signalized Intersections (9)		2017 - 2031	\$ 2,297,724	0%	\$ -	100%	\$ 2,297,724	0%	\$ -	\$ -	\$ -	\$ -

2020
APPENDIX C
TABLE 3

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
CITY - WIDE GROWTH-RELATED PROJECTS

Location	From / To	Timing of Project	Total		Local - by others		City-wide Growth - Related		Others Sharing and/or Non-Growth Cost				Post 2031 (\$)	
			Gross Cost (\$)		Share (%)	Cost (\$)	Share (%)	Cost (\$)	Share (%)	Gross (\$)	Others Cost (\$)	Non-growth (\$)		
2.0 INTERSECTION - CONT'D														
Green Lane	at Aileen / Willowbrook	2017 - 2031	\$ 622,296		0%	\$ -	35%	\$ 217,804	65%	\$ 404,492	\$ -	\$ -	\$ 404,492	\$ -
Henderson Street	at John Street	2017 - 2031	\$ 265,170		0%	\$ -	35%	\$ 92,809	65%	\$ 172,360	\$ -	\$ -	\$ 172,360	\$ -
Honda Blvd.	at 19th Avenue	2017 - 2031	\$ 622,296		0%	\$ -	100%	\$ 622,296	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Hood Road	at McPherson Road	2017 - 2031	\$ 265,170		0%	\$ -	35%	\$ 92,809	65%	\$ 172,360	\$ -	\$ -	\$ 172,360	\$ -
Joseph / Washington / George intersection improvements		2017 - 2031	\$ 622,296		0%	\$ -	0%	\$ -	100%	\$ 622,296	\$ -	\$ -	\$ 622,296	\$ -
Main St. North	at Battista Perri Dr	2017 - 2031	\$ 265,170		0%	\$ -	100%	\$ 265,170	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Markham Centre Turning Lane & Unionville	at Traffic Calming	2017 - 2031	\$ 622,296		0%	\$ -	100%	\$ 622,296	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Markland Street	at Hillmount Road	2017 - 2031	\$ 265,170		0%	\$ -	100%	\$ 265,170	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Markland Street	at Hwy 404 Mid-block Crossing	2017 - 2031	\$ 622,296		0%	\$ -	100%	\$ 622,296	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Midland Ave.	at Old Kennedy Rd	2017 - 2031	\$ 622,296		0%	\$ -	100%	\$ 622,296	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Midland Avenue	at Old Kennedy Road	2017 - 2031	\$ 265,170		0%	\$ -	100%	\$ 265,170	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Nineteenth Ave	at Collector Rd 'A'	2017 - 2031	\$ 622,296		0%	\$ -	100%	\$ 622,296	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Old Kennedy Rd.	at Aldergrove Dr	2017 - 2031	\$ 265,170		0%	\$ -	100%	\$ 265,170	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Old Kennedy Rd.	at Denison St	2017 - 2031	\$ 265,170		0%	\$ -	100%	\$ 265,170	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Ramona Blvd.	at Wooten Way	2017 - 2031	\$ 265,170		0%	\$ -	35%	\$ 92,809	65%	\$ 172,360	\$ -	\$ -	\$ 172,360	\$ -
Reesor Road	at 19th Avenue	2017 - 2031	\$ 622,296		0%	\$ -	100%	\$ 622,296	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Reesor Road	at Elgin Mills	2017 - 2031	\$ 622,296		0%	\$ -	100%	\$ 622,296	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Renfrew Dr	at Valleywood Dr (NEW ITEM)	2017 - 2031	\$ 550,000		50%	\$ 275,000	50%	\$ 275,000	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Riverlands Ave	at Reesor Rd	2017 - 2031	\$ 265,170		0%	\$ -	100%	\$ 265,170	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Rizal Avenue	at Copper Creek Drive	2017 - 2031	\$ 265,170		0%	\$ -	100%	\$ 265,170	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Rodick Road	at Clegg Road	2017 - 2031	\$ 265,170		0%	\$ -	100%	\$ 265,170	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Rodick Road	at Cox Blvd.	2017 - 2031	\$ 265,170		0%	\$ -	100%	\$ 265,170	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Rodick Road	at Macrill / Rachel	2017 - 2031	\$ 265,170		0%	\$ -	100%	\$ 265,170	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Rodick Road	at Miller Avenue	2017 - 2031	\$ 265,170		0%	\$ -	100%	\$ 265,170	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Rodick Rd	at Yorktech Dr	2017 - 2031	\$ 622,296		0%	\$ -	100%	\$ 622,296	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Rougeside Promenade	at Sciberras Road	2017 - 2031	\$ 265,170		0%	\$ -	100%	\$ 265,170	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Rougeside Promenade	at Verclaire Gate	2017 - 2031	\$ 265,170		0%	\$ -	100%	\$ 265,170	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Rustlewood Ave	at Bur Oak Ave	2017 - 2031	\$ 265,170		0%	\$ -	100%	\$ 265,170	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Rustlewood Ave	at Cornell Centre Blvd.	2017 - 2031	\$ 265,170		0%	\$ -	100%	\$ 265,170	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Victoria Park and Steelcase intersection improvements		2017 - 2031	\$ 1,152,118		0%	\$ -	35%	\$ 403,241	65%	\$ 748,877	\$ -	\$ -	\$ 748,877	\$ -
Village Gate	at Calvert Road	2017 - 2031	\$ 265,170		0%	\$ -	35%	\$ 92,809	65%	\$ 172,360	\$ -	\$ -	\$ 172,360	\$ -
White's Hill Avenue	at Cornell Centre Boulevard	2017 - 2031	\$ 265,170		0%	\$ -	100%	\$ 265,170	0%	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL INTERSECTION			\$ 36,728,188			\$ 275,000		\$ 31,800,215		\$ 4,652,973	\$ -	\$ -	\$ 4,652,973	\$ -

2024
APPENDIX C
TABLE 3

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
CITY - WIDE GROWTH-RELATED PROJECTS

Location	From / To	Timing of Project	Total		Local - by others		City-wide Growth - Related		Others Sharing and/or Non-Growth Cost				Post 2031 (\$)	
			Gross Cost (\$)	Share (%)	Cost (\$)	Share (%)	Share (%)	Cost (\$)	Share (%)	Gross (\$)	Others Cost (\$)	Non-growth (\$)		
3.0 ROADS														
City-wide Soil Decommission / Demolitions		2017 - 2031	\$ 2,754,040	0%	\$ -	100%	\$ 2,754,040	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
City-wide Miscellaneous		2017 - 2031	\$ 3,434,300	0%	\$ -	100%	\$ 3,434,300	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14th Ave Reconstruction	Alden Rd to Hwy 404	2029 - 2029	\$ 12,041,938	0%	\$ -	100%	\$ 12,041,938	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
19th Ave (Urbanize)	Hwy 404 to 1000m E of Woodbine Ave	2027 - 2027	\$ 10,437,827	0%	\$ -	100%	\$ 10,437,827	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Aldergrove Dr Extension	Street 'C' to Old Kennedy Rd	2024 - 2024	\$ 1,559,503	82%	\$ 1,281,021	18%	\$ 278,483	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Allstate Pkwy	Hooper Rd. to 16th Avenue	2022 - 2022	\$ 4,971,687	82%	\$ 4,083,886	18%	\$ 887,801	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Allstate Pkwy	Hwy 7 to Valleywood	2021 - 2021	\$ 3,201,627	50%	\$ 1,600,814	50%	\$ 1,600,814	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Allstate Pkwy	Valleywood Dr to Hooper Road	2021 - 2021	\$ 2,053,372	50%	\$ 1,026,686	50%	\$ 1,026,686	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Applecreek Blvd.	Allstate Pkwy to Woodbine Ave	2022 - 2022	\$ 2,457,447	82%	\$ 2,018,617	18%	\$ 438,830	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Birchmount Road, 4th lane	Enterprise to Rouge River +	2018 - 2018	\$ 3,175,801	82%	\$ 2,608,694	18%	\$ 567,107	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Bur Oak Avenue	9th Line to Whites Hill	2018 - 2018	\$ 310,290	0%	\$ -	100%	\$ 310,290	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Bur Oak Avenue	Hwy 7 to Michelin	2020 - 2020	\$ 2,277,858	82%	\$ 1,871,098	18%	\$ 406,760	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Bur Oak Avenue	Riverlands to Hwy 7	2018 - 2018	\$ 362,594	0%	\$ -	100%	\$ 362,594	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cachet Woods Crescent	Orlando Ave Extension	2022 - 2022	\$ 3,849,259	82%	\$ 3,161,891	18%	\$ 687,368	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cedar Avenue Extension	Langstaff North to Richmond Hill	2025 - 2025	\$ 2,370,632	0%	\$ -	100%	\$ 2,370,632	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cedar Avenue Extension	Langstaff South to Langstaff North	2019 - 2019	\$ 942,976	82%	\$ 774,587	18%	\$ 168,389	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Church Street	9th Line to Bur Oak	2021 - 2021	\$ 4,794,820	0%	\$ -	100%	\$ 4,794,820	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Collector Road 'C'	Langstaff Development (East)	2019 - 2019	\$ 827,354	82%	\$ 679,612	18%	\$ 147,742	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Commerce Valley East and West Widening		2029 - 2029	\$ 8,076,724	0%	\$ -	100%	\$ 8,076,724	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cornell Centre	Hwy 7 to 200m South	2022 - 2022	\$ 928,473	82%	\$ 762,674	18%	\$ 165,799	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cornell Rouge Blvd	Hwy 7 to 200m South	2020 - 2020	\$ 928,473	82%	\$ 762,674	18%	\$ 165,799	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Denison St.	400m West of 9th Line to 9th Line	2027 - 2027	\$ 1,828,886	0%	\$ -	100%	\$ 1,828,886	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Denison St.	Bethany Street to 400m West of 9th Line	2028 - 2028	\$ 6,748,603	82%	\$ 5,543,495	18%	\$ 1,205,108	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
East Precint Network - Phase One		2030 - 2030	\$ 87,855,138	0%	\$ -	18%	\$ 16,017,950	0%	\$ -	\$ -	\$ -	\$ -	\$ -	71,837,187
Elgin Mills Rd	Kennedy Rd to 1000m E	2026 - 2026	\$ 4,794,820	0%	\$ -	100%	\$ 4,794,820	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Elgin Mills Rd	Victoria Square to Warden Ave	2025 - 2025	\$ 10,437,827	0%	\$ -	100%	\$ 10,437,827	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Elgin Mills Rd	Warden Ave to Kennedy Rd	2027 - 2027	\$ 10,437,827	0%	\$ -	100%	\$ 10,437,827	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Enterprise Drive (Ph. II)	Rivas Road to Main Street S *	2018 - 2018	\$ 2,172,736	82%	\$ 1,784,748	18%	\$ 387,989	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Enterprise Drive, local (Ph. I)	Rivas Road to GO Line *	2018 - 2018	\$ 1,067,976	82%	\$ 877,266	18%	\$ 190,710	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'A'	Warden Ave to 19th Ave	2026 - 2026	\$ 11,343,631	82%	\$ 9,317,982	18%	\$ 2,025,648	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'B'	Woodbine Ave to Collector Rd 'A'	2027 - 2027	\$ 1,245,223	82%	\$ 1,022,862	18%	\$ 222,361	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'C'	Collector Rd 'D' to Warden Ave	2028 - 2028	\$ 1,828,886	82%	\$ 1,502,300	18%	\$ 326,587	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'D'	Elgin Mills Rd to Warden Ave	2029 - 2029	\$ 8,430,889	82%	\$ 6,925,373	18%	\$ 1,505,516	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'D'	Warden Ave to Kennedy Rd	2020 - 2020	\$ 9,891,822	82%	\$ 8,125,425	18%	\$ 1,766,397	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'D'	Kennedy Rd to Collector Rd 'N'	2021 - 2021	\$ 7,235,581	82%	\$ 5,943,513	18%	\$ 1,292,068	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'D'	19th Ave to Elgin Mills Rd	2021 - 2021	\$ 9,891,822	82%	\$ 8,125,425	18%	\$ 1,766,397	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'E'	Elgin Mills Rd to North end Hydro Corridor	2020 - 2020	\$ 2,726,830	82%	\$ 2,239,896	18%	\$ 486,934	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'E'	Collector Rd 'H' to North end Hydro Corridor	2021 - 2021	\$ 5,774,648	82%	\$ 4,743,461	18%	\$ 1,031,187	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'F'	Warden Ave to Elgin Mills Rd	2023 - 2023	\$ 8,430,889	82%	\$ 6,925,373	18%	\$ 1,505,516	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'G'	West Hydro Corridor to Warden Ave	2019 - 2019	\$ 8,430,889	82%	\$ 6,925,373	18%	\$ 1,505,516	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'G'	Warden Ave to Kennedy Rd	2019 - 2019	\$ 9,626,198	82%	\$ 7,907,234	18%	\$ 1,718,964	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'G'	Kennedy Rd to East Dead End	2019 - 2019	\$ 3,041,110	82%	\$ 2,498,054	18%	\$ 543,055	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'H'	West Hydro Corridor to Warden Ave	2021 - 2021	\$ 8,430,889	82%	\$ 6,925,373	18%	\$ 1,505,516	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'H'	Warden Ave to Major Mackenzie Dr	2021 - 2021	\$ 9,891,822	82%	\$ 8,125,425	18%	\$ 1,766,397	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'I'	Major Mackenzie Dr. to Elgin Mills Rd	2022 - 2022	\$ 9,316,303	82%	\$ 7,652,678	18%	\$ 1,663,626	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'J'	Major Mackenzie Dr. to Elgin Mills Rd	2025 - 2025	\$ 9,891,822	82%	\$ 8,125,425	18%	\$ 1,766,397	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'K'	Major Mackenzie Dr. to Elgin Mills Rd	2020 - 2020	\$ 10,467,341	82%	\$ 8,598,173	18%	\$ 1,869,168	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'L'	Major Mackenzie Dr. to Collector Rd 'D'	2025 - 2025	\$ 2,143,167	82%	\$ 1,760,458	18%	\$ 382,708	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'M'	Major Mackenzie Dr. to Collector Rd 'D'	2026 - 2026	\$ 2,143,167	82%	\$ 1,760,458	18%	\$ 382,708	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'N'	Major Mackenzie Dr. to Collector Rd 'D'	2027 - 2027	\$ 2,143,167	82%	\$ 1,760,458	18%	\$ 382,708	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'P'	Collector Rd 'J' to Kennedy Rd	2028 - 2028	\$ 632,569	82%	\$ 519,610	18%	\$ 112,959	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'P'	Kennedy Rd. to Collector Rd 'K'	2028 - 2028	\$ 1,245,223	82%	\$ 1,022,862	18%	\$ 222,361	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Future Donald Cousen Pkwy	19th Ave to Warden Ave	2026 - 2026	\$ 5,742,451	82%	\$ 4,717,013	18%	\$ 1,025,438	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Gorvette Rd	Kennedy Rd to Old Kennedy Ave	2024 - 2024	\$ 3,624,773	82%	\$ 2,977,492	18%	\$ 647,281	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Gorvette Rd Extension	Kennedy Rd to Old Kennedy Rd	2024 - 2024	\$ 791,902	82%	\$ 650,491	18%	\$ 141,411	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Honda Blvd	Gas Pipeline to 19th Avenue (NAME CHANGE)	2020 - 2020	\$ 2,053,372	82%	\$ 1,686,699	18%	\$ 366,674	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Honda Blvd	Woodbine By-pass to Gas Pipeline (NEW ITEM)	2020 - 2020	\$ 255,927	0%	\$ -	100%	\$ 255,927	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Kirkham Dr	Karachi Dr. To North Limit of Development	2019 - 2019	\$ 2,592,138	0%	\$ -	100%	\$ 2,592,138	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Langstaff Road	Bayview Ave to South Limit (External)	2019 - 2019	\$ 2,598,694	0%	\$ -	100%	\$ 2,598,694	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Langstaff Road North	Langstaff Road South to Bayview Ave	2025 - 2025	\$ 8,934,517	82%	\$ 7,339,068	18%	\$ 1,595,450	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Langstaff Road South	Yonge Street to Langstaff Road North	2019 - 2019	\$ 8,147,439	82%	\$ 6,692,540	18%	\$ 1,454,900	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Markham Rd.	Major Mackenzie to Donald Cousens Parkway	2027 - 2027	\$ 4,073,744	0%	\$ -	100%	\$ 4,073,744	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

2022
APPENDIX C
TABLE 3

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
CITY - WIDE GROWTH-RELATED PROJECTS

Location	From / To	Timing of Project	Total		Local - by others		City-wide Growth - Related		Others Sharing and/or Non-Growth Cost				Post 2031 (\$)
			Gross Cost (\$)		Share (%)	Cost (\$)	Share (%)	Cost (\$)	Share (%)	Gross (\$)	Others Cost (\$)	Non-growth (\$)	
3.0 ROADS - CONT'D													
Markland Extension	to Cachet Woods Crescent	2022 - 2022	\$ 2,951,315		82%	\$ 2,424,295	18%	\$ 527,021	0%	\$ -	\$ -	\$ -	\$ -
Midland Ave	Steeles Ave to Old Kennedy Rd	2023 - 2023	\$ 2,053,372		82%	\$ 1,686,699	18%	\$ 366,674	0%	\$ -	\$ -	\$ -	\$ -
Miller Ave	Birchmount Rd to Duffield Dr	2026 - 2026	\$ 7,634,017		0%	\$ -	100%	\$ 7,634,017	0%	\$ -	\$ -	\$ -	\$ -
Miller Ave	Rodick Rd to Warden Ave	2028 - 2028	\$ 6,084,543		0%	\$ -	100%	\$ 6,084,543	0%	\$ -	\$ -	\$ -	\$ -
Miller Ave	Warden Ave to Birchmount Rd	2019 - 2019	\$ 3,400,287		0%	\$ -	100%	\$ 3,400,287	0%	\$ -	\$ -	\$ -	\$ -
Miller Ave	Woodbine Ave to Rodick Rd	2019 - 2019	\$ 7,368,393		0%	\$ -	100%	\$ 7,368,393	0%	\$ -	\$ -	\$ -	\$ -
Reesor Rd	Riverlands to Hwy 7	2025 - 2025	\$ 1,941,129		82%	\$ 1,594,499	18%	\$ 346,630	0%	\$ -	\$ -	\$ -	\$ -
Reesor Rd Reconstruction	14th Avenue to 1000m N of Highway 7	2030 - 2030	\$ 13,351,265		0%	\$ -	100%	\$ 13,351,265	0%	\$ -	\$ -	\$ -	\$ -
Rivas Drive (N-S Connection Road), local		2018 - 2018	\$ 721,636		100%	\$ 721,636	0%	\$ -	0%	\$ -	\$ -	\$ -	\$ -
Rivis Rd	YMCA Blvd to Markham Live	2017 - 2017	\$ 1,267,672		0%	\$ -	100%	\$ 1,267,672	0%	\$ -	\$ -	\$ -	\$ -
Rodick Rd	14th Ave to Miller	2018 - 2018	\$ 3,400,287		0%	\$ -	100%	\$ 3,400,287	0%	\$ -	\$ -	\$ -	\$ -
Rougeside Promenade	Warden Ave to Birchmount Rd	2019 - 2019	\$ 3,961,502		82%	\$ 3,254,091	18%	\$ 707,411	0%	\$ -	\$ -	\$ -	\$ -
Sciberras Dr	Highway 7 to Rouge River	2027 - 2027	\$ 2,547,241		0%	\$ -	100%	\$ 2,547,241	0%	\$ -	\$ -	\$ -	\$ -
Valleywood Dr	Allstate Pkwy to Applecreek Blvd.	2025 - 2025	\$ 3,400,287		50%	\$ 1,700,144	50%	\$ 1,700,144	0%	\$ -	\$ -	\$ -	\$ -
Verclaire	Highway 7 to Rouge River	2017 - 2017	\$ 1,604,401		82%	\$ 1,317,900	18%	\$ 286,500	0%	\$ -	\$ -	\$ -	\$ -
Verdale Gate	Birchmount Road to Post Road (200m)	2021 - 2021	\$ 928,473		82%	\$ 762,674	18%	\$ 165,799	0%	\$ -	\$ -	\$ -	\$ -
Verdale Gate	Post Road to Enterprise Drive (550m)	2021 - 2021	\$ 2,502,344		82%	\$ 2,055,497	18%	\$ 446,847	0%	\$ -	\$ -	\$ -	\$ -
William Forester Rd	Hwy 7 to 75m North	2022 - 2022	\$ 353,824		82%	\$ 290,641.406	18%	\$ 63,183	0%	\$ -	\$ -	\$ -	\$ -
Woodbine Urbanize	By-pass to Hamlet (S end)	2020 - 2020	\$ 7,191,310		0%	\$ -	100%	\$ 7,191,310	0%	\$ -	\$ -	\$ -	\$ -
Woodbine Urbanize	Hamlet (N end) to by-pass	2020 - 2020	\$ 3,624,773		0%	\$ -	100%	\$ 3,624,773	0%	\$ -	\$ -	\$ -	\$ -
YMCA BLVD		2018 - 2018	\$ 2,255,409		0%	\$ -	100%	\$ 2,255,409	0%	\$ -	\$ -	\$ -	\$ -
Yorkdowns - Collector Rd	East Development	2021 - 2021	\$ 6,969,957		82%	\$ 5,725,322	18%	\$ 1,244,635	0%	\$ -	\$ -	\$ -	\$ -
Yorkdowns - Collector Rd	West Development	2022 - 2022	\$ 2,951,315		82%	\$ 2,424,295	18%	\$ 527,021	0%	\$ -	\$ -	\$ -	\$ -
Yorktech Extension	Rodick Rd to Warden Ave	2024 - 2024	\$ 6,748,603		0%	\$ -	100%	\$ 6,748,603	0%	\$ -	\$ -	\$ -	\$ -
	TOTAL ROADS		\$ 475,333,010			\$ 195,311,949		\$ 208,183,873		\$ -	\$ -	\$ -	\$ 71,837,187

2023
APPENDIX C
TABLE 3

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
CITY - WIDE GROWTH-RELATED PROJECTS

Location	From / To	Timing of Project	Total		Local - by others		City-wide Growth - Related		Others Sharing and/or Non-Growth Cost				Post 2031 (\$)	
			Gross Cost (\$)		Share (%)	Cost (\$)	Share (%)	Cost (\$)	Share (%)	Gross (\$)	Others Cost (\$)	Non-growth (\$)		
4.0 PROPERTIES ACQUISITION														
4.1 ROADS PROPERTIES ACQUISITION														
City-wide properties Acquisition request and Business Loses		2017 - 2031	\$ 8,825,514		0%	\$ -	100%	\$ 8,825,514	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Cachet Woods Crescent Extension		2021 - 2021	\$ 1,522,202		86%	\$ 1,304,745	14%	\$ 217,457	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Cedar Avenue Extension	Langstaff South to Langstaff North	2025 - 2025	\$ 461,301		0%	\$ -	100%	\$ 461,301	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Cedar Avenue Extension	Langstaff North to Richmond Hill	2025 - 2025	\$ 1,160,212		0%	\$ -	100%	\$ 1,160,212	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Collector Road 'C'	Langstaff Development (East)	2025 - 2025	\$ 404,014		0%	\$ -	100%	\$ 404,014	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Commerce Valley East and West Widening		2028 - 2028	\$ 6,210,260		0%	\$ -	100%	\$ 6,210,260	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Denison Street	400m West of 9th Line to 9th Line	2026 - 2026	\$ 9,174,214		0%	\$ -	100%	\$ 9,174,214	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Denison Street	Bethany Street to 400m West of 9th Line	2027 - 2027	\$ 2,950,489		86%	\$ 2,528,990	14%	\$ 421,498	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Denison Street Extension Structure over Rouge River		2027 - 2027	\$ 1,359,131		0%	\$ -	100%	\$ 1,359,131	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Langstaff Road	Bayview Avenut to South Limit (External)	2019 - 2019	\$ 4,156,945		0%	\$ -	100%	\$ 4,156,945	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Langstaff Road North	North and South Road	2025 - 2025	\$ 4,349,395		0%	\$ -	100%	\$ 4,349,395	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Langstaff Road South	North and South Road	2019 - 2019	\$ 3,964,494		0%	\$ -	100%	\$ 3,964,494	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Miller Ave	Warden to Kennedy	2018 - 2018	\$ 17,618,351		0%	\$ -	100%	\$ 17,618,351	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Verdale Gate	Birchmount Road to Post Road (200m)	2021 - 2021	\$ 1,499,291		0%	\$ -	100%	\$ 1,499,291	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Verdale Gate	Post Road to Enterprise Drive (550m)	2021 - 2021	\$ 4,065,301		0%	\$ -	100%	\$ 4,065,301	0%	\$ -	\$ -	\$ -	\$ -	\$ -
William Forester Rd	Hwy 7 to 75m North	2022 - 2022	\$ 146,219		0%	\$ -	100%	\$ 146,219	0%	\$ -	\$ -	\$ -	\$ -	\$ -
York Tech Extension	Rodick to Warden	2023 - 2023	\$ 34,603,773		0%	\$ -	100%	\$ 34,603,773	0%	\$ -	\$ -	\$ -	\$ -	\$ -
4.2 STRUCTURES MID-BLOCKS AND RAMPS														
19th Ave (Urbanize)	Hwy 404 to 1000m E of Woodbine Ave	2026 - 2026	\$ 2,452,381		0%	\$ -	100%	\$ 2,452,381	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Aldergrove Dr Extension	Street 'C' to Old Kennedy Rd	2023 - 2023	\$ 932,352		0%	\$ -	100%	\$ 932,352	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Allstate Pkwy	Hwy 7 to Valleywood	2020 - 2020	\$ 2,192,343		50%	\$ 1,096,172	50%	\$ 1,096,172	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Allstate Pkwy	Hooper Rd. to 16th Avenue	2021 - 2021	\$ 3,309,245		0%	\$ -	100%	\$ 3,309,245	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Allstate Pkwy	Valleywood Dr to Hooper Road	2020 - 2020	\$ 1,074,987		50%	\$ 537,494	50%	\$ 537,494	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Applecreek Blvd.	Allstate Pkwy to Woodbine Ave	2020 - 2020	\$ 1,641,338		0%	\$ -	100%	\$ 1,641,338	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Birchmount Road	Hwy 407 to Enterprise Drive	2017 - 2017	\$ 116,890		0%	\$ -	100%	\$ 116,890	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Birchmount Road	Enterprise Drive to Verclaire Gate	2017 - 2017	\$ 216,013		0%	\$ -	100%	\$ 216,013	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Birchmount Road	Verclaire Gate to Rouge River	2017 - 2017	\$ 1,098,925		0%	\$ -	100%	\$ 1,098,925	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Bur Oak Avenue	9th Line to Whites Hill	2018 - 2018	\$ 434,623		0%	\$ -	100%	\$ 434,623	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Bur Oak Avenue	Hwy 7 to Michelina	2020 - 2020	\$ 947,220		0%	\$ -	100%	\$ 947,220	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Bur Oak Avenue	Riverlands to Hwy 7	2018 - 2018	\$ 356,848		0%	\$ -	100%	\$ 356,848	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Cornell Centre	Hwy 7 to 200m South	2021 - 2021	\$ 384,918		0%	\$ -	100%	\$ 384,918	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Cornell Rouge Blvd	Hwy 7 to 200m South	2019 - 2019	\$ 384,918		0%	\$ -	100%	\$ 384,918	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Elgin Mills Rd	Kennedy Rd to 1000m E	2025 - 2025	\$ 1,132,719		0%	\$ -	100%	\$ 1,132,719	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Elgin Mills Rd	Victoria Square to Warden Ave	2024 - 2024	\$ 2,452,381		0%	\$ -	100%	\$ 2,452,381	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Elgin Mills Rd	Warden Ave to Kennedy Rd	2026 - 2026	\$ 2,452,381		0%	\$ -	100%	\$ 2,452,381	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Enterprise Drive	Warden Avenue to Sciberras Drive	2017 - 2017	\$ 507,250		0%	\$ -	100%	\$ 507,250	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Frontenac Dr. Extension	Hooper Road to Allstate Pkwy	2022 - 2022	\$ 499,493		0%	\$ -	100%	\$ 499,493	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Frontenac Dr. Extension	Valleywood Dr to Hooper Road	2022 - 2022	\$ 1,373,282		0%	\$ -	100%	\$ 1,373,282	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'A'	Warden Ave to 19th Ave	2025 - 2025	\$ 2,826,285		0%	\$ -	100%	\$ 2,826,285	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'B'	Woodbine Ave to Collector Rd 'A'	2026 - 2026	\$ 312,353		0%	\$ -	100%	\$ 312,353	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'C'	Collector Rd 'D' to Warden Ave	2027 - 2027	\$ 461,301		0%	\$ -	100%	\$ 461,301	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'D'	Elgin Mills Rd to Warden Ave	2028 - 2028	\$ 2,100,471		0%	\$ -	100%	\$ 2,100,471	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'D'	Warden Ave to Kennedy Rd	2019 - 2019	\$ 2,463,378		0%	\$ -	100%	\$ 2,463,378	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'D'	Kennedy Rd to Collector Rd 'N'	2020 - 2020	\$ 1,803,547		0%	\$ -	100%	\$ 1,803,547	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'D'	19th Ave to Elgin Mills Rd	2020 - 2020	\$ 2,463,378		0%	\$ -	100%	\$ 2,463,378	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'E'	Elgin Mills Rd to North end Hydro Corridor	2019 - 2019	\$ 687,038		0%	\$ -	100%	\$ 687,038	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'E'	Collector Rd 'H' to North end Hydro Corridor	2020 - 2020	\$ 1,440,640		0%	\$ -	100%	\$ 1,440,640	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'F'	Warden Ave to Elgin Mills Rd	2022 - 2022	\$ 2,100,471		0%	\$ -	100%	\$ 2,100,471	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'G'	West Hydro Corridor to Warden Ave	2018 - 2018	\$ 2,100,471		0%	\$ -	100%	\$ 2,100,471	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'G'	Warden Ave to Kennedy Rd	2018 - 2018	\$ 2,397,395		0%	\$ -	100%	\$ 2,397,395	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'G'	Kennedy Rd to East Dead End	2018 - 2018	\$ 765,093		0%	\$ -	100%	\$ 765,093	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'H'	West Hydro Corridor to Warden Ave	2020 - 2020	\$ 2,100,471		0%	\$ -	100%	\$ 2,100,471	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'H'	Warden Ave to Major Mackenzie Dr	2020 - 2020	\$ 2,463,378		0%	\$ -	100%	\$ 2,463,378	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'I'	Major Mackenzie Dr. to Elgin Mills Rd	2021 - 2021	\$ 2,320,415		0%	\$ -	100%	\$ 2,320,415	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'J'	Major Mackenzie Dr. to Elgin Mills Rd	2024 - 2024	\$ 2,463,378		0%	\$ -	100%	\$ 2,463,378	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'K'	Major Mackenzie Dr. to Elgin Mills Rd	2019 - 2019	\$ 2,606,341		0%	\$ -	100%	\$ 2,606,341	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'L'	Major Mackenzie Dr. to Collector Rd 'D'	2024 - 2024	\$ 541,504		0%	\$ -	100%	\$ 541,504	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'M'	Major Mackenzie Dr. to Collector Rd 'D'	2025 - 2025	\$ 541,504		0%	\$ -	100%	\$ 541,504	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'N'	Major Mackenzie Dr to Collector Rd 'D'	2026 - 2026	\$ 541,504		0%	\$ -	100%	\$ 541,504	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'P'	Collector Rd 'J' to Kennedy Rd	2027 - 2027	\$ 157,677		0%	\$ -	100%	\$ 157,677	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'P'	Kennedy Rd to Collector Rd 'K'	2027 - 2027	\$ 312,353		0%	\$ -	100%	\$ 312,353	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Future Donald Cousen Pkwy	19th Ave to Warden Ave	2025 - 2025	\$ 1,352,662		0%	\$ -	100%	\$ 1,352,662	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Corvette Rd Extension	Kennedy Rd to Old Kennedy Rd	2023 - 2023	\$ 744,650		0%	\$ -	100%	\$ 744,650	0%	\$ -	\$ -	\$ -	\$ -	\$ -

2024
APPENDIX C
TABLE 3

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
CITY - WIDE GROWTH-RELATED PROJECTS

Location	From / To	Timing of Project	Total		Local - by others		City-wide Growth - Related		Others Sharing and/or Non-Growth Cost				Post 2031 (\$)	
			Gross Cost (\$)		Share (%)	Cost (\$)	Share (%)	Cost (\$)	Share (%)	Gross (\$)	Others Cost (\$)	Non-growth (\$)		
4.2 STRUCTURES MID-BLOCKS AND RAMPS - CONT'D														
Honda Blvd	Woodbine Bypass to Gas Pipeline (NEW ITEM)	2020 - 2020	\$ 421,159		0%	\$ -	100%	\$ 421,159	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Honda Blvd	Gas Pipeline to 19th Avenue (NEW ITEM)	2020 - 2020	\$ 518,589		0%	\$ -	100%	\$ 518,589	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Mid-block Crossing Hwy 404 Easements	Hwy 7 to 16th Avenue	2017 - 2017	\$ 9,410,128		67%	\$ 6,273,732	33%	\$ 3,136,396	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Mid-block Crossing Hwy 404 property	16th Ave to Major Mackenzie	2021 - 2021	\$ 24,513,938		67%	\$ 16,342,703	33%	\$ 8,171,236	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Mid-block Crossing Hwy 404 property	Buttonville (NEW ITEM)	2026 - 2026	\$ 4,000,000		67%	\$ 2,666,679	33%	\$ 1,333,321	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Mid-block Crossing Hwy 404 property	Major Mackenzie to Elgin Mills	2029 - 2029	\$ 26,624,400		67%	\$ 17,750,487	33%	\$ 8,873,913	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Midland Ave Extension	Steeles Ave. to Old Kennedy Road	2022 - 2022	\$ 1,663,516		0%	\$ -	100%	\$ 1,663,516	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Ramps to Hwy 404 Property	Elgin Mills Road	2031 - 2031	\$ 3,278,697		0%	\$ -	100%	\$ 3,278,697	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Ramps to Hwy 404 Property	Highway 7	2017 - 2017	\$ 4,345,027		50%	\$ 2,172,513	50%	\$ 2,172,513	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Ramps to Hwy 404 Property	Major Mackenzie	2030 - 2030	\$ 2,369,902		0%	\$ -	100%	\$ 2,369,902	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Reesor Rd	Riverlands to Hwy 7	2024 - 2024	\$ 807,837		0%	\$ -	100%	\$ 807,837	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Renfrew Drive	Frontenac Dr to Hooper Rd.	2023 - 2023	\$ 3,398,597		0%	\$ -	100%	\$ 3,398,597	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Renfrew Drive	Hooper Road to Allstate Pkwy	2023 - 2023	\$ 2,594,428		0%	\$ -	100%	\$ 2,594,428	0%	\$ -	\$ -	\$ -	\$ -	\$ -
ROW Properties for Sidewalk Construction (NEW ITEM)	(NEW ITEM)	2017 - 2031	\$ 4,453,437		0%	\$ -	35%	\$ 1,569,689	65%	\$ 2,883,749	\$ -	\$ -	\$ 2,883,749	\$ -
Valleywood Dr	Allstate Pkwy to Applecreek Blvd.	2024 - 2024	\$ 2,266,804		50%	\$ 1,133,402	50%	\$ 1,133,402	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Yorkdowns - Collector Rd	East Development	2020 - 2020	\$ 4,294,409		0%	\$ -	100%	\$ 4,294,409	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Yorkdowns - Collector Rd	West Development	2021 - 2021	\$ 1,820,043		0%	\$ -	100%	\$ 1,820,043	0%	\$ -	\$ -	\$ -	\$ -	\$ -
	TOTAL PROPERTIES ACQUISITION		\$ 261,280,179			\$ 51,806,917		\$ 206,589,514		\$ 2,883,749	\$ -	\$ 2,883,749	\$ -	\$ -

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
CITY - WIDE GROWTH-RELATED PROJECTS

Location	From / To	Timing of Project	Total		Local - by others		City-wide Growth - Related		Others Sharing and/or Non-Growth Cost				Post 2031 (\$)	
			Gross Cost (\$)		Share (%)	Cost (\$)	Share (%)	Cost (\$)	Share (%)	Gross (\$)	Others Cost (\$)	Non-growth (\$)		
5.0 SIDEWALKS														
Miscellaneous new sidewalks		2017 - 2031	\$ 2,681,800		0%	\$ -	100%	\$ 2,681,800	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Allstate Pkwy	B.S. Highway 7 to Valleywood Dr	2017 - 2031	\$ 141,584		0%	\$ -	50%	\$ 70,792	50%	\$ 70,792	\$ 70,792	\$ -	\$ -	\$ -
Allstate Pkwy	B.S. Valleywood to North Dead End	2017 - 2031	\$ 209,976		0%	\$ -	50%	\$ 104,988	50%	\$ 104,988	\$ 104,988	\$ -	\$ -	\$ -
Birchmount Rd	B.S. Verclare Gate to Rouge River Bridge	2017 - 2031	\$ 220,325		0%	\$ -	100%	\$ 220,325	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Cedar Ave	B.S. Langstaff North to Richmond Hill	2017 - 2031	\$ 172,720		0%	\$ -	100%	\$ 172,720	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Church Street	B.S. Ninth Line to Bur Oak	2017 - 2031	\$ 396,254		0%	\$ -	100%	\$ 396,254	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Commerce Valley Dr E	N.S. Leslie St to Highway 7	2017 - 2031	\$ 336,921		0%	\$ -	100%	\$ 336,921	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Commerce Valley Dr W	N.S. Highway 7 to Leslie St	2017 - 2031	\$ 245,851		0%	\$ -	100%	\$ 245,851	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Denison St	N.S. Birchmount Rd to Gorvette Dr	2017 - 2031	\$ 291,387		0%	\$ -	100%	\$ 291,387	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Denison St	N.S. Warden Ave to Birchmount Road	2017 - 2031	\$ 291,387		0%	\$ -	100%	\$ 291,387	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Donald Cousens Parkway	S.S. Highway 7 to 500m North of Highway 7	2017 - 2031	\$ 65,960		0%	\$ -	100%	\$ 65,960	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Donald Cousens Parkway	B.S. Ninth Line to Highway 407	2017 - 2031	\$ 557,306		0%	\$ -	100%	\$ 557,306	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Donald Cousens Parkway Ext.	B.S. 19th Ave to Warden Ave	2017 - 2031	\$ 499,742		0%	\$ -	100%	\$ 499,742	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Duffield Drive	B.S. Miller Ave. to Kennedy Road	2017 - 2031	\$ 1,344,156		0%	\$ -	100%	\$ 1,344,156	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Elgin Mills Road	B.S. Victoria Square Blvd. to Warden Ave	2017 - 2031	\$ 1,781,208		0%	\$ -	100%	\$ 1,781,208	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Elgin Mills Road	S.S. Warden Ave to 1000m E of Warden Ave	2017 - 2031	\$ 662,582		0%	\$ -	100%	\$ 662,582	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Fourteenth Avenue	B.S. Riverwalk Dr to Box Grove Collector Road	2017 - 2031	\$ 306,565		0%	\$ -	100%	\$ 306,565	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Fourteenth Avenue	S.S. West Dead End to Alden Road	2017 - 2031	\$ 830,442		0%	\$ -	100%	\$ 830,442	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Highway 7 E	B.S. 9th to Donald Cousens Parkway	2017 - 2031	\$ 900,264		0%	\$ -	100%	\$ 900,264	0%	\$ -	\$ -	\$ -	\$ -	\$ -
John St	S.S. Yonge St to Henderson Ave.	2017 - 2031	\$ 336,921		0%	\$ -	100%	\$ 336,921	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Kennedy Rd	B.S. Major Mackenzie Dr to Elgin Mills Rd	2017 - 2031	\$ 1,781,208		0%	\$ -	100%	\$ 1,781,208	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Kirkham Dr.	S.S. Karachi Drive to S limit Lot 4, Con. 8	2017 - 2031	\$ 120,976		0%	\$ -	100%	\$ 120,976	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Langstaff Road	B.S. Bayview Avenue to South Limit of Langstaff Development	2017 - 2031	\$ 209,976		0%	\$ -	100%	\$ 209,976	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Main St. north, Markham	B.S. Major Mackenzie to Donald Cousens Parkway	2017 - 2031	\$ 334,162		0%	\$ -	100%	\$ 334,162	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Main Street Markham S	W.S. Princess St. to Highway 7	2017 - 2031	\$ 276,208		0%	\$ -	35%	\$ 96,673	65%	\$ 179,535	\$ -	\$ 179,535	\$ -	\$ -
Major Mackenzie	S.S. Donald Cousens Parkway to Ninth Line	2017 - 2031	\$ 251,371		0%	\$ -	100%	\$ 251,371	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Major Mackenzie	B.S. Markland St to Highway 404	2017 - 2031	\$ 375,557		0%	\$ -	100%	\$ 375,557	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Major Mackenzie Dr E	N.S. Kennedy Rd to McCowan Rd	2017 - 2031	\$ 458,347		0%	\$ -	100%	\$ 458,347	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Miller Avenue Extension	S.S. Birchmount Rd. to Duffield Drive	2017 - 2031	\$ 1,383,888		0%	\$ -	100%	\$ 1,383,888	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Miller Avenue Extension	S.S. Warden Ave. to Birchmount Rd.	2017 - 2031	\$ 662,582		0%	\$ -	100%	\$ 662,582	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Miller Avenue	S.S. Woodbine Ave. to Rodick Rd.	2017 - 2031	\$ 678,697		0%	\$ -	100%	\$ 678,697	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Nineteenth Avenue	B.S. Hwy 404 to 1100m E of Woodbine Ave	2017 - 2031	\$ 458,347		0%	\$ -	100%	\$ 458,347	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Ninth Line	E.S. 16th Ave. / Bur Oak Ave.	2017 - 2031	\$ 68,302		0%	\$ -	100%	\$ 68,302	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Ninth Line	E.S. Church St. / 16th Ave.	2017 - 2031	\$ 9,018		0%	\$ -	100%	\$ 9,018	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Ninth Line	E.S. Highway 407 / Church St.	2017 - 2031	\$ 39,907		0%	\$ -	100%	\$ 39,907	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Ninth Line	B.S. Bur Oak Ave. to Donald Cousens Pkwy	2017 - 2031	\$ 63,756		0%	\$ -	100%	\$ 63,756	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Ninth Line	W.S. Donald Cousens Parkway to Major Mackenzie	2017 - 2031	\$ 251,371		0%	\$ -	100%	\$ 251,371	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Ninth Line	E.S. Fourteenth Ave. to Rouge Bank Dr	2017 - 2031	\$ 154,782		0%	\$ -	100%	\$ 154,782	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Ninth Line	B.S. Steeles to Ridgevale Dr.	2017 - 2031	\$ 354,859		0%	\$ -	100%	\$ 354,859	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Old Kennedy Road	W.S. Aldergrove Dr to Denison St	2017 - 2031	\$ 154,782		0%	\$ -	100%	\$ 154,782	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Reesor Rd.	E.S. Highway 7 to 1000m North of Highway 7	2017 - 2031	\$ 209,976		0%	\$ -	100%	\$ 209,976	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Reesor Rd.	B.S. Highway 7 to Highway 407	2017 - 2031	\$ 375,557		0%	\$ -	100%	\$ 375,557	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Reesor Rd.	W.S. Highway 407 to 14th Avenue	2017 - 2031	\$ 241,022		0%	\$ -	100%	\$ 241,022	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Rodick Road	B.S. 14th Avenue to Miller Avenue	2017 - 2031	\$ 622,296		0%	\$ -	100%	\$ 622,296	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Sixteenth Avenue	N.S. 9th Line to Bur Oak Ave.	2017 - 2031	\$ 147,883		0%	\$ -	100%	\$ 147,883	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Sixteenth Avenue	S.S. 9th Line to Bur Oak Ave.	2017 - 2031	\$ 147,883		0%	\$ -	100%	\$ 147,883	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Sixteenth Avenue	N.S. 300m W of Mingay Ave to Mingay Ave	2017 - 2031	\$ 93,509		0%	\$ -	100%	\$ 93,509	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Sixteenth Avenue	B.S. Bur Oak to Donald Cousens Pkwy	2017 - 2031	\$ 727,041		0%	\$ -	100%	\$ 727,041	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Sixteenth Avenue	B.S. Bur Oak to Markham By-Pass	2017 - 2031	\$ 900,264		0%	\$ -	100%	\$ 900,264	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Sixteenth Avenue	N.S. Highway 404 to Cachet Wood Cr.	2017 - 2031	\$ 147,193		0%	\$ -	100%	\$ 147,193	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Sixteenth Avenue	N.S. Warden Ave. to Yorkton Blvd.	2017 - 2031	\$ 385,906		0%	\$ -	100%	\$ 385,906	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Victoria Square Blvd.	B.S. Woodbine By Pass South to Woodbine By Pass North	2017 - 2031	\$ 1,145,496		0%	\$ -	100%	\$ 1,145,496	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Warden Ave	B.S. Major Mackenzie Dr to Elgin Mills Rd	2017 - 2031	\$ 1,781,208		0%	\$ -	100%	\$ 1,781,208	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Warden Avenue	W.S. Elgin Mills Rd. to 19th Avenue	2017 - 2031	\$ 458,347		0%	\$ -	100%	\$ 458,347	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Woodbine Avenue	W.S. N. Of Woodbine By Pass to 19th Avenue	2017 - 2031	\$ 904,301		0%	\$ -	100%	\$ 904,301	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Yorktech Drive	B.S. Rodick Rd. to Warden Avenue	2017 - 2031	\$ 702,869		0%	\$ -	100%	\$ 702,869	0%	\$ -	\$ -	\$ -	\$ -	\$ -
	Total - Sidewalk		\$ 29,352,201			\$ -		\$ 28,996,885		\$ 355,316	\$ 175,780	\$ 179,535	\$ -	\$ -

2026
APPENDIX C
TABLE 3

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
CITY - WIDE GROWTH-RELATED PROJECTS

Location	From / To	Timing of Project	Total		Local - by others		City-wide Growth - Related		Others Sharing and/or Non-Growth Cost				Post 2031 (\$)
			Gross Cost (\$)		Share (%)	Cost (\$)	Share (%)	Cost (\$)	Share (%)	Gross (\$)	Others Cost (\$)	Non-growth (\$)	
6.0 STORM WATER MANAGEMENT													
City's Watercourses - Erosion Control		2017 - 2031	\$ 18,631,800		0%	\$ -	65%	\$ 12,050,647	35%	\$ 6,581,153	\$ -	\$ 6,581,153	\$ -
Birchmount Pond Modification	Crossing Miller	2026 - 2026	\$ 2,552,585		0%	\$ -	100%	\$ 2,552,585	0%	\$ -	\$ -	\$ -	\$ -
Don Mills Industrial Drainage Ditch Improvements		2025 - 2025	\$ 8,727,072		0%	\$ -	35%	\$ 3,052,831	65%	\$ 5,674,241	\$ -	\$ 5,674,241	\$ -
East Precinct - Tributary 5 Relocation		2029 - 2029	\$ 5,414,614		0%	\$ -	100%	\$ 5,414,614	0%	\$ -	\$ -	\$ -	\$ -
Enterprise water course crossing at Tributary # 4 (over local) *		2018 - 2018	\$ 1,428,758		0%	\$ -	100%	\$ 1,428,758	0%	\$ -	\$ -	\$ -	\$ -
Miller / Rodick SWM pond and Channel improvements		2018 - 2018	\$ 17,077,773		80%	\$ 13,733,472	20%	\$ 3,344,301	0%	\$ -	\$ -	\$ -	\$ -
Miller Avenue Storm	Woodbine to Rodick	2019 - 2019	\$ 1,403,206		0%	\$ -	17%	\$ 231,529	84%	\$ 1,171,677	\$ 1,171,677	\$ -	\$ -
Rodick Road Storm	Miller to 14th Avenue	2019 - 2019	\$ 1,268,872		0%	\$ -	52%	\$ 662,550	48%	\$ 606,322	\$ 606,322	\$ -	\$ -
	Total - SWM		\$ 56,504,680			\$ 13,733,472		\$ 28,737,815		\$ 14,033,392	\$ 1,777,999	\$ 12,255,393	\$ -
7.0 WATERMAIN													
9th Line North	16th Ave / Markham By-Pass (DCP)	2021 - 2021	\$ 312,179		0%	\$ -	100%	\$ 312,179	0%	\$ -	\$ -	\$ -	\$ -
9th Line	Cornell South / Church St	2022 - 2022	\$ 148,343		0%	\$ -	100%	\$ 148,343	0%	\$ -	\$ -	\$ -	\$ -
16th Ave	9th Line / Ext. Markham By-Pass	2028 - 2028	\$ 515,672		0%	\$ -	100%	\$ 515,672	0%	\$ -	\$ -	\$ -	\$ -
19th Ave (400mm)	Victoria Sq Blvd to Warden Ave	2027 - 2027	\$ 2,145,418		0%	\$ -	100%	\$ 2,145,418	0%	\$ -	\$ -	\$ -	\$ -
Church Street Watermain	Country Glen Road to Bur Oak	2020 - 2020	\$ 499,742		0%	\$ -	100%	\$ 499,742	0%	\$ -	\$ -	\$ -	\$ -
Cornell North Loop	Through the Cornell Development	2020 - 2020	\$ 1,403,639		0%	\$ -	100%	\$ 1,403,639	0%	\$ -	\$ -	\$ -	\$ -
Cornell South Loop	Through the Cornell Development	2021 - 2021	\$ 331,740		0%	\$ -	100%	\$ 331,740	0%	\$ -	\$ -	\$ -	\$ -
Elgin Mills Rd	Kennedy Rd to McCowan Rd	2025 - 2025	\$ 2,065,012		0%	\$ -	100%	\$ 2,065,012	0%	\$ -	\$ -	\$ -	\$ -
Elgin Mills Rd	Warden Ave to Kennedy Rd	2024 - 2024	\$ 2,065,012		0%	\$ -	100%	\$ 2,065,012	0%	\$ -	\$ -	\$ -	\$ -
Elgin Mills Rd (400mm)	Victoria Sq Blvd to Warden Ave	2026 - 2026	\$ 2,034,149		0%	\$ -	100%	\$ 2,034,149	0%	\$ -	\$ -	\$ -	\$ -
Enterprise, Phase II	Rivas Rd. to Main Street S	2018 - 2018	\$ 429,192		0%	\$ -	15%	\$ 64,379	85%	\$ 364,813	\$ 364,813	\$ -	\$ -
Enterprise Drive (400 mm)	Warden Avenue to Sciberras Drive	2019 - 2019	\$ 115,513		0%	\$ -	100%	\$ 115,513	0%	\$ -	\$ -	\$ -	\$ -
Highland Park	Dudley to east of Dudley	2018 - 2018	\$ 109,589		0%	\$ -	100%	\$ 109,589	0%	\$ -	\$ -	\$ -	\$ -
Honda Blvd	TCPL to 19th Ave (NEW ITEM)	2020 - 2020	\$ 205,414		0%	\$ -	100%	\$ 205,414	0%	\$ -	\$ -	\$ -	\$ -
Honda Blvd	Woodbine Bypass to TCPL (NEW ITEM)	2020 - 2020	\$ 82,805		0%	\$ -	100%	\$ 82,805	0%	\$ -	\$ -	\$ -	\$ -
Kennedy Rd (PD 6)	Major Mackenzie Dr to Elgin Mills Rd	2021 - 2021	\$ 2,065,012		0%	\$ -	100%	\$ 2,065,012	0%	\$ -	\$ -	\$ -	\$ -
Kennedy Rd (PD 7)	Major Mackenzie Dr to Elgin Mills Rd	2020 - 2020	\$ 2,065,012		0%	\$ -	100%	\$ 2,065,012	0%	\$ -	\$ -	\$ -	\$ -
Kirkham Drive (300 mm)	N limit Lot 4, Con. 8 to Markham by-pass	2019 - 2019	\$ 413,502		0%	\$ -	15%	\$ 62,025	85%	\$ 351,477	\$ 351,477	\$ -	\$ -
Kirkham Drive (400mm)	Karachi Drive to S limit Lot 4, Con.8	2019 - 2019	\$ 572,945		0%	\$ -	100%	\$ 572,945	0%	\$ -	\$ -	\$ -	\$ -
Kirkham Drive (400mm)	through Golf Course to 9th line	2019 - 2019	\$ 923,437		0%	\$ -	100%	\$ 923,437	0%	\$ -	\$ -	\$ -	\$ -
Langstaff Road (400mm)	Yonge Street to Bayview Avenue	2019 - 2019	\$ 128,946		0%	\$ -	100%	\$ 128,946	0%	\$ -	\$ -	\$ -	\$ -
Miller Road	Warden Avenue to Birchmount Road	2019 - 2019	\$ 699,512		0%	\$ -	100%	\$ 699,512	0%	\$ -	\$ -	\$ -	\$ -
Miller Road (200mm to 400mm)	Woodbine to Rodick Road	2018 - 2018	\$ 845,550		0%	\$ -	74%	\$ 625,707	26%	\$ 219,843	\$ -	\$ 219,843	\$ -
Ninth Line (300mm)	Cornell South to Church Street	2021 - 2021	\$ 788,477		0%	\$ -	15%	\$ 118,272	85%	\$ 670,206	\$ 670,206	\$ -	\$ -
Victoria Square Blvd	Elgin Mills Rd to North	2019 - 2019	\$ 151,750		0%	\$ -	100%	\$ 151,750	0%	\$ -	\$ -	\$ -	\$ -
Victoria Square Blvd	Elgin Mills Rd to South	2019 - 2019	\$ 270,750		0%	\$ -	100%	\$ 270,750	0%	\$ -	\$ -	\$ -	\$ -
Rodick Road (400mm)	Miller Avenue to 14th Avenue	2019 - 2019	\$ 748,191		0%	\$ -	100%	\$ 748,191	0%	\$ -	\$ -	\$ -	\$ -
Warden Ave (400mm)	Elgin Mills Rd to 19th Ave	2020 - 2020	\$ 2,034,149		0%	\$ -	100%	\$ 2,034,149	0%	\$ -	\$ -	\$ -	\$ -
Warden Ave (PD 6)	Major Mackenzie Dr to Elgin Mills Rd	2021 - 2021	\$ 2,065,012		0%	\$ -	100%	\$ 2,065,012	0%	\$ -	\$ -	\$ -	\$ -
Warden Ave (PD 7)	Major Mackenzie Dr to Elgin Mills Rd	2023 - 2023	\$ 1,904,972		0%	\$ -	100%	\$ 1,904,972	0%	\$ -	\$ -	\$ -	\$ -
Woodbine Ave (400mm)	19th Ave to Victoria Square Blvd	2023 - 2023	\$ 977,678		0%	\$ -	100%	\$ 977,678	0%	\$ -	\$ -	\$ -	\$ -
Woodbine Avenue	Burr Cres / Millbrook Gate	2025 - 2025	\$ 309,218		0%	\$ -	10%	\$ 30,922	90%	\$ 278,296	\$ -	\$ 278,296	\$ -
Woodbine Avenue (400mm)	Woodbine By-pass to 19th Avenue	2023 - 2023	\$ 1,073,959		0%	\$ -	100%	\$ 1,073,959	0%	\$ -	\$ -	\$ -	\$ -
Woodbine Bypass	Lord Melbourne to Woodbine	2022 - 2022	\$ 383,400		0%	\$ -	85%	\$ 325,890	15%	\$ 57,510	\$ -	\$ 57,510	\$ -
	Total - Watermain		\$ 30,884,893			\$ -		\$ 28,942,748		\$ 1,942,145	\$ 1,386,496	\$ 555,649	\$ -

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TABLE 3

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
CITY - WIDE GROWTH-RELATED PROJECTS

Location	From / To	Timing of Project	Total		Local - by others		City-wide Growth - Related		Others Sharing and/or Non-Growth Cost				Post 2031 (\$)	
			Gross Cost (\$)		Share (%)	Cost (\$)	Share (%)	Cost (\$)	Share (%)	Gross (\$)	Others Cost (\$)	Non-growth (\$)		
8.0 STUDIES*														
Trans., Servicing, Enviro., Cycling, Traffic Calming, Noise, Subwatershed, Erosion Study Update etc.		2017 - 2031	\$ 10,602,000		0%	\$ -	100%	\$ 10,602,000	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Total - Studies			\$ 10,602,000			\$ -		\$ 10,602,000		\$ -	\$ -	\$ -	\$ -	\$ -
<i>* Includes growth-related city-wide studies and program administration</i>														
9.0 SPECIAL PROJECTS														
Bike Lanes on City, Regional and Developers		2017 - 2031	\$ 17,490,000		0%	\$ -	65%	\$ 11,325,356	35%	\$ 6,164,644	\$ -	\$ 6,164,644	\$ -	\$ -
City-wide Street Safety and Traffic Calming, various locations		2017 - 2031	\$ 5,913,369		0%	\$ -	65%	\$ 3,844,804	35%	\$ 2,068,565	\$ -	\$ 2,068,565	\$ -	\$ -
Travel Demand Management		2017 - 2031	\$ 3,331,694		0%	\$ -	100%	\$ 3,331,694	0%	\$ -	\$ -	\$ -	\$ -	\$ -
			\$ 26,735,063			\$ -		\$ 18,501,853		\$ 8,233,209	\$ -	\$ 8,233,209	\$ -	\$ -
9.1 Streetscape														
9.1.1 Regional Roads														
Miscellaneous Regional Roads		2017 - 2031	\$ 4,467,375		0%	\$ -	50%	\$ 2,233,688	50%	\$ 2,233,688	\$ -	\$ 2,233,688	\$ -	\$ -
Total Regional Streetscape			\$ 4,467,375			\$ -		\$ 2,233,688		\$ 2,233,688	\$ -	\$ 2,233,688	\$ -	\$ -
9.1.2 City Roads														
16th Ave	Hwy 404	2017 - 2031	\$ 760,563	50%	\$ 380,281	50%	\$ 380,281	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Bayview Avenue	John St	2017 - 2031	\$ 289,125	50%	\$ 144,563	50%	\$ 144,563	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Burr Oak	Hwy 7	2017 - 2031	\$ 422,650	50%	\$ 211,325	50%	\$ 211,325	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cachet Woods Ct	16th Ave	2017 - 2031	\$ 574,922	50%	\$ 287,461	50%	\$ 287,461	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Centurian	Hwy 404	2017 - 2031	\$ 254,790	50%	\$ 127,395	50%	\$ 127,395	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Denison St	Railway	2017 - 2031	\$ 125,080	50%	\$ 62,540	50%	\$ 62,540	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Enterprise	Warden to Sciberas	2017 - 2031	\$ 1,763,750	50%	\$ 881,875	50%	\$ 881,875	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Enterprise	Tributary 4 to Sciberas Drive	2017 - 2031	\$ 270,050	50%	\$ 135,025	50%	\$ 135,025	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'D'	Warden Avenue to East Limit	2017 - 2031	\$ 4,849,000	50%	\$ 2,424,500	50%	\$ 2,424,500	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'I'	Major Mackenzie Dr. to Elgin Mills Rd	2017 - 2031	\$ 781,000	50%	\$ 390,500	50%	\$ 390,500	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Collector Rd 'J'	Major Mackenzie Dr. to Elgin Mills Rd	2017 - 2031	\$ 781,000	50%	\$ 390,500	50%	\$ 390,500	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Gorvette Dr	Denison	2017 - 2031	\$ 384,500	50%	\$ 192,250	50%	\$ 192,250	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Hwy 7	Ninth Line	2017 - 2031	\$ 2,140,000	50%	\$ 1,070,000	50%	\$ 1,070,000	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Kennedy Rd	Steeles	2017 - 2031	\$ 946,203	50%	\$ 473,102	50%	\$ 473,102	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Langstaff Road	Ruggles Rd	2017 - 2031	\$ 1,929,300	50%	\$ 964,650	50%	\$ 964,650	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Langstaff Road	New Collector East	2017 - 2031	\$ 384,500	50%	\$ 192,250	50%	\$ 192,250	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Leslie Street	St Robert Highschool	2017 - 2031	\$ 812,542	50%	\$ 406,271	50%	\$ 406,271	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Major Mackenzie Drive	Warden Avenue to East Limit	2017 - 2031	\$ 2,441,000	50%	\$ 1,220,500	50%	\$ 1,220,500	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Markland St	Woodbine	2017 - 2031	\$ 816,255	50%	\$ 408,127	50%	\$ 408,127	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Midland	Steeles Ave	2017 - 2031	\$ 369,240	50%	\$ 184,620	50%	\$ 184,620	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

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APPENDIX C
TABLE 3

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
CITY - WIDE GROWTH-RELATED PROJECTS

Location	From / To	Timing of Project	Total	Local - by others		City-wide Growth - Related		Others Sharing and/or Non-Growth Cost				Post 2031
			Gross Cost (\$)	Share (%)	Cost (\$)	Share (%)	Cost (\$)	Share (%)	Gross (\$)	Others Cost (\$)	Non-growth (\$)	
9.1.2 City Roads - Cont'd												
New East West Collector	Langstaff West	2017 - 2031	\$ 2,140,000	50%	\$ 1,070,000	50%	\$ 1,070,000	0%	\$ -	\$ -	\$ -	\$ -
Old Kennedy Rd	Denison	2017 - 2031	\$ 734,572.81	50%	\$ 367,286	50%	\$ 367,286	0%	\$ -	\$ -	\$ -	\$ -
Steeles Ave	Yonge	2017 - 2031	\$ 371,480.00	50%	\$ 185,740	50%	\$ 185,740	0%	\$ -	\$ -	\$ -	\$ -
Victoria Sq Blvd	Donald Buttress Blvd	2017 - 2031	\$ 296,755.00	50%	\$ 148,378	50%	\$ 148,378	0%	\$ -	\$ -	\$ -	\$ -
Woodbine Ave	16th Ave	2017 - 2031	\$ 445,540.00	50%	\$ 222,770	50%	\$ 222,770	0%	\$ -	\$ -	\$ -	\$ -
Woodbine Ave	Steeles	2017 - 2031	\$ 953,628.75	50%	\$ 476,814	50%	\$ 476,814	0%	\$ -	\$ -	\$ -	\$ -
Yonge Street	Cricketwood Park north limit	2017 - 2031	\$ 857,300.00	50%	\$ 428,650	50%	\$ 428,650	0%	\$ -	\$ -	\$ -	\$ -
Yonge Street	Steeles	2017 - 2031	\$ 1,161,750.00	50%	\$ 580,875	50%	\$ 580,875	0%	\$ -	\$ -	\$ -	\$ -
Miscellaneous City Roads		2017 - 2031	\$ 3,392,375.00	-	\$ -	50%	\$ 1,696,188	50%	\$ 1,696,188	\$ -	\$ 1,696,188	\$ -
Total City Streetscape			\$ 31,448,871		\$ 14,028,248		\$ 15,724,435		\$ 1,696,188	\$ -	\$ 1,696,188	\$ -
Total Special Projects			\$ 62,651,308		\$ 14,028,248		\$ 36,459,976		\$ 12,163,084	\$ -	\$ 12,163,084	\$ -


APPENDIX C
TABLE 3

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
CITY - WIDE GROWTH-RELATED PROJECTS

Location	From / To	Timing of Project	Total		Local - by others		City-wide Growth - Related		Others Sharing and/or Non-Growth Cost				Post 2031 (\$)	
			Gross Cost (\$)		Share (%)	Cost (\$)	Share (%)	Cost (\$)	Share (%)	Gross (\$)	Others Cost (\$)	Non-growth (\$)		
10.0 STRUCTURES														
City Wide bridge/crossing projects (minor collectors)		2017 - 2031	\$ 21,663,260		75%	\$ 16,247,445	25%	\$ 5,415,815	0%	\$ -	\$ -	\$ -	\$ -	\$ -
407 Ramp alignment at warden (including property)		2023 - 2023	\$ 10,000,000		0%	\$ -	100%	\$ 10,000,000	0%	\$ -	\$ -	\$ -	\$ -	\$ -
407 Ramp Alignment at Kennedy		2024 - 2024	\$ 1,000,000		0%	\$ -	100%	\$ 1,000,000	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Berczy Glen - Two Bridges		2022 - 2022	\$ 16,000,000		0%	\$ -	100%	\$ 16,000,000	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Cachet Woods Ramp to Mid-block Crossing		2022 - 2022	\$ 7,687,000		0%	\$ -	100%	\$ 7,687,000	0%	\$ -	\$ -	\$ -	\$ -	\$ -
City Centre Blvd. Extension to Yorktech Drive		2024 - 2024	\$ 4,102,950		0%	\$ -	100%	\$ 4,102,950	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Denison Street Extension Structure over CN		2027 - 2027	\$ 7,182,829		0%	\$ -	100%	\$ 7,182,829	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Denison Street Extension Structure over Rouge River		2028 - 2028	\$ 2,384,386		0%	\$ -	100%	\$ 2,384,386	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Angus Glen (3 Major Collector Crossings)		2020 - 2020	\$ 31,801,944		0%	\$ -	100%	\$ 31,801,944	0%	\$ -	\$ -	\$ -	\$ -	\$ -
FUA - Employment Area (2 Major Collector Crossings)		2021 - 2021	\$ 21,322,296		0%	\$ -	100%	\$ 21,322,296	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Hwy 404 Mid Block Crossing North of Hwy 7		2017 - 2017	\$ 31,247,841		58%	\$ 18,000,598	42%	\$ 13,247,242	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Hwy 404 Mid-Block Crossing - Buttonville		2026 - 2026	\$ 20,363,000		67%	\$ 13,575,333	33%	\$ 6,787,667	0%	\$ 0	\$ -	\$ -	\$ 0	\$ -
Hwy 404 Mid-block Crossing North of 16th Avenue		2022 - 2022	\$ 48,579,990		67%	\$ 32,386,660	33%	\$ 16,193,330	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Hwy 404 Mid-Block Crossing North of Elgin Mills		2019 - 2019	\$ 28,532,763		67%	\$ 600,000	33%	\$ 300,000	0%	\$ -	\$ -	\$ -	\$ -	\$ 27,632,763
Hwy 404 Mid-Block Crossing North of Major Mackenzie		2030 - 2030	\$ 36,908,904		67%	\$ 24,605,936	33%	\$ 12,302,968	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Hwy 404 Ramp Improvements - Buttonville		2022 - 2022	\$ 5,921,385		67%	\$ 3,947,590	33%	\$ 1,973,795	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Hwy 7 Ramp Improvements		2017 - 2017	\$ 25,458,355		40%	\$ 10,213,223	60%	\$ 15,245,132	0%	\$ -	\$ -	\$ -	\$ -	\$ -
John Street Partial Ramp Improvements		2020 - 2020	\$ 6,024,634		0%	\$ -	100%	\$ 6,024,634	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Langstaff North Crossing		2019 - 2019	\$ 15,000,000		0%	\$ -	100%	\$ 15,000,000	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Langstaff South Crossing		2018 - 2018	\$ 15,000,000		0%	\$ -	100%	\$ 15,000,000	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Langstaff - Two Crossings		2020 - 2020	\$ 3,200,000		0%	\$ -	100%	\$ 3,200,000	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Major Mackenzie Ramp Realignment		2030 - 2030	\$ 10,403,250		0%	\$ -	100%	\$ 10,403,250	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Markham Centre - Frontage Road		2030 - 2030	\$ 3,250,000		0%	\$ -	100%	\$ 3,250,000	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Markham Centre - YMCA Blvd		2036 - 2036	\$ 3,250,000		0%	\$ -	0%	\$ -	0%	\$ -	\$ -	\$ -	\$ -	\$ 3,250,000
Markham Centre - Markham Live		2039 - 2039	\$ 3,250,000		0%	\$ -	0%	\$ -	0%	\$ -	\$ -	\$ -	\$ -	\$ 3,250,000
Markland St. Extension - Structure over Rouge River		2022 - 2022	\$ 8,686,798		0%	\$ -	100%	\$ 8,686,798	0%	\$ -	\$ -	\$ -	\$ -	\$ -
MC - Markham Live Street over GO Station		2024 - 2024	\$ 6,052,092		0%	\$ -	100%	\$ 6,052,092	0%	\$ -	\$ -	\$ -	\$ -	\$ -
MC - YMCA Boulevard over GO Station		2025 - 2025	\$ 6,525,544		0%	\$ -	100%	\$ 6,525,544	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Miller Avenue Extension Structure over CN		2023 - 2023	\$ 22,409,559		0%	\$ -	100%	\$ 22,409,559	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Miller Avenue Extension Structure over Go Rail		2025 - 2025	\$ 15,635,091		0%	\$ -	100%	\$ 15,635,091	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Pedestrian Bridges		2017 - 2031	\$ 6,796,600		0%	\$ -	100%	\$ 6,796,600	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Scriberras Road Structure over Rouge River		2029 - 2029	\$ 11,467,715		0%	\$ -	100%	\$ 11,467,715	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Verclaire Gate S Structure over Rouge River		2017 - 2017	\$ 10,140,900		0%	\$ -	100%	\$ 10,140,900	0%	\$ -	\$ -	\$ -	\$ -	\$ -
York Downs - West		2020 - 2020	\$ 10,808,320		0%	\$ -	100%	\$ 10,808,320	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Yorktech Drive Structure over Rouge River		2021 - 2021	\$ 6,796,600		0%	\$ -	100%	\$ 6,796,600	0%	\$ -	\$ -	\$ -	\$ -	\$ -
Total - Structures			\$ 484,854,006			\$ 119,576,786		\$ 331,144,458		\$ 0	\$ -	\$ 0	\$ 34,132,763	
TOTAL CITY WIDE HARD (Before Credit Agreements)			\$ 1,476,327,694			\$ 394,895,778		\$ 936,503,633		\$ 38,958,332	\$ 3,340,275	\$ 35,618,057	\$ 105,969,950	

APPENDIX C
TABLE 3CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
CITY - WIDE GROWTH-RELATED PROJECTS

Location	From / To	Timing of Project	Total		Local - by others		City-wide Growth - Related		Others Sharing and/or Non-Growth Cost				Post 2031 (\$)
			Gross Cost (\$)		Share (%)	Cost (\$)	Share (%)	Cost (\$)	Share (%)	Gross (\$)	Others Cost (\$)	Non-growth (\$)	
11.0 PROJECTS UNDERTAKEN BY CREDIT AGREEMENT													
<u>ROADS</u>													
Burr Oak Avenue	At Grade crossing @ CNR	2017 - 2017	\$ 200,000		0%	\$ -	100%	\$ 200,000	0%	\$ -	\$ -	\$ -	\$ -
Burr Oak Avenue	CNR to Anderson Avenue	2017 - 2017	\$ 138,968		0%	\$ -	100%	\$ 138,968	0%	\$ -	\$ -	\$ -	\$ -
Anderson Avenue widening	east of Highway 48	2017 - 2017	\$ 102,706		0%	\$ -	100%	\$ 102,706	0%	\$ -	\$ -	\$ -	\$ -
			\$ 441,674			\$ -		\$ 441,674		\$ -	\$ -	\$ -	\$ -
11.1 PROJECTS undertaken by CREDIT AGREEMENT 43													
PROJECTS undertaken by CREDIT AGREEMENT Phase I													
<u>ROADS</u>													
Burr Oak Avenue	At-Grade Crossing at CNR	2017 - 2017	\$ 400,000		0%	\$ -	50%	\$ 200,000	50%	\$ 200,000	\$ 200,000	\$ -	\$ -
Burr Oak Avenue	Anderson Ave. / C.N.R.	2017 - 2017	\$ 277,936		0%	\$ -	50%	\$ 138,968	50%	\$ 138,968	\$ 138,968	\$ -	\$ -
North Collector Road, Design Only	Anderson Ave. / C.N.R.	2017 - 2017	\$ 55,678		0%	\$ -	100%	\$ 55,678	0%	\$ -	\$ -	\$ -	\$ -
North Collector Road, Design Only	C.N.R. at Grade Crossing	2017 - 2017	\$ 30,000		0%	\$ -	100%	\$ 30,000	0%	\$ -	\$ -	\$ -	\$ -
	Sub-Total - Roads		\$ 763,614			\$ -		\$ 424,646		\$ 338,968	\$ 338,968	\$ -	\$ -
<u>SIDEWALKS</u>													
16th Avenue	N.S. Ninth Line to 285m westerly	2017 - 2017	\$ 17,225		0%	\$ -	100%	\$ 17,225	0%	\$ -	\$ -	\$ -	\$ -
	Sub-Total - Sidewalks		\$ 17,225			\$ -		\$ 17,225		\$ -	\$ -	\$ -	\$ -
<u>WATER</u>													
Realignment of PD 5 and PD 6		2017 - 2017	\$ 460,000		0%	\$ -	20%	\$ 90,868	80%	\$ 369,132	\$ 369,132	\$ -	\$ -
Sixteenth Avenue East	Mintleaf Gate to 9th Line	2017 - 2017	\$ 1,000,000		0%	\$ -	39%	\$ 387,100	61%	\$ 612,900	\$ 612,900	\$ -	\$ -
	Sub-Total - Water		\$ 1,460,000			\$ -		\$ 477,968		\$ 982,032	\$ 982,032	\$ -	\$ -
	SUBTOTAL by Credit Agreement		\$ 2,240,839			\$ -		\$ 919,838		\$ 1,321,001	\$ 1,321,001	\$ -	\$ -
PROJECTS undertaken by CREDIT AGREEMENT Phase II													
<u>ROADS</u>													
North Collector Road, construction	Anderson Ave. / C.N.R.	2017 - 2017	\$ 1,055,884		0%	\$ -	100%	\$ 1,055,884	0%	\$ -	\$ -	\$ -	\$ -
North Collector Road, construction	C.N.R. at Grade Crossing	2017 - 2017	\$ 573,549		0%	\$ -	100%	\$ 573,549	0%	\$ -	\$ -	\$ -	\$ -
North Collector Road (Property)	23m Right of Way	2017 - 2017	\$ 506,094		0%	\$ -	100%	\$ 506,094	0%	\$ -	\$ -	\$ -	\$ -
	Sub-Total - Roads		\$ 2,135,527			\$ -		\$ 2,135,527		\$ -	\$ -	\$ -	\$ -
	SUBTOTAL by Credit Agreement - 43		\$ 4,376,366			\$ -		\$ 3,055,365		\$ 1,321,001	\$ 1,321,001	\$ -	\$ -
11.2 PROJECTS undertaken by CREDIT AGREEMENT 45b													
<u>WATER</u>													
Realignment of PD 5 and PD 6		2017 - 2017	\$ 460,000		0%	\$ -	21%	\$ 95,899	79%	\$ 364,101	\$ 364,101	\$ -	\$ -
Kennedy Road (400mm)	16th Ave. to Major Mackenzie Dr.	2017 - 2017	\$ 711,258		0%	\$ -	43%	\$ 302,794	57%	\$ 408,464	\$ 408,464	\$ -	\$ -
	Sub-Total - Water		\$ 1,171,258			\$ -		\$ 398,692		\$ 772,565	\$ 772,565	\$ -	\$ -
	SUBTOTAL by Credit Agreement - 45B		\$ 1,171,258			\$ -		\$ 398,692		\$ 772,565	\$ 772,565	\$ -	\$ -
TOTAL CREDIT AGREEMENT			\$ 5,989,298			\$ -		\$ 3,895,732		\$ 2,093,566	\$ 2,093,566	\$ -	\$ -
TOTAL CITY WIDE HARD (After Credit Agreements)			\$ 1,482,316,992			\$ 394,895,778		\$ 940,399,365		\$ 41,051,898	\$ 5,433,841	\$ 35,618,057	\$ 105,969,950

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TABLE 4

CITY OF MARKHAM
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
CITY-WIDE ENGINEERING
RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

CITY-WIDE ENGINEERING	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
OPENING CASH BALANCE	\$38,048.2	\$31,425.0	\$24,980.6	\$15,858.5	(\$19,381.3)	(\$39,806.2)	(\$53,652.2)	(\$81,471.3)	(\$70,655.6)	(\$80,744.5)
2017- 2031 RESIDENTIAL FUNDING REQUIREMENTS										
- City-Wide Engineering: Non Inflated	\$40,637.7	\$40,888.8	\$43,870.3	\$68,190.0	\$53,626.5	\$47,373.1	\$59,486.3	\$25,848.2	\$45,033.9	\$35,581.5
- City-Wide Engineering: Inflated	\$40,637.7	\$41,706.6	\$45,642.6	\$72,363.8	\$58,047.1	\$52,303.7	\$66,991.2	\$29,691.5	\$52,764.4	\$42,523.2
NEW RESIDENTIAL DEVELOPMENT										
- Population Growth in New Units	6,748	6,911	7,081	7,254	7,430	7,610	7,794	7,987	8,181	8,379
REVENUE										
- DC Receipts: Inflated	\$32,895.8	\$34,364.2	\$35,913.7	\$37,527.0	\$39,206.2	\$40,959.2	\$42,788.5	\$44,725.0	\$46,727.6	\$48,815.7
INTEREST										
- Interest on Opening Balance	\$1,331.7	\$1,099.9	\$874.3	\$555.0	(\$1,066.0)	(\$2,189.3)	(\$2,950.9)	(\$4,480.9)	(\$3,886.1)	(\$4,441.0)
- Interest on In-year Transactions	(\$212.9)	(\$201.9)	(\$267.5)	(\$958.0)	(\$518.1)	(\$312.0)	(\$665.6)	\$263.1	(\$166.0)	\$110.1
TOTAL REVENUE	\$34,014.6	\$35,262.2	\$36,520.5	\$37,124.0	\$37,622.1	\$38,457.8	\$39,172.0	\$40,507.2	\$42,675.5	\$44,484.8
CLOSING CASH BALANCE	\$31,425.0	\$24,980.6	\$15,858.5	(\$19,381.3)	(\$39,806.2)	(\$53,652.2)	(\$81,471.3)	(\$70,655.6)	(\$80,744.5)	(\$78,782.9)

CITY-WIDE ENGINEERING	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	(\$78,782.9)	(\$74,124.1)	(\$49,083.4)	(\$44,263.3)	(\$46,392.1)	
2017- 2031 RESIDENTIAL FUNDING REQUIREMENTS						
- City-Wide Engineering: Non Inflated	\$34,591.7	\$19,859.3	\$38,085.9	\$44,748.5	\$9,599.7	\$607,421.4
- City-Wide Engineering: Inflated	\$42,167.1	\$24,692.5	\$48,302.1	\$57,886.9	\$12,666.7	\$688,387.1
NEW RESIDENTIAL DEVELOPMENT						
- Population Growth in New Units	8,583	8,795	9,008	9,227	9,448	120,436
REVENUE						
- DC Receipts: Inflated	\$51,004.2	\$53,309.3	\$55,692.4	\$58,187.3	\$60,772.6	\$682,888.7
INTEREST						
- Interest on Opening Balance	(\$4,333.1)	(\$4,076.8)	(\$2,699.6)	(\$2,434.5)	(\$2,551.6)	(\$31,248.7)
- Interest on In-year Transactions	\$154.7	\$500.8	\$129.3	\$5.3	\$841.9	(\$1,297.0)
TOTAL REVENUE	\$46,825.8	\$49,733.3	\$53,122.1	\$55,758.1	\$59,062.9	\$650,343.0
CLOSING CASH BALANCE	(\$74,124.1)	(\$49,083.4)	(\$44,263.3)	(\$46,392.1)	\$4.1	

2017 Adjusted Charge Per Capita	\$4,874.90
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Allocation of Capital Program	
Residential Sector	64.6%
Non-Residential Sector	35.4%
Rates for 2013	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

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APPENDIX C
TABLE 4

CITY OF MARKHAM
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
CITY-WIDE ENGINEERING
RETAIL NON-RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

CITY-WIDE ENGINEERING	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
OPENING CASH BALANCE	\$5,405.5	\$4,596.7	\$3,804.1	\$2,618.0	(\$2,292.7)	(\$5,104.8)	(\$6,997.4)	(\$10,893.7)	(\$9,325.2)	(\$10,751.8)
2013- 2031 RESIDENTIAL FUNDING REQUIREMENTS										
- City-Wide Engineering: Non Inflated	\$5,773.4	\$5,809.1	\$6,232.6	\$9,687.7	\$7,618.7	\$6,730.3	\$8,451.2	\$3,672.3	\$6,398.0	\$5,055.1
- City-Wide Engineering: Inflated	\$5,773.4	\$5,925.2	\$6,484.4	\$10,280.7	\$8,246.7	\$7,430.8	\$9,517.4	\$4,218.3	\$7,496.2	\$6,041.3
NEW RETAIL NON-RESIDENTIAL DEVELOPMENT										
- Growth in Square Metres	38,483	39,262	40,058	40,871	41,701	42,549	43,408	44,291	45,190	46,107
REVENUE										
- DC Receipts: Inflated	\$4,802.1	\$4,997.3	\$5,200.6	\$5,412.2	\$5,632.6	\$5,862.1	\$6,100.0	\$6,348.6	\$6,607.0	\$6,875.9
INTEREST										
- Interest on Opening Balance	\$189.2	\$160.9	\$133.1	\$91.6	(\$126.1)	(\$280.8)	(\$384.9)	(\$599.2)	(\$512.9)	(\$591.3)
- Interest on In-year Transactions	(\$26.7)	(\$25.5)	(\$35.3)	(\$133.9)	(\$71.9)	(\$43.1)	(\$94.0)	\$37.3	(\$24.5)	\$14.6
TOTAL REVENUE	\$4,964.6	\$5,132.6	\$5,298.4	\$5,370.0	\$5,434.6	\$5,538.2	\$5,621.2	\$5,786.7	\$6,069.7	\$6,299.2
CLOSING CASH BALANCE	\$4,596.7	\$3,804.1	\$2,618.0	(\$2,292.7)	(\$5,104.8)	(\$6,997.4)	(\$10,893.7)	(\$9,325.2)	(\$10,751.8)	(\$10,493.9)

CITY-WIDE ENGINEERING	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	(\$10,493.9)	(\$9,885.7)	(\$6,422.3)	(\$5,872.7)	(\$6,359.4)	
2013- 2031 RESIDENTIAL FUNDING REQUIREMENTS						
- City-Wide Engineering: Non Inflated	\$4,914.4	\$2,821.4	\$5,410.9	\$6,357.4	\$1,363.8	\$86,296.3
- City-Wide Engineering: Inflated	\$5,990.7	\$3,508.1	\$6,862.3	\$8,224.0	\$1,799.5	\$97,799.0
NEW RETAIL NON-RESIDENTIAL DEVELOPMENT						
- Growth in Square Metres	47,042.00	47,993.00	48,968.00	49,960.00	50,980.00	666,863
REVENUE						
- DC Receipts: Inflated	\$7,155.6	\$7,446.3	\$7,749.5	\$8,064.7	\$8,393.9	\$96,648.4
INTEREST						
- Interest on Opening Balance	(\$577.2)	(\$543.7)	(\$353.2)	(\$323.0)	(\$349.8)	(\$4,067.1)
- Interest on In-year Transactions	\$20.4	\$68.9	\$15.5	(\$4.4)	\$115.4	(\$187.1)
TOTAL REVENUE	\$6,598.9	\$6,971.5	\$7,411.8	\$7,737.3	\$8,159.5	\$92,394.1
CLOSING CASH BALANCE	(\$9,885.7)	(\$6,422.3)	(\$5,872.7)	(\$6,359.4)	\$0.6	

2017 Adjusted Charge Per Sq.M.	\$124.78
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Allocation of Capital Program	
Retail Sector	9.2%
Industrial/Office/Institutional	26.0%
Mixed-Use	0.2%
Rates for 2013	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

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TABLE 4

CITY OF MARKHAM
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
CITY-WIDE ENGINEERING
INDUSTRIAL/OFFICE/INSTITUTIONAL NON-RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

CITY-WIDE ENGINEERING	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
OPENING CASH BALANCE	\$15,313.3	\$12,714.2	\$10,173.1	\$6,548.8	(\$7,597.0)	(\$15,783.8)	(\$21,339.0)	(\$32,518.7)	(\$28,160.3)	(\$32,230.3)
2013- 2031 RESIDENTIAL FUNDING REQUIREMENTS										
- City-Wide Engineering: Non Inflated	\$16,355.5	\$16,456.5	\$17,656.5	\$27,444.5	\$21,583.1	\$19,066.3	\$23,941.4	\$10,403.1	\$18,124.8	\$14,320.5
- City-Wide Engineering: Inflated	\$16,355.5	\$16,785.7	\$18,369.8	\$29,124.3	\$23,362.2	\$21,050.7	\$26,962.0	\$11,949.9	\$21,236.1	\$17,114.3
NEW INDUSTRIAL/OFFICE/INSTITUTIONAL NON-RESIDENTIAL DEVELOPMENT										
- Growth in Square Metres	139,580	142,758	146,175	149,617	153,150	156,683	160,455	164,318	168,182	172,162
REVENUE										
- DC Receipts: Inflated	\$13,304.4	\$13,879.5	\$14,495.9	\$15,134.0	\$15,801.2	\$16,489.0	\$17,223.7	\$17,991.1	\$18,782.5	\$19,611.5
INTEREST										
- Interest on Opening Balance	\$536.0	\$445.0	\$356.1	\$229.2	(\$417.8)	(\$868.1)	(\$1,173.6)	(\$1,788.5)	(\$1,548.8)	(\$1,772.7)
- Interest on In-year Transactions	(\$83.9)	(\$79.9)	(\$106.5)	(\$384.7)	(\$207.9)	(\$125.4)	(\$267.8)	\$105.7	(\$67.5)	\$43.7
TOTAL REVENUE	\$13,756.5	\$14,244.5	\$14,745.4	\$14,978.5	\$15,175.4	\$15,495.5	\$15,782.3	\$16,308.3	\$17,166.2	\$17,882.5
CLOSING CASH BALANCE	\$12,714.2	\$10,173.1	\$6,548.8	(\$7,597.0)	(\$15,783.8)	(\$21,339.0)	(\$32,518.7)	(\$28,160.3)	(\$32,230.3)	(\$31,462.0)

CITY-WIDE ENGINEERING	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	(\$31,462.0)	(\$29,610.9)	(\$19,576.2)	(\$17,684.2)	(\$18,590.9)	
2013- 2031 RESIDENTIAL FUNDING REQUIREMENTS						
- City-Wide Engineering: Non Inflated	\$13,922.1	\$7,992.8	\$15,328.4	\$18,009.9	\$3,863.6	\$244,469.0
- City-Wide Engineering: Inflated	\$16,971.0	\$9,938.0	\$19,440.1	\$23,297.7	\$5,097.9	\$277,055.2
NEW INDUSTRIAL/OFFICE/INSTITUTIONAL NON-RESIDENTIAL DEVELOPMENT						
- Growth in Square Metres	176,355.00	180,573.00	184,950.00	189,473.00	193,812.00	2,478,243
REVENUE						
- DC Receipts: Inflated	\$20,490.9	\$21,400.6	\$22,357.8	\$23,362.6	\$24,375.6	\$274,700.4
INTEREST						
- Interest on Opening Balance	(\$1,730.4)	(\$1,628.6)	(\$1,076.7)	(\$972.6)	(\$1,022.5)	(\$12,434.2)
- Interest on In-year Transactions	\$61.6	\$200.6	\$51.1	\$1.1	\$337.4	(\$522.6)
TOTAL REVENUE	\$18,822.1	\$19,972.6	\$21,332.1	\$22,391.1	\$23,690.5	\$261,743.6
CLOSING CASH BALANCE	(\$29,610.9)	(\$19,576.2)	(\$17,684.2)	(\$18,590.9)	\$1.7	

2017 Adjusted Charge Per Sq.M.	\$95.32
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Allocation of Capital Program	
Retail Sector	9.2%
Industrial/Office/Institutional	26.0%
Mixed-Use	0.2%
Rates for 2013	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

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APPENDIX C
TABLE 4

CITY OF MARKHAM
CASHFLOW AND DETERMINATION OF DEVELOPMENT CHARGE
CITY-WIDE ENGINEERING
MIXED-USE NON-RESIDENTIAL DEVELOPMENT CHARGE
(in \$000)

CITY-WIDE ENGINEERING	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
OPENING CASH BALANCE	\$138.6	\$117.8	\$97.5	\$67.1	(\$58.8)	(\$130.9)	(\$179.5)	(\$279.3)	(\$239.1)	(\$275.7)
2013- 2031 RESIDENTIAL FUNDING REQUIREMENTS										
- City-Wide Engineering: Non Inflated	\$148.0	\$149.0	\$159.8	\$248.4	\$195.4	\$172.6	\$216.7	\$94.2	\$164.1	\$129.6
- City-Wide Engineering: Inflated	\$148.0	\$151.9	\$166.3	\$263.6	\$211.5	\$190.5	\$244.0	\$108.2	\$192.2	\$154.9
NEW MIXED-USE NON-RESIDENTIAL DEVELOPMENT										
- Growth in Square Metres	2,025	2,066	2,108	2,151	2,195	2,239	2,285	2,331	2,378	2,427
REVENUE										
- DC Receipts: Inflated	\$123.1	\$128.1	\$133.3	\$138.8	\$144.4	\$150.3	\$156.4	\$162.8	\$169.4	\$176.3
INTEREST										
- Interest on Opening Balance	\$4.9	\$4.1	\$3.4	\$2.3	(\$3.2)	(\$7.2)	(\$9.9)	(\$15.4)	(\$13.2)	(\$15.2)
- Interest on In-year Transactions	(\$0.7)	(\$0.7)	(\$0.9)	(\$3.4)	(\$1.8)	(\$1.1)	(\$2.4)	\$1.0	(\$0.6)	\$0.4
TOTAL REVENUE	\$127.3	\$131.6	\$135.8	\$137.7	\$139.4	\$142.0	\$144.2	\$148.4	\$155.6	\$161.5
CLOSING CASH BALANCE	\$117.8	\$97.5	\$67.1	(\$58.8)	(\$130.9)	(\$179.5)	(\$279.3)	(\$239.1)	(\$275.7)	(\$269.1)

CITY-WIDE ENGINEERING	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	(\$269.1)	(\$253.5)	(\$164.6)	(\$150.6)	(\$163.1)	
2013- 2031 RESIDENTIAL FUNDING REQUIREMENTS						
- City-Wide Engineering: Non Inflated	\$126.0	\$72.3	\$138.7	\$163.0	\$35.0	\$2,212.7
- City-Wide Engineering: Inflated	\$153.6	\$90.0	\$176.0	\$210.9	\$46.1	\$2,507.7
NEW MIXED-USE NON-RESIDENTIAL DEVELOPMENT						
- Growth in Square Metres	2,476.00	2,526.00	2,577.00	2,629.00	2,683.00	35,096
REVENUE						
- DC Receipts: Inflated	\$183.5	\$190.9	\$198.7	\$206.8	\$215.2	\$2,478.2
INTEREST						
- Interest on Opening Balance	(\$14.8)	(\$13.9)	(\$9.1)	(\$8.3)	(\$9.0)	(\$104.3)
- Interest on In-year Transactions	\$0.5	\$1.8	\$0.4	(\$0.1)	\$3.0	(\$4.8)
TOTAL REVENUE	\$169.2	\$178.8	\$190.0	\$198.4	\$209.2	\$2,369.1
CLOSING CASH BALANCE	(\$253.5)	(\$164.6)	(\$150.6)	(\$163.1)	\$0.0	

2017 Adjusted Charge Per Sq.M.	\$60.80
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Allocation of Capital Program	
Retail Sector	9.2%
Industrial/Office/Institutional	26.0%
Mixed-Use	0.2%
Rates for 2013	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

APPENDIX D

***AREA-SPECIFIC
TECHNICAL APPENDIX***

APPENDIX D

AREA-SPECIFIC HARD SERVICES DEVELOPMENT-RELATED CAPITAL FORECAST AND DEVELOPMENT CHARGES CALCULATION

This appendix provides an overview of the area-specific development-related capital forecast and development charges calculation. The area-specific charges recover primarily for the following services:

- roads;
- sanitary sewers;
- storm water management;
- special projects (mainly streetscaping);
- intersection improvements;
- structures;
- property acquisitions;
- projects undertaken by credit agreement;
- sidewalks;
- water; and
- studies.

In some situations, the area-specific charges will continue to recover for some outstanding costs for projects undertaken through credit agreements with various landowners. In addition, in a few specific areas, the charges will recover for other project costs not transferred to the City-wide hard calculations.

As permitted under the *Development Charges Act, 1997 (DCA)*, the area-specific services are planned for the period from 2017-2031 so that the development-related capital costs are apportioned over the development anticipated within the City's designated urban boundary and Future Urban Area (FUA). Consistent with s. 5.(1)7 of the *DCA*, there is no legislated percentage reduction in the eligible development-related capital costs for the provision of these services.

Map 1 shows a schematic representation of the area-specific service areas that have been identified in the City. The areas recommended in this study are as follows:

- Area 1B – Yonge Steeles Corridor
- Area 5 – Armadale
- Area 7 – Armadale NE
- Area 9 – PD 1-7
- Area 17 – Rodick/Miller Road Planning District

- Area 18 – Buttonville Airport
- Area 23 – Mount Joy
- Area 42A.1 – Markham Centre – South Unionville – Helen Ave
- Area 42B – Markham Centre
- Area 42B.2 – Markham Centre – Clegg
- Area 42B.4 – Markham Centre – Hotel
- Area 42B.6 – Markham Centre – South Hwy 7
- Area 42B.8 – Markham Centre – Sciberras
- Area 42B.9 – Markham Centre – East Precinct
- Area 46 – Cathedral
- Area 47B – York Downs
- Area 49 – 404 North
- Area 50A – Future Urban Area
- Area 50A.2 – Future Urban Area – Robinson Glen

These areas represent a reasonable basis on which to calculate the area-specific development charges so that the costs are fairly attributed to the areas that will benefit from them. In general, the areas represent development communities that can be serviced relatively independently of one another. The development-related net capital costs to provide services are allocated to the development area. In a number of cases, however, projects and related project costs are shared between development areas, and the costs are apportioned between these areas.

The cost, quantum and timing of the projects identified in the forecast have been provided by the Engineering Department based on estimates prepared by City staff and various consulting engineers. The estimates include provisions for engineering and contingencies.

A. AREA-SPECIFIC CAPITAL COSTS

Table 1 provides a summary of the development-related capital program for area-specific services. Many of the area-specific projects provide benefits to multiple areas, including other area-specific areas and the broader City-wide benefitting area. In addition, an internal component is identified for some of the projects, reflecting the cost that a development would have to pay to provide for required local servicing for a particular subdivision. The City will continue to require these contributions through the normal subdivision process, but excluding them from the development charges calculation ensures that only the oversized portion of costs is shared by other developments. A further share of some projects is identified as a non-growth or benefit to existing share to be funded from other municipal revenue sources.

As shown in Table 1, the servicing costs vary significantly by development area. This underscores the merit of utilizing an area-specific approach for these services.




Of the all the projects included in the area-specific calculations, \$78.01 million, is identified as area-specific development-related and forms the basis for the area-specific development charges calculations.

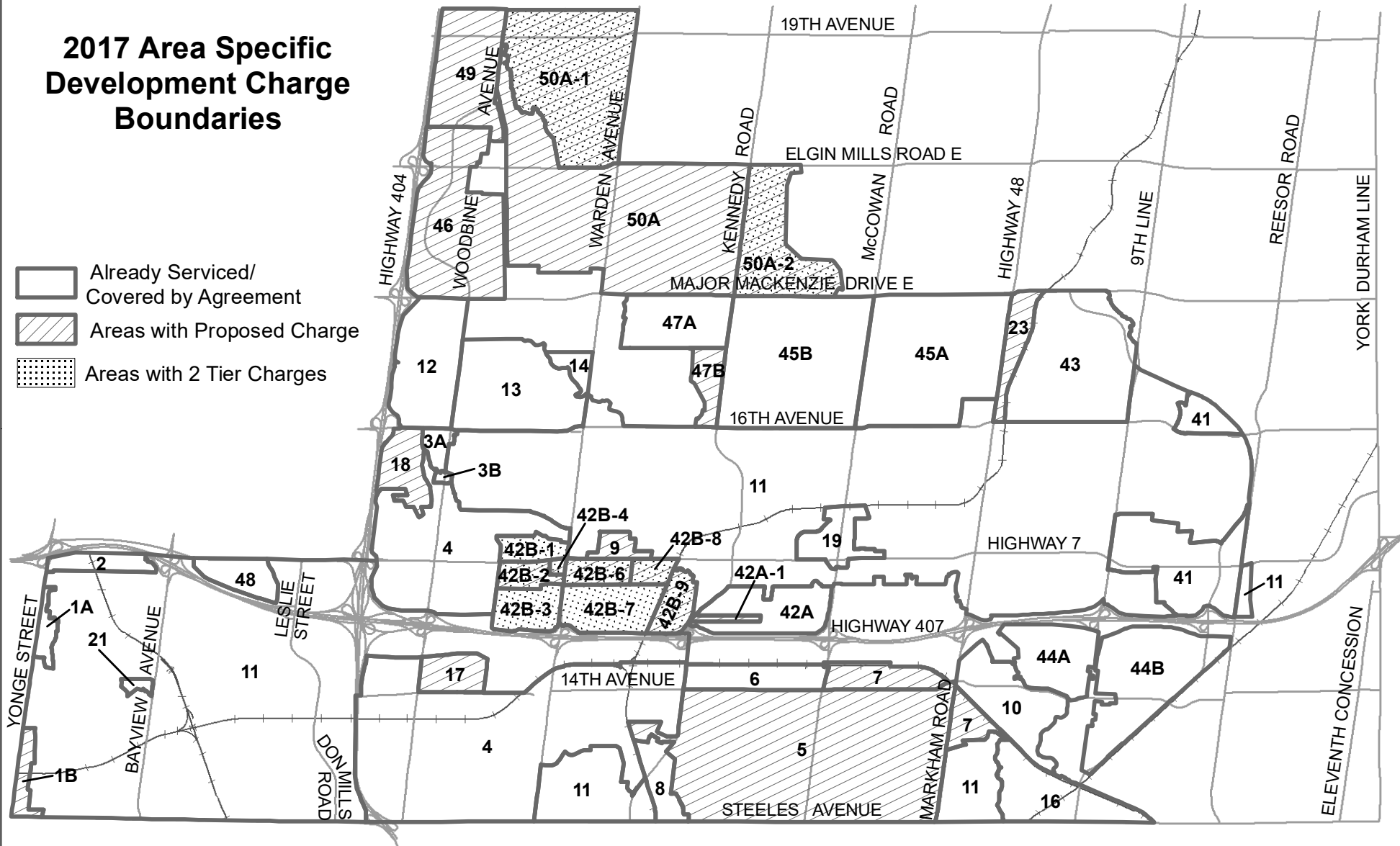
In total, there is an available reserve fund balance of \$1.61 million for all area-specific charges which is applied against the ASDC capital programs. Agreement credits in the sum of \$6.50 million have been removed from the total eligible costs included for recovery in the ASDC calculation. In addition, a further \$0.69 million in projects already funded from reserves have also been removed.

The City's intention is to continue to calculate and collect the area-specific development charges on the basis of net developable land area. As shown in Table 1, the calculated charges range from a low of about \$600 per net hectare to a high of about \$1.47 million per net hectare. This reflects the differing servicing costs associated with the various areas as well as the secured financing already approved by the City for some of the areas.

Table 2 shows the details of the ASDC calculations, allocations and costs for each service area.

2017 Area Specific Development Charge Boundaries

-  Already Serviced/
Covered by Agreement
-  Areas with Proposed Charge
-  Areas with 2 Tier Charges



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APPENDIX D
TABLE 1

**CITY OF MARKHAM
SUMMARY OF AREA-SPECIFIC DEVELOPMENT CHARGES
FOR AREA-SPECIFIC SERVICES 2017-2031**

Area Name	Area	Growth-Related Costs	Adjustments			Total ASDC Recoverable	Land Area (Ha)	ASDC Charge \$/ha
			Reserve Fund Balance	Credits in Agreement	Projects Funded From Reserve			
Yonge Steeles Corridor	1B	\$11,393,976	\$0	\$0	\$0	\$11,393,976	9.070	\$1,256,227
Armadale	5	\$1,213,831	\$596,924	\$293,988	\$0	\$322,919	27.612	\$11,695
Armadale NE	7	\$521,486	\$74,102	\$0	\$0	\$447,384	26.684	\$16,766
PD 1-7	9	\$7,565,306	(\$270,237)	\$2,146,378	\$0	\$5,689,165	4.478	\$1,270,583
Rodick/Miller Road Planning District	17	\$17,396,302	(\$182,057)	\$0	\$0	\$17,578,359	28.669	\$613,149
Buttonville Airport	18	\$8,121,000	(\$4,034)	\$0	\$0	\$8,125,034	53.000	\$153,303
Mount Joy	23	\$2,598,076	\$51,500	\$0	\$0	\$2,546,576	15.274	\$166,726
Markham Centre - South Unionville - Helen Ave	42A.1	\$3,137,837	\$307,935	\$1,787,453	\$691,311	\$351,138	2.164	\$162,264
Markham Centre	42B	\$881,933	\$39,894	\$0	\$0	\$842,039	107.613	\$7,825
Markham Centre - Clegg	42B.2	\$504,473	(\$345,443)	\$0	\$0	\$849,916	5.223	\$162,726
Markham Centre - Hotel	42B.4	\$424,385	(\$20,300)	\$0	\$0	\$444,685	0.500	\$889,370
Markham Centre - South Hwy 7	42B.6	\$10,582,519	\$602,507	\$1,985,716	\$0	\$7,994,296	6.199	\$1,289,611
Markham Centre - Sciberras	42B.8	\$6,400,392	(\$647,591)	\$0	\$0	\$7,047,983	4.799	\$1,468,636
Markham Centre - East Precinct	42B.9	\$3,125,352	\$1,124,354	\$0	\$0	\$2,000,998	8.563	\$233,680
Cathedral	46	\$1,041,155	\$121,896	\$290,350	\$0	\$628,909	62.033	\$10,138
York Downs	47B	\$502,681	\$65,652	\$0	\$0	\$437,029	17.949	\$24,348
404 North	49	\$3,720,909	\$97,581	\$0	\$0	\$3,623,328	58.453	\$61,987
Future Urban Area	50A	\$7,587,159	\$0	\$0	\$0	\$7,587,159	585.810	\$12,952
Future Urban Area - Robinson Glen	50A-2	\$100,000	\$0	\$0	\$0	\$100,000	165.740	\$603
Total		\$86,818,772	\$1,612,683	\$6,503,885	\$691,311	\$78,010,893		

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APPENDIX D
TABLE 2

CITY OF MARKHAM
2017 DEVELOPMENT CHARGES BACKGROUND STUDY
AREA-SPECIFIC GROWTH-RELATED PROJECTS
AREA 1B : YONGE STEELES CORRIDOR

Project Description		Total	Local Cost / by others		ASDC Development - Related		Others Sharing and/or Non-Growth Cost		
Location	From / To	Gross Cost (\$)	Share (%)	Cost (\$)	Share (%)	Cost (\$)	Gross (\$)	Other Costs (\$)	Non-growth (\$)
AREA 1B : YONGE STEELES CORRIDOR									
1.0 ROADS									
1.1	Dudley Avenue Ring Road	\$ 8,719,150	0%	\$ -	100%	\$ 8,719,150	\$ -	\$ -	\$ -
	Sub-Total - Roads	\$ 8,719,150		\$ -		\$ 8,719,150	\$ -	\$ -	\$ -
2.0 SANITARY									
2.1	Yonge / Steeles Corridor	\$ 2,674,826	0%	\$ -	100%	\$ 2,674,826	\$ -	\$ -	\$ -
	Sub-Total - Sanitary	\$ 2,674,826		\$ -		\$ 2,674,826	\$ -	\$ -	\$ -
	SUB-TOTAL AREA 1B	\$ 11,393,976		\$ -		\$ 11,393,976	\$ -	\$ -	\$ -
3.0 PROJECTS undertaken by CREDIT AGREEMENT									
3.1	Not Applicable	\$ -		\$ -		\$ -	\$ -	\$ -	\$ -
	SUB-TOTAL by Credit Agreement	\$ -		\$ -		\$ -	\$ -	\$ -	\$ -
	TOTAL AREA 1B	\$ 11,393,976		\$ -		\$ 11,393,976	\$ -	\$ -	\$ -
Less: Balance in Reserve Fund as December 31, 2016						\$ -			
Less: Projects Funded from Reserve						\$ -			
Total Development-Related Recoverable Costs						\$ 11,393,976			
Net Developable Area (Ha.) to Pay New Dev Charge						9.070			
Development Charge per Net Hectare						\$ 1,256,227			

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TABLE 2

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA-SPECIFIC GROWTH-RELATED PROJECTS
AREA 5 : ARMADALE

Project Description		Total	Local Cost / by others		ASDC Development - Related		Others Sharing and/or Non-Growth Cost		
Location	From / To	Gross Cost (\$)	Share (%)	Cost (\$)	Share (%)	Cost (\$)	Gross (\$)	Other Costs (\$)	Non-growth (\$)
AREA 5 : ARMADALE									
1.0 STORM WATER MANAGEMENT									
1.1 Armadale SWM S Pond	SWM E of Hwy 48 pt lot 1 Con. 8	\$ 374,917		\$ -	62%	\$ 233,831	\$ 141,086	\$ 141,086	\$ -
	Sub-Total - Stormwater Management	\$ 374,917		\$ -		\$ 233,831	\$ 141,086	\$ 141,086	\$ -
	SUB-TOTAL AREA 5	\$ 374,917		\$ -		\$ 233,831	\$ 141,086	\$ 141,086	\$ -
2.0 PROJECTS undertaken by CREDIT AGREEMENT									
STORM WATER MANAGEMENT									
2.1 Armadale SWM N Pond	SWM E of Hwy 48 Pt Lot 3 Con 8	\$ 5,676,382	56%	\$ 3,156,233	17%	\$ 980,000	\$ 1,540,149	\$ 1,540,149	\$ -
	Sub-Total - Stormwater Management	\$ 5,676,382		\$ 3,156,233		\$ 980,000	\$ 1,540,149	\$ 1,540,149	\$ -
	SUB-TOTAL by Credit Agreement	\$ 5,676,382		\$ 3,156,233		\$ 980,000	\$ 1,540,149	\$ 1,540,149	\$ -
	TOTAL AREA 5	\$ 6,051,299		\$ 3,156,233		\$ 1,213,831	\$ 1,681,235	\$ 1,681,235	\$ -
Less: Balance in Reserve Fund as December 31, 2016						\$ (596,924)			
Less: Credit as per Agreement						\$ (293,988)			
Less: Projects Funded from Reserve						\$ -			
Total Development-Related Recoverable Costs						\$ 322,919			
Net Developable Area (Ha.) to Pay New Dev Charge						27.612			
Development Charge per Net Hectare						\$ 11,695			

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TABLE 2

**CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA-SPECIFIC GROWTH-RELATED PROJECTS
AREA 7 : ARMADALE NE**

Project Description		Total	Local Cost / by others		ASDC Development - Related		Others Sharing and/or Non-Growth Cost		
Location	From / To	Gross Cost (\$)	Share (%)	Cost (\$)	Share (%)	Cost (\$)	Gross (\$)	Other Costs (\$)	Non-growth (\$)
AREA 7 : ARMADALE NE									
1.0 STORM WATER MANAGEMENT									
1.1 Armadale SWM N Pond	SWM E of Hwy 48 Pt Lot 3 Con 8	\$ 5,676,382	8%	\$ 467,835	9%	\$ 521,486	\$ 4,687,061	\$ 4,687,061	\$ -
	Sub-Total - Stormwater Management	\$ 5,676,382		\$ 467,835		\$ 521,486	\$ 4,687,061	\$ 4,687,061	\$ -
	SUB-TOTAL AREA 7	\$ 5,676,382		\$ 467,835		\$ 521,486	\$ 4,687,061	\$ 4,687,061	\$ -
2.0 PROJECTS undertaken by CREDIT AGREEMENT									
	Not Applicable	\$ -		\$ -		\$ -	\$ -	\$ -	\$ -
	SUB-TOTAL by Credit Agreement	\$ -		\$ -		\$ -	\$ -	\$ -	\$ -
	TOTAL AREA 7	\$ 5,676,382		\$ 467,835		\$ 521,486	\$ 4,687,061	\$ 4,687,061	\$ -
Less: Balance in Reserve Fund as December 31, 2016						\$ (74,102)			
Less: Credit as per Agreement						\$ -			
Less: Projects Funded from Reserve						\$ -			
Total Development-Related Recoverable Costs						\$ 447,384			
Net Developable Area (Ha.) to Pay New Dev Charge						26.684			
Development Charge per Net Hectare						\$ 16,766			

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA-SPECIFIC GROWTH-RELATED PROJECTS
AREA 9 : PD 1-7 (REFERENCE TO MARKHAM CENTRE SUB-AREA 5)

Project Description		Total	Local Cost / by others		ASDC Development - Related		Others Sharing and/or Non-Growth Cost		
Location	From / To	Gross Cost (\$)	Share (%)	Cost (\$)	Share (%)	Cost (\$)	Gross (\$)	Other Costs (\$)	Non-growth (\$)
AREA 9 : PD 1-7 (REFERENCE TO MARKHAM CENTRE SUB-AREA 5)									
1.0 INTERSECTION									
1.1	Village Parkway	Roundabout	\$ 400,250	0%	\$ -	100%	\$ 400,250	\$ -	\$ -
		Sub-Total - Intersection	\$ 400,250		\$ -		\$ 400,250	\$ -	\$ -
2.0 ROADS									
2.1	Village Parkway	Southbound dedicated left turn lane @ hwy 7	\$ 44,553	0%	\$ -	100%	\$ 44,553	\$ -	\$ -
		Sub-Total - Roads	\$ 44,553		\$ -		\$ 44,553	\$ -	\$ -
3.0 STORM WATER MANAGEMENT									
3.1	Sheridan Pond (Construction)		\$ 1,582,964	0%	\$ -	67%	\$ 1,068,324	\$ 514,640	\$ 514,640
3.2	Highway 7 Storm Sewer	Village Pkwy to East of Street G	\$ 1,607,823	0%	\$ -	90%	\$ 1,440,520	\$ 167,303	\$ 167,303
3.3	Sheridan Storm Sewer	Highway 7 to Sheridan Pond	\$ 1,810,704	0%	\$ -	93%	\$ 1,681,787	\$ 128,917	\$ 128,917
		Sub-Total - Stormwater Management	\$ 5,001,491		\$ -		\$ 4,190,631	\$ 810,860	\$ 810,860
4.0 SANITARY SEWERS									
4.1	Highway 7 Sanitary Sewer	Village Parkway to Main Street Unionville	\$ 16,630,334	0%	\$ -	16%	\$ 2,604,128	\$ 14,026,206	\$ 14,026,206
4.2	Highway 7 Sanitary Sewer	Hwy 7 to YDSS	\$ 762,093	0%	\$ -	16%	\$ 119,335	\$ 642,758	\$ 642,758
		Sub-Total - Sanitary Sewers	\$ 17,392,427		\$ -		\$ 2,723,463	\$ 14,668,964	\$ 14,668,964
5.0 SPECIAL PROJECTS									
		STREETSCAPE							
5.1	Village Parkway	Dedicated Bike Lanes	\$ 206,409	0%	\$ -	100%	\$ 206,409	\$ -	\$ -
		Sub-Total - Special Projects	\$ 206,409		\$ -		\$ 206,409	\$ -	\$ -
SUBTOTAL AREA 9			\$ 23,045,130		\$ -		\$ 7,565,306	\$ 15,479,824	\$ 15,479,824
6.0 PROJECTS undertaken by CREDIT AGREEMENT									
6.1	Storm Water Management		\$ -			\$ (1,342,913)	\$ -	\$ -	\$ -
6.2	Sanitary Sewers		\$ -			\$ (803,465)	\$ -	\$ -	\$ -
		SUB-TOTAL by Credits Agreement	\$ -			\$ (2,146,378)	\$ -	\$ -	\$ -
TOTAL AREA 9			\$ 23,045,130			\$ 5,418,928	\$ 15,479,824	\$ 15,479,824	\$ -
Less: Balance in Reserve Fund as December 31, 2016						\$ 270,237			
Total Development-Related Recoverable Costs						\$ 5,689,165			
Net Developable Area (Ha.) to Pay New Dev Charge						4.4776			
Development Charge per Net Hectare						\$ 1,270,583			

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA-SPECIFIC GROWTH-RELATED PROJECTS
AREA 17 : RODICK ROAD / MILLER ROAD PLANNING DISTRICT

Project Description		Total	Local Cost / by others		ASDC Development - Related		Others Sharing and/or Non-Growth Cost			
Location	From / To	Gross Cost (\$)	Share (%)	Cost (\$)	Share (%)	Cost (\$)	Gross (\$)	Other Costs (\$)	Non-growth (\$)	
AREA 17 : RODICK ROAD / MILLER ROAD PLANNING DISTRICT										
1.0 STORM WATER MANAGEMENT										
1.1	Miller Avenue Storm	Woodbine to Rodick	\$ 2,060,408	0%	\$ -	52%	\$ 1,067,747	\$ 992,661	\$ 992,661	\$ -
1.2	Rodick Road Storm	Miller Avenue to 14th Avenue	\$ 1,860,024	0%	\$ -	52%	\$ 963,904	\$ 896,120	\$ 896,120	\$ -
1.3	Miller / Rodick SWM pond and Channel improvements		\$ 17,077,773	0%	\$ -	80%	\$ 13,740,426	\$ 3,337,348	\$ 3,337,348	\$ -
		Sub-Total - Stormwater Management	\$ 20,998,205		\$ -		\$ 15,772,076	\$ 5,226,129	\$ 5,226,129	\$ -
2.0 SANITARY SEWERS										
2.1	Miller Avenue Sanitary Sewer	Woodbine to Rodick	\$ 853,397	0%	\$ -	100%	\$ 853,397	\$ -	\$ -	\$ -
2.2	Rodick Road Sanitary Sewer	Miller Avenue to 14th Avenue	\$ 770,829	0%	\$ -	100%	\$ 770,829	\$ -	\$ -	\$ -
		Sub-Total - Sanitary Sewers	\$ 1,624,226		\$ -		\$ 1,624,226	\$ -	\$ -	\$ -
		SUB-TOTAL AREA 17	\$ 22,622,431		\$ -		\$ 17,396,302	\$ 5,226,129	\$ 5,226,129	\$ -
3.0 PROJECTS undertaken by CREDIT AGREEMENT										
3.1	Not Applicable		\$ -		\$ -		\$ -	\$ -	\$ -	\$ -
		SUB-TOTAL by Credit Agreement	\$ -		\$ -		\$ -	\$ -	\$ -	\$ -
		TOTAL AREA 17	\$ 22,622,431		\$ -		\$ 17,396,302	\$ 5,226,129	\$ 5,226,129	\$ -
Less: Balance in Reserve Fund as December 31, 2016							\$ 182,057			
Less: Credit as per Agreement							\$ -			
Less: Projects Funded from Reserve							\$ -			
Total Development-Related Recoverable Costs							\$ 17,578,359			
Net Developable Area (Ha.) to Pay New Dev Charge							28.669			
Development Charge per Net Hectare							\$ 613,149			

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CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA-SPECIFIC GROWTH-RELATED PROJECTS
AREA 18 : BUTTONVILLE AIRPORT

Project Description		Total	Local Cost / by others		ASDC Development - Related		Others Sharing and/or Non-Growth Cost		
Location	From / To	Gross Cost (\$)	Share (%)	Cost (\$)	Share (%)	Cost (\$)	Gross (\$)	Other Costs (\$)	Non-growth (\$)
AREA 18 : BUTTONVILLE AIRPORT									
1.0 STRUCTURES									
1.1	Hwy 404 Mid-Block crossing - Buttonville	\$ 20,363,000		\$ -	33%	\$ 6,787,667	\$ 13,334,000	\$ 13,334,000	\$ -
	Sub-Total - Structures	\$ 20,363,000		\$ -		\$ 6,787,667	\$ 13,334,000	\$ 13,334,000	\$ -
2.0 SANITARY									
2.1	Not Applicable			\$ -		\$ -	\$ -	\$ -	\$ -
	Sub-Total - Stormwater Management	\$ -	0%	\$ -		\$ -	\$ -	\$ -	\$ -
3.0 PROPERTY									
3.1	Hwy 404 Mid-Block crossing - Buttonville	\$ 4,000,000		\$ -	33%	\$ 1,333,333	\$ 2,666,667	\$ 2,666,667	\$ -
	Sub-Total - Property	\$ 4,000,000	0%	\$ -		\$ 1,333,333	\$ 2,666,667	\$ 2,666,667	\$ -
	SUB-TOTAL AREA 18	\$ 24,363,000		\$ -		\$ 8,121,000	\$ 16,000,667	\$ 16,000,667	\$ -
4.0 PROJECTS undertaken by CREDIT AGREEMENT									
4.1	Not Applicable	\$ -		\$ -		\$ -	\$ -	\$ -	\$ -
	SUB-TOTAL by Credit Agreement	\$ -		\$ -		\$ -	\$ -	\$ -	\$ -
	TOTAL AREA 18	\$ 24,363,000	0%	\$ -		\$ 8,121,000	\$ 16,000,667	\$ 16,000,667	\$ -
Less: Balance in Reserve Fund as December 31, 2016						\$ 4,034			
Less: Projects Funded from Reserve						\$ -			
Total Development-Related Recoverable Costs						\$ 8,125,034			
Net Developable Area (Ha.) to Pay New Dev Charge						53.000			
Development Charge per Net Hectare						\$ 153,303			

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TABLE 2

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA-SPECIFIC GROWTH-RELATED PROJECTS
AREA 23 : MOUNT JOY

Project Description		Total	Local Cost / by others		ASDC Development - Related		Others Sharing and/or Non-Growth Cost		
Location	From / To	Gross Cost (\$)	Share (%)	Cost (\$)	Share (%)	Cost (\$)	Gross (\$)	Other Costs (\$)	Non-growth (\$)
AREA 23 : MOUNT JOY									
1.0 STORM WATER MANAGEMENT									
1.1	East/West Storm Sewer to Mount Joy Pond	\$ 1,615,009	0%		50%	\$ 811,542	\$ 803,467	\$ 803,467	\$ -
	Sub-Total - Stormwater Management	\$ 1,615,009		\$ -		\$ 811,542	\$ 803,467	\$ 803,467	\$ -
2.0 SANITARY SEWERS									
2.1	Markham Road Corridor - Mount Joy	\$ 1,072,607	0%	\$ -	100%	\$ 1,072,607	\$ -	\$ -	\$ -
2.2	Highway 48 Relief Sewer Outlet to Wismer	\$ 2,470,335	0%		29%	\$ 713,927	\$ 1,756,408	\$ 1,756,408	\$ -
	Sub-Total - Sanitary Sewers	\$ 3,542,942		\$ -		\$ 1,786,534	\$ 1,756,408	\$ 1,756,408	\$ -
	SUB-TOTAL AREA 23	\$ 5,157,951	0%	\$ -		\$ 2,598,076	\$ 2,559,875	\$ 2,559,875	\$ -
3.0 PROJECTS undertaken by CREDIT AGREEMENT									
3.1	Not Applicable	\$ -		\$ -		\$ -	\$ -	\$ -	\$ -
	SUB-TOTAL by Credit Agreement	\$ -		\$ -		\$ -	\$ -	\$ -	\$ -
	TOTAL AREA 23	\$ 5,157,951		\$ -		\$ 2,598,076	\$ 2,559,875	\$ 2,559,875	\$ -
Less: Balance in Reserve Fund as December 31, 2016						\$ (51,500)			
Less: Credit as per Agreement						\$ -			
Less: Projects Funded from Reserve						\$ -			
Total Development-Related Recoverable Costs						\$ 2,546,576			
Net Developable Area (Ha.) to Pay New Dev Charge						15.274			
Development Charge per Net Hectare						\$ 166,726			

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA-SPECIFIC GROWTH-RELATED PROJECTS
AREA 42A-1 : HELEN AVENUE

Project Description		Total	Local Cost / by others		ASDC Development - Related		Others Sharing and/or Non-Growth Cost		
Location	From / To	Gross Cost (\$)	Share (%)	Cost (\$)	Share (%)	Cost (\$)	Gross (\$)	Other Costs (\$)	Non-growth (\$)
AREA 42A-1 : HELEN AVENUE									
1.0 ROADS									
1.1	Helen Ave. urbanize including sidewalk on N.S. Stage IV & V	\$ 958,638	0%	\$ -	100%	\$ 958,638	\$ -	\$ -	\$ -
1.2	Urbanize existing Helen Avenue (east of Kennedy Road)	\$ 220,240	0%	\$ -	83%	\$ 183,240	\$ 37,000	\$ -	\$ 37,000
1.3	Helen Avenue	\$ 47,558	0%	\$ -	100%	\$ 47,558	\$ -	\$ -	\$ -
	Sub-Total - Roads	\$ 1,226,436		\$ -		\$ 1,189,436	\$ 37,000	\$ -	\$ 37,000
2.0 STORM WATER MANAGEMENT									
2.1	Helen Local Storm sewer	\$ 484,693	34%	\$ 166,668	66%	\$ 318,025	\$ -	\$ -	\$ -
	Sub-Total - Stormwater Management	\$ 484,693		\$ 166,668		\$ 318,025	\$ -	\$ -	\$ -
3.0 SANITARY SEWERS									
3.1	Helen Avenue	\$ 222,400	0%	\$ -	62%	\$ 137,888	\$ 84,512	\$ 84,512	\$ -
3.2	Helen Avenue Sanitary	\$ 202,053	0%	\$ -	100%	\$ 202,053	\$ -	\$ -	\$ -
	Sub-Total - Sanitary Sewers	\$ 424,453	0%	\$ -		\$ 339,941	\$ 84,512	\$ 84,512	\$ -
	SUB-TOTAL AREA 42A.1	\$ 2,135,582		\$ 166,668		\$ 1,847,401	\$ 121,512	\$ 84,512	\$ 37,000
4.0 PROJECTS undertaken by CREDIT AGREEMENT									
4.1	Helen Avenue N.S. Relocation of existing poles	\$ 83,441		\$ -	100%	\$ 83,441	\$ -	\$ -	\$ -
4.2	Urbanize existing Helen Avenue including sidewalk on north side	\$ 652,724		\$ -	83%	\$ 543,063	\$ 109,661	\$ -	\$ 109,661
4.3	Helen Local Storm sewer Stages I, II & III	\$ 756,544	34%	\$ 260,147	66%	\$ 496,397	\$ -	\$ -	\$ -
4.4	Helen Avenue Sanitary East end to 697m westerly	\$ 281,787		\$ -	41%	\$ 115,835	\$ 165,952	\$ 165,952	\$ -
4.5	Existing Helen Avenue Watermain Looping	\$ 51,700		\$ -	100%	\$ 51,700	\$ -	\$ -	\$ -
	SUB-TOTAL by Credit Agreement	1,826,196		260,147		\$ 1,290,436	275,613	165,952	109,661
	TOTAL AREA 42A.1	\$ 3,961,777.74		\$ 426,815		\$ 3,137,837	\$ 397,125	\$ 250,464	\$ 146,661
Less: Balance in Reserve Fund as December 31, 2016						\$ (307,935)			
Less: Approved Credits						\$ (1,787,453)			
Less: Projects Funded from Reserve						\$ (691,311)			
Total Development-Related Recoverable Costs						\$ 351,138			
Net Developable Area (Ha.) to Pay New Dev Charge						2.16			
Development Charge per Net Hectare						\$ 162,264			

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TABLE 2

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA-SPECIFIC GROWTH-RELATED PROJECTS
AREA 42B.2 : MARKHAM CENTRE - CLEGG

Project Description		Total	Local Cost / by others		ASDC Development - Related		Others Sharing and/or Non-Growth Cost		
Location	From / To	Gross Cost (\$)	Share (%)	Cost (\$)	Share (%)	Cost (\$)	Gross (\$)	Other Costs (\$)	Non-growth (\$)
AREA 42B.2 : MARKHAM CENTRE - CLEGG									
1.0 ROADS									
1.1 Clegg Road Extension	Town Centre to Warden Ave	\$ 2,422,510	64%	\$ 1,538,614	21%	\$ 504,473	\$ 379,423	\$ 343,553	\$ 35,870
	Sub-Total - Roads	\$ 2,422,510		\$ 1,538,614		\$ 504,473	\$ 379,423	\$ 343,553	\$ 35,870
	SUB-TOTAL AREA 42B.2	\$ 2,422,510		\$ 1,538,614		\$ 504,473	\$ 379,423	\$ 343,553	\$ 35,870
2.0 PROJECTS undertaken by CREDIT AGREEMENT									
2.1 Not Applicable		\$ -		\$ -		\$ -	\$ -	\$ -	\$ -
	SUB-TOTAL by Credit Agreement	\$ -		\$ -		\$ -	\$ -	\$ -	\$ -
	TOTAL AREA 42B.2	\$ 2,422,510		\$ 1,538,614		\$ 504,473	\$ 379,423	\$ 343,553	\$ 35,870
Less: Balance in Reserve Fund as December 31, 2016						\$ 345,443			
Less: Credit as per Agreement						\$ -			
Less: Projects Funded from Reserve						\$ -			
Total Development-Related Recoverable Costs						\$ 849,916			
Net Developable Area (Ha.) to Pay New Dev Charge						5.223			
Development Charge per Net Hectare						\$ 162,726			

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TABLE 2

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA-SPECIFIC GROWTH-RELATED PROJECTS
AREA 42B.4 : MARKHAM CENTRE - HOTEL

Project Description		Total	Local Cost / by others		ASDC Development - Related		Others Sharing and/or Non-Growth Cost			
Location	From / To	Gross Cost (\$)	Share (%)	Cost (\$)	Share (%)	Cost (\$)	Gross (\$)	Other Costs (\$)	Non-growth (\$)	
AREA 42B.4 : MARKHAM CENTRE - HOTEL										
1.0 ROADS										
1.1	Clegg Road Extension	Town Centre to Warden Ave	\$ 2,422,510	6%	\$ 154,940	2%	\$ 46,103	\$ 2,221,467	\$ 2,185,597	\$ 35,870
		Sub-Total - Roads	\$ 2,422,510		\$ 154,940		\$ 46,103	\$ 2,221,467	\$ 2,185,597	\$ 35,870
2.0 SIDEWALKS										
2.1	Clegg Road Extension		\$ 25,849		\$ -	100%	\$ 25,849	\$ -	\$ -	\$ -
		Sub-Total - Sidewalks	\$ 25,849		\$ -		\$ 25,849	\$ -	\$ -	\$ -
3.0 STORM WATER MANAGEMENT										
3.1	Clegg Road Storm	Town Centre to Warden	\$ 519,986	0%	\$ -	48%	\$ 252,146	\$ 267,840	\$ 267,840	\$ -
		Sub-Total - Stormwater Management	\$ 519,986		\$ -		\$ 252,146	\$ 267,840	\$ 267,840	\$ -
4.0 SANITARY SEWERS										
4.1	Clegg Road Sanitary	Town Centre to Warden Avenue	\$ 217,006	0%	\$ -	37%	\$ 80,105	\$ 136,901	\$ 136,901	\$ -
4.2	Courtyard Lane (NS Road) Sanitary Sewer		\$ 54,674	0%	\$ -	37%	\$ 20,182	\$ 34,492	\$ 34,492	\$ -
		Sub-Total - Sanitary Sewers	\$ 271,680		\$ -		\$ 100,287	\$ 171,393	\$ 171,393	\$ -
		SUB-TOTAL AREA 42B.4	\$ 3,240,025		\$ 154,940		\$ 424,385	\$ 2,660,700	\$ 2,624,830	\$ 35,870
5.0 PROJECTS undertaken by CREDIT AGREEMENT										
5.1	Not Applicable		\$ -		\$ -		\$ -	\$ -	\$ -	\$ -
		SUB-TOTAL by Credit Agreement	\$ -		\$ -		\$ -	\$ -	\$ -	\$ -
		TOTAL AREA 42B.4	\$ 3,240,025		\$ 154,940		\$ 424,385	\$ 2,660,700	\$ 2,624,830	\$ 35,870
Less: Balance in Reserve Fund as December 31, 2016							\$	20,300		
Less: Credit as per Agreement							\$	-		
Less: Projects Funded from Reserve							\$	-		
Total Development-Related Recoverable Costs							\$	444,685		
Net Developable Area (Ha.) to Pay New Dev Charge								0.500		
Development Charge per Net Hectare							\$	889,370		

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CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA-SPECIFIC GROWTH-RELATED PROJECTS
AREA 42B.6 : MARKHAM CENTRE - SOUTH HIGHWAY 7

Project Description		Total	Local Cost / by others		ASDC Development - Related		Others Sharing and/or Non-Growth Cost		
Location	From / To	Gross Cost (\$)	Share (%)	Cost (\$)	Share (%)	Cost (\$)	Gross (\$)	Other Costs (\$)	Non-growth (\$)
AREA 42B.6 : MARKHAM CENTRE - SOUTH HIGHWAY 7									
1.0 STORM WATER MANAGEMENT									
1.1	Sheridan Pond (Construction)	\$ 1,582,964	0%	\$ -	1%	\$ 20,481	\$ 1,562,483	\$ 1,562,483	\$ -
1.2	Sheridan Storm Sewer	\$ 1,810,704	0%	\$ -	2%	\$ 31,130	\$ 1,779,574	\$ 1,779,574	\$ -
	Highway 7 to Sheridan Pond								
	Sub-Total - Stormwater Management	\$ 3,393,668		\$ -		\$ 51,611	\$ 3,342,057	\$ 3,342,057	\$ -
2.0 SANITARY SEWERS									
2.1	Highway 7 Sanitary Sewer	\$ 16,630,334	0%	\$ -	61%	\$ 10,069,470	\$ 6,560,864	\$ 6,560,864	\$ -
2.2	Highway 7 Sanitary Sewer	\$ 762,093	0%	\$ -	61%	\$ 461,438	\$ 300,655	\$ 300,655	\$ -
	Highway 7 to YDSS								
	Sub-Total - Sanitary Sewers	\$ 17,392,427		\$ -		\$ 10,530,908	\$ 6,861,519	\$ 6,861,519	\$ -
	SUB-TOTAL AREA 42B.6	\$ 20,786,095		\$ -		\$ 10,582,519	\$ 10,203,576	\$ 10,203,576	\$ -
3.0 CREDITS FOR PROJECTS UNDERTAKEN BY CREDIT AGREEMENT									
3.1	Sanitary Sewers	\$ -		\$ -		\$ (1,985,716)	\$ -	\$ -	\$ -
	SUB-TOTAL by Credit Agreement	\$ -		\$ -		\$ (1,985,716)	\$ -	\$ -	\$ -
	TOTAL AREA 42B.6	20,786,095		\$ -		\$ 8,596,803	\$ 10,203,576	\$ 10,203,576	\$ -
Less: Balance in Reserve Fund as December 31, 2016						\$ (602,507)			
Total Development-Related Recoverable Costs						\$ 7,994,296			
Net Developable Area (Ha.) to Pay New Dev Charge						6.199			
Development Charge per Net Hectare						\$ 1,289,611			

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CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA-SPECIFIC GROWTH-RELATED PROJECTS
AREA 42B.8 : MARKHAM CENTRE - SCIBERRAS

Project Description		Total	Local Cost / by others		ASDC Development - Related		Others Sharing and/or Non-Growth Cost		
Location	From / To	Gross Cost (\$)	Share (%)	Cost (\$)	Share (%)	Cost (\$)	Gross (\$)	Other Costs (\$)	Non-growth (\$)
AREA 42B.8 : MARKHAM CENTRE - SCIBERRAS									
1.0 ROADS									
1.1	Sciberras Dr (ROW)	Highway 7 to Rouge River		\$ -	86%	\$ 1,827,672	\$ 304,612	\$ 304,612	\$ -
		Sub-Total - Roads		\$ -		\$ 1,827,672	\$ 304,612	\$ 304,612	\$ -
2.0 STORM WATER MANAGEMENT									
2.1	Sheridan Pond (Construction)		0%	\$ -	22%	\$ 353,590	\$ 1,229,374	\$ 1,229,374	\$ -
2.2	Sheridan Storm Sewer	Highway 7 to Sheridan Pond	0%	\$ -	2%	\$ 31,130	\$ 1,779,574	\$ 1,779,574	\$ -
2.3	Area 42B-8 Stub to Pond		0%	\$ -	100%	\$ 49,945	\$ -	\$ -	\$ -
		Sub-Total - Stormwater Management		\$ -		\$ 434,665	\$ 3,008,948	\$ 3,008,948	\$ -
3.0 SANITARY SEWERS									
3.1	Highway 7 Sanitary Sewer	Village Parkway to Main Street Unionville	0%	\$ -	24%	\$ 3,956,736	\$ 12,673,598	\$ 12,673,598	\$ -
3.2	Highway 7 Sanitary Sewer	Hwy 7 to YDSS	0%	\$ -	24%	\$ 181,319	\$ 580,774	\$ 580,774	\$ -
		Sub-Total - Sanitary Sewers		\$ -		\$ 4,138,055	\$ 13,254,372	\$ 13,254,372	\$ -
		SUB-TOTAL AREA 42B.8		\$ -		\$ 6,400,392	\$ 16,567,932	\$ 16,567,932	\$ -
4.0 CREDITS FOR PROJECTS UNDERTAKEN BY CREDIT AGREEMENT									
4.1	Not Applicable			\$ -		\$ -	\$ -	\$ -	\$ -
		SUB-TOTAL by Credit Agreement		\$ -		\$ -	\$ -	\$ -	\$ -
		TOTAL AREA 42B.8		\$ -		\$ 6,400,392	\$ 16,567,932	\$ 16,567,932	\$ -
Less: Balance in Reserve Fund as December 31, 2016						\$ 647,591			
Total Development-Related Recoverable Costs						\$ 7,047,983			
Net Developable Area (Ha.) to Pay New Dev Charge						4.799			
Development Charge per Net Hectare						\$ 1,468,636			

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA-SPECIFIC GROWTH-RELATED PROJECTS
AREA 42B.9 : MARKHAM CENTRE - EAST PRECINCT

Project Description		Total	Local Cost / by others		ASDC Development - Related		Others Sharing and/or Non-Growth Cost		
Location	From / To	Gross Cost (\$)	Share (%)	Cost (\$)	Share (%)	Cost (\$)	Gross (\$)	Other Costs (\$)	Non-growth (\$)
AREA 42B.9 : MARKHAM CENTRE - EAST PRECINCT									
1.0 STORM WATER MANAGEMENT									
1.1	E.P., Enterprise Phase 1- Local Storm Sewers	\$ 956,874	0%	\$ -	100%	\$ 956,874	\$ -	\$ -	\$ -
1.2	E.P., South Pond, Kennedy/YMCA	\$ 113,743	0%	\$ -	100%	\$ 113,743	\$ -	\$ -	\$ -
	Sub-Total - Stormwater Management	\$ 1,070,617		\$ -		\$ 1,070,617	\$ -	\$ -	\$ -
2.0 SANITARY SEWERS									
2.1	E.P. Remaining Sanitary Sewers	\$ 332,240	0%	\$ -	100%	\$ 332,240	\$ -	\$ -	\$ -
2.2	E.P., Enterprise Phase I Sanitary Sewer	\$ 780,378	0%	\$ -	100%	\$ 780,378	\$ -	\$ -	\$ -
2.3	Enterprise Phase II Sanitary Sewer	\$ 59,754	0%	\$ -	100%	\$ 59,754	\$ -	\$ -	\$ -
	Sub-Total - Sanitary Sewers	\$ 1,172,371		\$ -		\$ 1,172,371	\$ -	\$ -	\$ -
3.0 STUDIES									
3.1	Studies	\$ 300,000			100%	\$ 300,000	\$ -	\$ -	\$ -
	Sub-Total - Studies	\$ 300,000		\$ -		\$ 300,000	\$ -	\$ -	\$ -
4.0 WATER									
4.1	E.P. Remaining Watermain Sewers	\$ 582,364		\$ -	100%	\$ 582,364	\$ -	\$ -	\$ -
	Sub-Total - Water	\$ 582,364		\$ -		\$ 582,364	\$ -	\$ -	\$ -
	SUB-TOTAL AREA 42B.9	\$ 3,125,352		\$ -	\$ -	\$ 3,125,352	\$ -	\$ -	\$ -
5.0 PROJECTS undertaken by CREDIT AGREEMENT									
5.1	Not Applicable	\$ -		\$ -		\$ -	\$ -	\$ -	\$ -
	SUB-TOTAL by Credit Agreement	\$ -		\$ -		\$ -	\$ -	\$ -	\$ -
	TOTAL AREA 42B.9	\$ 3,125,352		\$ -		\$ 3,125,352	\$ -	\$ -	\$ -
Less: Balance in Reserve Fund as December 31, 2016						\$ (1,124,354)			
Less: Credit as per Agreement						\$ -			
Less: Projects Funded From Reserve						\$ -			
Total Development-Related Recoverable Costs						\$ 2,000,998			
Net Developable Area (Ha.) to Pay New Dev Charge						8.563			
Development Charge per Net Hectare						\$ 233,680			

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TABLE 2

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA-SPECIFIC GROWTH-RELATED PROJECTS
AREA 42B : MARKHAM CENTRE

Project Description		Total	Local Cost / by others		ASDC Development - Related		Others Sharing and/or Non-Growth Cost		
Location	From / To	Gross Cost (\$)	Share (%)	Cost (\$)	Share (%)	Cost (\$)	Gross (\$)	Other Costs (\$)	Non-growth (\$)
AREA 42B : MARKHAM CENTRE									
1.0 SANITARY SEWERS									
1.1	Markham Centre	\$ 194,801	0%	\$ -	100%	\$ 194,801	\$ -	\$ -	\$ -
	Sub-Total - Sanitary Sewers	\$ 194,801		\$ -		\$ 194,801	\$ -	\$ -	\$ -
2.0 STUDIES									
2.1	Secondary Plan Studies	\$ 935,000	0%	\$ -	73%	\$ 687,132	\$ 247,869	\$ 247,869	\$ -
	Sub-Total - Studies	\$ 935,000		\$ -		\$ 687,132	\$ 247,869	\$ 247,869	\$ -
	SUB-TOTAL AREA 42B	\$ 1,129,801		\$ -		\$ 881,933	\$ 247,869	\$ 247,869	\$ -
3.0 PROJECTS undertaken by CREDIT AGREEMENT									
3.1	Not Applicable	\$ -	0%	\$ -	0%	\$ -	\$ -	\$ -	\$ -
	SUB-TOTAL by Credit Agreement	\$ -		\$ -		\$ -	\$ -	\$ -	\$ -
	TOTAL AREA 42B	\$ 1,129,801		\$ -		\$ 881,933	\$ 247,869	\$ 247,869	\$ -
Less: Balance in Reserve Fund as December 31, 2016						\$ (39,894)			
Less: Credit as per Agreement						\$ -			
Less: Projects Funded from Reserve						\$ -			
Total Development-Related Recoverable Costs						\$ 842,039			
Net Developable Area (Ha.) to Pay New Dev Charge						107.613			
Development Charge per Net Hectare						\$ 7,825			

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TABLE 2

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA-SPECIFIC GROWTH-RELATED PROJECTS
AREA 46: CATHEDRAL

Project Description		Total	Local Cost / by others		ASDC Development - Related		Others Sharing and/or Non-Growth Cost		
Location	From / To	Gross Cost (\$)	Share (%)	Cost (\$)	Share (%)	Cost (\$)	Gross (\$)	Other Costs (\$)	Non-growth (\$)
AREA 46: CATHEDRAL									
1.0 SANITARY SEWERS									
1.1	Existing Sanitary Oversizing and Deepening S of Major Mackenzie	\$ 205,800	0%	\$ -	100%	\$ 205,800	\$ -	\$ -	\$ -
1.2	Woodbine North Relief Sewer to 404 Region Trunk Sewer	\$ 621,899	0%	\$ -	70%	\$ 435,855	\$ 186,044	\$ 186,044	\$ -
	Sub-Total - Sanitary Sewers	\$ 827,699		\$ -		\$ 641,655	\$ 186,044	\$ 186,044	\$ -
2.0 WATER									
2.1	Woodbine by-pass (300mm) Elgin Mills to Lord Melbrone	\$ 247,940	85%	\$ 210,749	0%	\$ -	\$ 37,191	\$ 37,191	\$ -
	Sub-Total - Water	\$ 247,940		\$ 210,749		\$ -	\$ 37,191	\$ 37,191	\$ -
	SUBTOTAL AREA 46	\$ 1,075,639		\$ 210,749		\$ 641,655	\$ 223,235	\$ 223,235	\$ -
3.0 PROJECTS undertaken by CREDIT AGREEMENT									
	Exist. Sanitary Oversizing & Deepening S. of Major Mac by Woodbine Cachet West Inc.	\$ 399,500	0%	\$ -	100%	\$ 399,500	\$ -	\$ -	\$ -
	SUBTOTAL by Credit Agreement	\$ 399,500		\$ -		\$ 399,500	\$ -	\$ -	\$ -
	TOTAL AREA 46	\$ 1,475,139		\$ 210,749		\$ 1,041,155	\$ 223,235	\$ 223,235	\$ -
Less: Balance in Reserve Fund as December 31, 2016						\$ (121,896)			
Less: Credit as per Agreement						\$ (290,350)			
Less: Projects Funded From Reserve						\$ -			
Total Development-Related Recoverable Costs						\$ 628,909			
Net Developable Area (Ha.) to Pay New Dev Charge						62.033			
Development Charge per Net Hectare						\$ 10,138			

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TABLE 2

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA-SPECIFIC GROWTH-RELATED PROJECTS
AREA 47B: YORK DOWNS

Project Description		Total	Local Cost / by others		ASDC Development - Related		Others Sharing and/or Non-Growth Cost		
Location	From / To	Gross Cost (\$)	Share (%)	Cost (\$)	Share (%)	Cost (\$)	Gross (\$)	Other Costs (\$)	Non-growth (\$)
AREA 47B: YORK DOWNS									
1.0 SANITARY SEWERS									
1.1	York Downs Sanitary	\$ 1,633,761		\$ -	10%	\$ 158,977	\$ 1,474,784	\$ 1,474,784	\$ -
	Sub-Total - Sanitary Sewers	\$ 1,633,761		\$ -		\$ 158,977	\$ 1,474,784	\$ 1,474,784	\$ -
2.0 STRUCTURES									
2.1	Angus Glen crossing at Beaver Creek	\$ 2,821,837		\$ -	10%	\$ 282,184	\$ 2,539,654	\$ 2,539,654	\$ -
	Sub-Total - Structures	\$ 2,821,837		\$ -		\$ 282,184	\$ 2,539,654	\$ 2,539,654	\$ -
3.0 STUDIES									
3.1	Class E.A. Study - Sewer and Water	\$ 17,636		\$ -	35%	\$ 6,200	\$ 11,436	\$ 11,436	\$ -
3.2	External Traffic Study	\$ 127,812		\$ -	35%	\$ 44,934	\$ 82,878	\$ 82,878	\$ -
3.3	North Markham Subwatershed Study	\$ 29,542		\$ -	35%	\$ 10,386	\$ 19,156	\$ 19,156	\$ -
	Sub-Total - Studies	174,990		\$ -		\$ 61,521	\$ 113,470	\$ 113,470	\$ -
	SUB-TOTAL AREA 47B	\$ 4,630,589		\$ -		\$ 502,681	\$ 4,127,908	\$ 4,127,908	\$ -
4.0 PROJECTS undertaken by CREDIT AGREEMENT									
	Not Applicable	\$ -		\$ -		\$ -	\$ -	\$ -	\$ -
	SUBTOTAL by Credit Agreement	\$ -		\$ -		\$ -	\$ -	\$ -	\$ -
	TOTAL AREA 47B	\$ 4,630,589		\$ -		\$ 502,681	\$ 4,127,908	\$ 4,127,908	\$ -
Less: Balance in Reserve Fund as December 31, 2016						\$ (65,652)			
Less: Credit as per Agreement						\$ -			
Less: Projects Funded From Reserve						\$ -			
Total Development-Related Recoverable Costs						\$ 437,029			
Net Developable Area (Ha.) to Pay New Dev Charge						17.949			
Development Charge per Net Hectare						\$ 24,348			

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TABLE 2

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA-SPECIFIC GROWTH-RELATED PROJECTS
AREA 49: 404 NORTH EMPLOYMENT LANDS

Project Description		Total	Local Cost / by others		ASDC Development - Related		Others Sharing and/or Non-Growth Cost		
Location	From / To	Gross Cost (\$)	Share (%)	Cost (\$)	Share (%)	Cost (\$)	Gross (\$)	Other Costs (\$)	Non-growth (\$)
AREA 49: 404 NORTH EMPLOYMENT LANDS									
1.0 ROADS									
1.1	Honda Blvd	Gas Pipeline to 19th Avenue		\$ -	82%	\$ 1,686,699	\$ 366,674	\$ 366,674	\$ -
		Sub-Total - Roads		\$ -		\$ 1,686,699	\$ 366,674	\$ 366,674	\$ -
2.0 SANITARY SEWERS									
2.1	Woodbine North Relief Sewer	to 404 Region Trunk Sewer	0%	\$ -	30%	\$ 186,044	\$ 435,855	\$ 435,855	\$ -
2.2	Woodbine by-pass Sanitary sewer, Phase 1,	to Lord Melborne	0%	\$ -	42%	\$ 1,848,166	\$ 2,552,230	\$ 2,552,230	\$ -
		Sub-Total - Sanitary Sewers		\$ -		\$ 2,034,211	\$ 2,988,084	\$ 2,988,084	\$ -
		SUB-TOTAL AREA 49		\$ -		\$ 3,720,909	\$ 3,354,758	\$ 3,354,758	\$ -
3.0 PROJECTS undertaken by CREDIT AGREEMENT									
		Not Applicable		\$ -		\$ -	\$ -	\$ -	\$ -
		SUB-TOTAL by Credit Agreement		\$ -		\$ -	\$ -	\$ -	\$ -
		TOTAL AREA 49		\$ -		\$ 3,720,909	\$ 3,354,758	\$ 3,354,758	\$ -
Less: Balance in Reserve Fund as December 31, 2016						\$ (97,581)			
Less: Credit as per Agreement						-			
Less: Projects Funded From Reserve						\$ -			
Total Development-Related Recoverable Costs						3,623,328			
Net Developable Area (Ha.) to Pay New Dev Charge						58.45			
Development Charge per Net Hectare						61,987			

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APPENDIX D
TABLE 2

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA-SPECIFIC GROWTH-RELATED PROJECTS
AREA 50A : Future Urban Area

Location	From / To	Total		Local Cost / by others		ASDC Growth - Related		Others Sharing and/or Non-Growth Cost		
		Gross Cost (\$)	Share (%)	Cost (\$)	Share (%)	Cost (\$)	Gross (\$)	Others Cost (\$)	Non-growth (\$)	
AREA 50A : Future Urban Area										
1.0 STUDIES										
	Master Servicing, Transportation, Subwatershed Study	\$ 7,969,659	0%	\$ -	95%	\$ 7,587,159	\$ 382,500	\$ 382,500	\$ -	
	Sub-Total - Studies	\$ 7,969,659		\$ -		\$ 7,587,159	\$ 382,500	\$ 382,500	\$ -	
	SUBTOTAL AREA 50A	\$ 7,969,659		\$ -		\$ 7,587,159	\$ 382,500	\$ 382,500	\$ -	
	TOTAL AREA 50A	\$ 7,969,659		\$ -		\$ 7,587,159	\$ 382,500	\$ 382,500	\$ -	
	Less:	Balance in Reserve Fund as December 31, 2016				\$ -				
	Less:	Credit as per Agreement				\$ -				
	Less:	Projects Funded From Reserve				\$ -				
		Total in Development Charge				\$ 7,587,159				
		Net Developable Area (Ha.) to Pay New Dev Charge				585.810				
		Development Charge per Net Hectare				\$ 12,952				

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APPENDIX D
TABLE 2

CITY OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA-SPECIFIC GROWTH-RELATED PROJECTS
AREA 50A-2 : Future Urban Area - Robinson Glen

Project Description Location	From / To	Total		Local Cost / by others		ASDC Development - Related		Others Sharing and/or Non-Growth Cost		
		Gross Cost (\$)	Share (%)	Cost (\$)	Share (%)	Cost (\$)	Gross (\$)	others Cost (\$)	Non-growth (\$)	
AREA 50A-2 : Future Urban Area - Robinson Glen										
1.0 SANITARY SEWERS										
Sanitary Sewer Servicing Through Upper Unionville		\$ 100,000	0%	\$ -	100%	\$ 100,000	\$ -	\$ -	\$ -	
Sub-Total - Sanitary Sewers		\$ 100,000		\$ -		\$ 100,000	\$ -	\$ -	\$ -	
TOTAL AREA 50A-2		\$ 100,000				\$ 100,000	\$ -	\$ -	\$ -	
Less: Balance in Reserve Fund as December 31, 2016						\$ -				
Total Development-Related Recoverable Costs						\$ 100,000				
Net Developable Area (Ha.) to Pay New Dev Charge						165.740				
Development Charge per Net Hectare						\$ 603				

APPENDIX E

RESERVE FUND BALANCES

APPENDIX E**DEVELOPMENT CHARGES RESERVE FUND BALANCES**

Table 1 presents the uncommitted reserve fund balances that are available to help fund the development-related net capital costs identified in this study. The closing balances of the development charges reserve funds as at December 31, 2016 have been adjusted to account for current commitments to reserve fund projects. All of the adjusted reserve fund balances are accounted for in the study.

Table 1 displays the reserve fund balances for the City-wide soft services. As at December 31, 2016 the overall balance stood at a negative \$11.76 million. There are no commitments available to fund development-related projects and as such, the uncommitted balance of \$11.76 million is brought forward to fund the DC capital programs.

The existing reserve fund balances for the Area-Specific Areas and the City-wide hard reserves are shown on Table 2. The application of the available uncommitted balance in each of the reserve funds is discussed in the appendix section related to each service. These funds are either assigned to projects in the initial years of the capital program for each service or to the opening balance of the cash flow calculations. The effect is to reduce and defer capital costs brought forward to the development charge calculation and the cash flow analysis.

**APPENDIX E
TABLE 1**

**CITY OF MARKHAM
DEVELOPMENT CHARGE RESERVE FUND BALANCE BY ACCOUNT
FOR CITY-WIDE SOFT SERVICES
YEAR ENDING DECEMBER 31, 2016**

Service	Reserve Fund Balance as at Dec. 31, 2016	Commitments	Uncommitted Reserve Funds
General Government	(\$10,754,830)	\$0	(\$10,754,830)
Library	(\$1,667,716)	\$0	(\$1,667,716)
Fire Services	(\$440,774)	\$0	(\$440,774)
Indoor Recreation	(\$49,529,591)	\$0	(\$49,529,591)
Park Development & Facilities	\$36,600,462	\$0	\$36,600,462
Public Works	\$13,948,097	\$0	\$13,948,097
Parking	\$81,027	\$0	\$81,027
Waste Management*	\$0	\$0	\$0
Total Development Charge Reserves	(\$11,763,327)	\$0	(\$11,763,327)

* Waste Management is a new service. Therefore no existing reserve fund balance is available.

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APPENDIX E
TABLE 2

CITY OF MARKHAM
DEVELOPMENT CHARGES RESERVE FUND BALANCES
FOR CITY-WIDE HARD AND AREA-SPECIFIC

Area	Balance as at December 31, 2016
CWH	\$41,466,574
Area 1B	\$0
Area 5	\$596,924
Area 7	\$74,102
Area 9	(\$270,237)
Area 17	(\$182,057)
Area 18	(\$4,034)
Area 23	\$51,500
Area 42A.1	\$307,935
Area 42B	\$39,894
Area 42B.2	(\$345,443)
Area 42B.4	(\$20,300)
Area 42B.6	\$602,507
Area 42B.8	(\$647,591)
Area 42B.9	\$1,124,354
Area 46	\$121,896
Area 47B	\$65,652
Area 49	\$97,581
Area 50A	\$0
Area 50A-2	\$0

APPENDIX F

***LONG-TERM CAPITAL AND
OPERATING IMPACTS***

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APPENDIX F
TABLE 1

CITY OF MARKHAM
ESTIMATED NET OPERATING COST OF THE PROPOSED
DEVELOPMENT-RELATED CAPITAL PROGRAM
(in constant 2017 dollars)

	Net Cost (in 2016\$)	Estimated Operating Costs (\$000)									
		2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Library Services		\$1,500.0	\$1,500.0	\$1,500.0	\$1,500.0	\$3,000.0	\$3,000.0	\$3,000.0	\$3,000.0	\$4,125.0	\$4,125.0
- Buildings, Land and Furnishings	\$75.00 per sq.ft. of new library space	\$1,500.0	\$1,500.0	\$1,500.0	\$1,500.0	\$3,000.0	\$3,000.0	\$3,000.0	\$3,000.0	\$4,125.0	\$4,125.0
Fire Services		\$0.0	\$0.0	\$0.0	\$3,900.0	\$3,900.0	\$7,800.0	\$7,800.0	\$11,700.0	\$11,700.0	\$11,700.0
- Buildings, Land and Furnishings	\$390.00 per sq.ft. of new fire station space	\$0.0	\$0.0	\$0.0	\$3,900.0	\$3,900.0	\$7,800.0	\$7,800.0	\$11,700.0	\$11,700.0	\$11,700.0
Indoor Recreation		\$0.0	\$2,020.0	\$2,020.0	\$2,020.0	\$2,020.0	\$2,020.0	\$2,020.0	\$2,220.0	\$2,220.0	\$2,220.0
- Buildings, Land & Furnishings	\$20.00 per sq.ft. of new recreation space	\$0.0	\$2,020.0	\$2,020.0	\$2,020.0	\$2,020.0	\$2,020.0	\$2,020.0	\$2,220.0	\$2,220.0	\$2,220.0
Park Development & Facilities		\$969.3	\$1,187.2	\$1,676.0	\$1,907.3	\$2,141.2	\$2,364.5	\$2,606.0	\$3,266.2	\$3,513.9	\$3,748.3
- Park Development and Facilities	\$25.00 per \$1,000 of total infrastructure value	\$969.3	\$1,187.21	\$1,676.0	\$1,907.3	\$2,141.2	\$2,364.5	\$2,606.0	\$3,266.2	\$3,513.9	\$3,748.3
Public Works		\$4.8	\$424.6	\$707.5	\$711.3	\$713.4	\$721.1	\$786.4	\$794.1	\$800.0	\$807.7
- Buildings, Land and Fleet	\$20.00 per \$1,000 of total infrastructure value	\$4.8	\$424.57	\$707.5	\$711.3	\$713.4	\$721.1	\$786.4	\$794.1	\$800.0	\$807.7
Parking		\$0.0	\$1.6	\$1.6	\$2.7	\$2.7	\$4.9	\$4.9	\$5.3	\$5.3	\$6.7
- Metres and on-street parking	\$5.00 per \$1,000 of total infrastructure value	\$0.0	\$1.55	\$1.6	\$2.7	\$2.7	\$4.9	\$4.9	\$5.3	\$5.3	\$6.7
Waste Management		\$166.8	\$337.5	\$512.1	\$690.8	\$873.7	\$1,060.7	\$1,252.1	\$1,448.0	\$1,648.4	\$1,853.4
	\$70.00 per household	\$166.8	\$337.47	\$512.1	\$690.8	\$873.7	\$1,060.7	\$1,252.1	\$1,448.0	\$1,648.4	\$1,853.4
Roads and Related		\$595.8	\$1,205.3	\$1,829.0	\$2,467.3	\$3,120.3	\$3,788.3	\$4,471.8	\$5,171.3	\$5,887.0	\$6,619.3
- Development-Related Roads Infrastructure	\$ 250.00 per household	\$595.8	\$1,205.3	\$1,829.0	\$2,467.3	\$3,120.3	\$3,788.3	\$4,471.8	\$5,171.3	\$5,887.0	\$6,619.3
TOTAL ESTIMATED OPERATING COSTS		\$3,236.6	\$6,676.1	\$8,246.2	\$13,199.3	\$15,771.2	\$20,759.4	\$21,941.1	\$27,604.8	\$29,899.5	\$31,080.4

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APPENDIX F
TABLE 2 - PAGE 1

CITY OF MARKHAM
SUMMARY OF TAX SUPPORTED FUNDING REQUIREMENTS

Net Capital Cost of Development-Related Projects	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)	2022 (\$000)	2023 (\$000)	2024 (\$000)	2025 (\$000)	2026 (\$000)	TOTAL (\$000)
GENERAL GOVERNMENT											
Total Net Cost (1)	12,524.9	1,770.1	1,770.1	1,770.1	1,770.1	1,770.1	1,770.1	1,770.1	1,770.1	1,770.1	28,455.5
Net Cost From Development Charges In-Period (2)	12,347.9	1,593.1	1,593.1	1,593.1	573.6	0.0	0.0	0.0	0.0	0.0	17,700.7
Net Cost From Other Sources	177.0	177.0	177.0	177.0	1,196.5	1,770.1	1,770.1	1,770.1	1,770.1	1,770.1	10,754.8
- Discount Portion (3)	177.0	177.0	177.0	177.0	177.0	177.0	177.0	177.0	177.0	177.0	1,770.1
- Prior Growth (4)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Available DC Reserves (5)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Replacement & Benefit to Existing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- For Post 2026 Development (6)	0.0	0.0	0.0	0.0	1,019.4	1,593.1	1,593.1	1,593.1	1,593.1	1,593.1	8,984.8
LIBRARY											
Total Net Cost (1)	16,405.6	0.0	0.0	0.0	15,513.5	0.0	0.0	0.0	11,991.0	0.0	43,910.0
Net Cost From Development Charges In-Period (2)	6,234.3	0.0	0.0	0.0	13,962.2	0.0	0.0	0.0	10,521.5	0.0	30,718.0
Net Cost From Other Sources	10,171.3	0.0	0.0	0.0	1,551.4	0.0	0.0	0.0	1,469.4	0.0	13,192.1
- Discount Portion (3)	1,473.8	0.0	0.0	0.0	1,551.4	0.0	0.0	0.0	1,199.1	0.0	4,224.2
- Prior Growth (4)	8,697.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8,697.5
- Available DC Reserves (5)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Replacement & Benefit to Existing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- For Post 2026 Development (6)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	270.3	0.0	270.3
FIRE SERVICES											
Total Net Cost (1)	602.6	50.0	9,553.2	0.0	9,128.2	0.0	9,153.2	0.0	0.0	0.0	28,487.1
Net Cost From Development Charges In-Period (2)	602.6	50.0	9,553.2	0.0	8,184.5	0.0	5,993.3	0.0	0.0	0.0	24,383.6
Net Cost From Other Sources	0.0	0.0	0.0	0.0	943.7	0.0	3,159.8	0.0	0.0	0.0	4,103.5
- Discount Portion (3)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Prior Growth (4)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Available DC Reserves (5)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Replacement & Benefit to Existing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- For Post 2026 Development (6)	0.0	0.0	0.0	0.0	943.7	0.0	3,159.8	0.0	0.0	0.0	4,103.5
INDOOR RECREATION											
Total Net Cost (1)	104,442.1	1,816.6	1,865.7	8,093.7	1,967.8	2,020.9	7,303.3	2,131.5	2,189.1	24,981.7	156,812.3
Net Cost From Development Charges In-Period (2)	60,325.5	1,816.6	1,865.7	7,476.0	1,967.8	2,020.9	6,780.5	2,131.5	2,189.1	22,556.7	109,130.2
Net Cost From Other Sources	44,116.6	0.0	0.0	617.8	0.0	0.0	522.8	0.0	0.0	2,424.9	47,682.1
- Discount Portion (3)	5,314.4	0.0	0.0	617.8	0.0	0.0	522.8	0.0	0.0	2,273.4	8,728.3
- Prior Growth (4)	38,802.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38,802.2
- Available DC Reserves (5)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Replacement & Benefit to Existing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- For Post 2026 Development (6)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	151.6	151.6
PARK DEVELOPMENT & FACILITIES											
Total Net Cost (1)	38,770.3	8,718.1	19,553.1	9,249.5	9,357.1	8,930.5	9,661.0	26,408.9	9,907.4	9,374.5	149,930.4
Net Cost From Development Charges In-Period (2)	317.5	6,456.7	17,915.3	8,642.1	8,738.9	8,354.9	9,012.4	20,910.3	9,234.2	7,737.8	97,320.1
Net Cost From Other Sources	38,452.8	2,261.5	1,637.8	607.4	618.2	575.5	648.6	5,498.6	673.2	1,636.7	52,610.3
- Discount Portion (3)	3,877.0	871.8	1,955.3	925.0	935.7	893.0	966.1	2,640.9	990.7	937.5	14,993.0
- Prior Growth (4)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Available DC Reserves (5)	34,893.3	1,707.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36,600.5
- Replacement & Benefit to Existing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- For Post 2026 Development (6)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,016.8	1,016.8

- Notes: (1) For total development-related capital program see Appendix B.
(2) Share of capital program to be funded from development charges if calculated rates are fully implemented
(3) Mandatory 10% reduction for applicable services
(4) Portion of development-related capital program that has committed development charge funds.
(5) Portion of development-related capital program identified as available DC reserves (to be funded from present Development Charge reserve fund balances).
(6) Post 2026 development-related net capital costs may be eligible for development charges in future DC by-laws, but interim financing of this share may be required

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APPENDIX F
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CITY OF MARKHAM
SUMMARY OF TAX SUPPORTED FUNDING REQUIREMENTS

Net Capital Cost of Development-Related Projects	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)	2022 (\$000)	2023 (\$000)	2024 (\$000)	2025 (\$000)	2026 (\$000)	TOTAL (\$000)
PUBLIC WORKS											
Total Net Cost (1)	238.3	20,990.2	14,146.0	189.6	105.3	385.3	3,264.9	385.8	294.9	385.3	40,385.6
Net Cost From Development Charges In-Period (2)	0.0	7,280.4	10,719.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18,000.1
Net Cost From Other Sources	238.3	13,709.8	3,426.3	189.6	105.3	385.3	3,264.9	385.8	294.9	385.3	22,385.5
- Discount Portion (3)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Prior Growth (4)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Available DC Reserves (5)	238.3	13,709.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13,948.1
- Replacement & Benefit to Existing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- For Post 2026 Development (6)	0.0	0.0	3,426.3	189.6	105.3	385.3	3,264.9	385.8	294.9	385.3	8,437.4
PARKING											
Total Net Cost (1)	0.0	310.7	0.0	228.1	0.0	435.4	0.0	83.4	0.0	290.7	1,348.3
Net Cost From Development Charges In-Period (2)	0.0	198.6	0.0	205.3	0.0	391.8	0.0	75.1	0.0	172.2	1,043.0
Net Cost From Other Sources	0.0	112.1	0.0	22.8	0.0	43.5	0.0	8.3	0.0	118.5	305.3
- Discount Portion (3)	0.0	31.1	0.0	22.8	0.0	43.5	0.0	8.3	0.0	29.1	134.8
- Prior Growth (4)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Available DC Reserves (5)	0.0	81.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.0
- Replacement & Benefit to Existing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- For Post 2026 Development (6)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	89.4	89.4
WASTE MANAGEMENT											
Total Net Cost (1)	87.1	250.0	570.0	270.0	250.0	1,715.8	1,078.5	250.0	1,445.8	1,050.0	6,967.1
Net Cost From Development Charges In-Period (2)	78.4	225.0	513.0	243.0	225.0	1,544.2	970.7	225.0	0.0	25.2	4,049.5
Net Cost From Other Sources	8.7	25.0	57.0	27.0	25.0	171.6	107.9	25.0	1,445.8	1,024.8	2,917.7
- Discount Portion (3)	8.7	25.0	57.0	27.0	25.0	171.6	107.9	25.0	144.6	105.0	696.7
- Prior Growth (4)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Available DC Reserves (5)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Replacement & Benefit to Existing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- For Post 2026 Development (6)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,301.2	919.8	2,221.0
TOTAL MUNICIPAL SERVICES											
Total Net Cost (1)	173,070.9	33,905.7	47,458.0	19,801.0	38,091.9	15,257.9	32,230.9	31,029.7	27,598.2	37,852.2	456,296.4
Net Cost From Development Charges (2)	79,906.2	17,620.3	42,159.8	18,159.4	33,651.9	12,311.9	22,756.9	23,341.9	21,944.8	30,491.9	302,345.1
Net Cost From Non-DC Sources	93,164.7	16,285.4	5,298.1	1,641.6	4,440.0	2,946.0	9,474.0	7,687.8	5,653.4	7,360.3	153,951.3
- Discount Portion (3)	10,850.9	1,104.9	2,189.3	1,769.5	2,689.1	1,285.2	1,773.7	2,851.2	2,511.4	3,521.9	30,547.2
- Prior Growth (4)	47,499.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47,499.7
- Available DC Reserves (5)	35,131.6	15,498.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50,629.6
- Replacement & Benefit to Existing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- For Post 2026 Development (6)	0.0	0.0	3,426.3	189.6	2,068.4	1,978.4	8,017.8	1,978.9	3,459.5	4,156.0	25,274.8

- Notes: (1) For total development-related capital program see Appendix B.
(2) Share of capital program to be funded from development charges if calculated rates are fully implemented
(3) Mandatory 10% reduction for applicable services
(4) Portion of development-related capital program that has committed development charge funds.
(5) Portion of development-related capital program identified as available DC reserves (to be funded from present Development Charge reserve fund balances).
(6) Post 2026 development-related net capital costs may be eligible for development charges in future DC by-laws, but interim financing of this share may be required

APPENDIX G

ASSET MANAGEMENT PLAN

APPENDIX G

ASSET MANAGEMENT PLAN

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

Asset Types

A summary of the future municipal-owned assets and estimated useful life assumptions for eligible DC services considered as part of the study are outlined in Table 1 and Table 2. Although all capital assets considered in the study have been identified, not all assets necessitate future replacement or ongoing maintenance activities. The exception and the justification is as follows:

- Some of the works identified may represent one-time expenditures and may be temporary in nature. Therefore, the assets would not be required to be replaced and no ongoing operation and maintenance costs exist. Such assets are identified as “not a long-term asset” in the table.
- Some projects do not relate to the emplacement of a tangible capital asset—some examples include the acquisition of land or the undertaking of development-related studies. These projects/costs do not necessarily require future replacement or ongoing maintenance. Such projects are identified as “not infrastructure” in the table.

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

Table 1 – Summary of Municipal Assets Considered City-wide Soft Services	
Capital Project Description	Estimated Useful Life
Recovery of Negative DC Reserve Fund Balances	Not a Long-Term Asset
Land acquisition	Not Infrastructure
Studies	Not Infrastructure
Buildings and Structures	40 years
Fire Services Equipment	11 years
Fire Vehicles - Fire Apparatus	9 years
Licensed Vehicles	7 years
Non-Licensed Construction/Maintenance Equipment	7 years
Library Furniture & Fixtures	10 years
Library Media Collection	7 years
Air-Supported Structure	20 years
Artificial Turf	15 years
Parks & Pathways – Lighting	30 years
Parks & Pathways – Furnishings	10 years
Parks & Pathways – Shelters	40 years
Parks & Pathways – Skate Parks	25 years
Parks & Pathways – Sport field Structures	10 years
Parks & Pathways – Pathways	15 years
Parks & Pathways - Playground Structures	15 years
Parks & Pathways – Waterplay Structures	20 years
Parking Lots – Paved Surface	25 years
Parking Lots – Sub-base	45 years

Table 2 – Summary of Municipal Assets Considered City-wide Hard Services	
Capital Project Description	Estimated Useful Life
Bridges – Substructure	75 years
Bridges – Superstructure	25 years
Right-Of-Ways (ROW's) – Road Surface	25 years
Right-Of-Ways (ROW's) – Sidewalk	45 years
Right-Of-Ways (ROW's) – Sub base	45 years
Street Lights	35 years
Stormwater Ponds	10 years
Drinking Water Distribution System	60 years

No annual provisions have been identified for General Government as the development-related studies included in the General Government development charge category are not infrastructure and therefore have no long-term financial requirements.

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 City 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 City-wide Soft (CWS) and City-wide Hard (CWH) 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 *Development Charge Act*, assets that are proposed to be funded under the development charges by-law have been included in the analysis. As a result, the total calculated annual provision for development charge related infrastructure has been netted down to consider the replacement of existing infrastructure or benefit-to-existing development. However, for reference, the annual replacement provisions associated with the non-development charge funded costs, including costs related to the ten per cent statutory discount, benefit-to-existing and post-period benefit have also been calculated.

Table 3 and 4 provide an overview of the capital provisions required to replace the capital infrastructure proposed to be funded under the development charges by-law for both CWS and CWH services. As shown in Table 3, by 2026, the City will need to fund an additional \$10.17 million per annum in order to properly fund the full life-cycle costs of the new assets related to the CWS services supported under the development charges by-law. A further \$12.67 million will be required for CWH services.

Table 4 provides a separate analysis of the annual provisions required for the CWH capital program as the program extends to 2031. As shown in Table 4, the annual provision in 2031 amounts to \$20.23 million.

Table 3				
Calculated Annual Provision by 2026 General Services				
Service	2017-2026 Capital Program		Calculated AMP Annual Provision by 2026	
	DC Recoverable	Non-DC Funded	DC Related	Non-DC Related
Fire Services	\$ 14,358,000	\$ 2,301,000	\$ 592,000	\$ 225,000
Library	\$ 34,405,000	\$ 4,123,000	\$ 1,966,000	\$ 262,000
Park Development	\$ 127,728,000	\$ 15,322,000	\$ 4,125,000	\$ 520,000
Indoor Recreation	\$ 81,649,000	\$ 7,018,000	\$ 2,576,000	\$ 230,000
Public Works	\$ 12,226,000	\$ 8,437,000	\$ 534,000	\$ 445,000
Parking	\$ 1,106,000	\$ 1,328,000	\$ 74,000	\$ 34,000
Waste Management	\$ 2,748,000	\$ 1,327,000	\$ 304,000	\$ 33,000
CWS Sub-total			\$ 10,171,000	\$ 1,749,000
CWH			\$ 12,670,000	\$ 7,778,000
Total 2026 Provision			\$ 22,841,000	\$ 9,527,000

Table 4				
Calculated Annual Provision by 2031 City-wide Hard Services				
Service	2017-2031 Capital Program		Calculated AMP Annual Provision by 2031	
	DC Recoverable	Non-DC Funded	DC Related	Non-DC Related
CWH*	\$ 720,454,000	\$ 487,227,000	\$ 20,231,000	\$ 12,694,000
Total 2031 Provision			\$ 20,231,000	\$ 12,694,000

* Non-DC funding includes projects that are funded by local developers, post-period shares etc.

Financial Sustainability of the Program

Future Revenue Growth

The calculated annual funding provision should be considered within the context of the City's projected growth. Over the next ten years (to 2026) the City is projected to increase by approximately 26,480 households, which represents a 26 per cent increase over the existing base. In addition, the City will also add nearly 41,470 new employees that will result in approximately 2.00 million square metres of additional non-residential building space.

By 2031, there will be an increase of nearly 42,170 new dwelling units and 3.18 million square metres of 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 City's reserves for the future replacement of these assets.

Annual Budgetary Reviews

In addition, as part of the annual budget update the City also undertakes analysis of the Life-cycle Reserve Fund. The analysis includes anticipated funding requirements and potential funding shortfalls resulting from inflation, past growth and new assets. Funding requirements are examined over a 25 year period and mitigation measures are proposed for Council's consideration. Examples of mitigating measures that have been used historically in the City include increased revenue sources (including projected dividends), allocation of Federal Gas Tax funding towards life-cycle costs and transferring additional funds into the Life-cycle Reserve Fund.

Through this annual exercise, staff identify the required funding and propose mitigating measures in order to ensure there are sufficient funds in the reserve over a 25 year horizon. Life-cycle funding methodologies are also reviewed in order to ensure that the City is continuing to implement financially sustainable practices for funding the eventual replacement of assets.

The Program is Deemed Financially Sustainable

The calculated annual provisions identified in Tables 3 and 4 are considered to be financially sustainable as it is expected that the increased capital asset management requirements can be absorbed by the tax and user base over the long-term. Importantly, the City's annual review of the Life-cycle Reserve Fund will allow staff to continue to monitor and implement mitigating measures should the program become less sustainable.

APPENDIX H

LOCAL SERVICE DEFINITIONS

TECHNICAL APPENDIX

APPENDIX H

LOCAL SERVICE DEFINITIONS

GENERAL POLICY GUIDELINES ON DEVELOPMENT CHARGE AND LOCAL SERVICE FUNDING FOR CITY-RELATED WORKS

The following guidelines set out in general terms the size and nature of engineered infrastructure that is included in the City of Markham Development Charge Study, as a project to be eligible to be funded in part by development charges the following will apply:

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

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

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

The detailed engineering requirements for all work and/or development are governed by the City of Markham Official Plan, or if not specified in the Official Plan, by the approved detailed engineering standards.

The provision of local services is considered to be a direct developer responsibility under s.59 of the *DCA* and will (or may) be recovered under other agreement(s) with

the land owner or developer. The issue of “local services” is being specifically considered for the services outlined in the following sections.

1. General

- A local service is the infrastructure or component thereof required to develop a subdivision within the boundaries of the secondary plan in accordance with the City of Markham Standards and current level of service (LOS) or LOS determined by Council.
- The infrastructure is assumed by the City when the conditions of subdivision are met/secondary plan is completed.
- Example:
 - Residential and non-residential development with 23.0 m right of way (ROW) and 11.0 m asphalt (Engineering Standard MR6);
 - Turn lanes;
 - Parking bays;
 - Bike lanes (on road and off road);
 - Streetlights;
 - Utilities;
 - Municipal services;
 - Sidewalks and multi use paths; and
 - Storm water management facilities.

2. Area Specific Development Charge (ASDC)/City Wide Hard (CWH) Project Assessment

- **Illumination**
 - All illumination on arterial and collector roads NOT in a secondary plan/draft plan of subdivision are to be funded through CWH development charges.
 - Illumination on collector and local roads in a draft plan are the responsibility of the local developer (local service).
- **Intersections**
 - All intersection improvements/signals after assumption of a subdivision not paid for by the developer are to be funded through CWH development charges.
- **Roads**

- Any portion of the road (land and construction) greater than the 23.0 m ROW and 11.0 m asphalt in a residential plan of subdivision are to be funded through CWH development charge.
- Any portion of the road (land and construction) equal to or less than the 23.0 m ROW and 11.0 m asphalt in a residential subdivision is to be funded by the local developer.
- Improvements to assumed collector roads (rural to urbanize or widening) are to be funded through CWH development charges.
- New roads outside the draft plan of subdivision area to be funded through CWH development charges.
- **Structures/Crossings**
 - Structures and crossings that have a cross section greater than a 23.0 m ROW and 11.0 m asphalt are considered to be of City-wide benefit and are to be funded fully through CWH development charges.
 - Structures and crossings on local roads are generally considered to be a local service and a direct developer responsibility.
 - In some situations a local structure/crossing may be shown to provide a City-wide or Area-wide benefit. In these situations a share of the cost, to a maximum of 25 per cent, may be recovered by CWH development charges. The determination of whether or not a local structure provides a City-Wide benefit is at the sole discretion of the City as is determining the share to be funded from CWH development charges.
- **Sidewalks/Multi-Use Paths/ Bike Lanes**
 - Sidewalks/multi-use paths/on road and off road bike lanes on arterial roads and collector roads not in a draft plan of a subdivision are to be funded through CWH development charges.
 - Sidewalks/multi-use paths/on road and off road bike lanes on City roads in a draft plan of subdivision are local services and is the responsibility of the developer.
 - Trails and pathways on greenlands (valley land or open space outside of a draft plan of subdivision) are to be funded through CWH development charges (65 per cent) and the local developer/non-growth (35 per cent).
- **Studies**

- These are recovered through CWH and ASDC depending on the geographic and benefitting area of the study.
- **Water**
 - All watermains on arterial and collector roads not in a draft plan of subdivision are funded through CWH development charges.
 - 300 mm diameter watermains or smaller in a draft plan are the responsibility of the local developer.
 - Oversizing of watermains (>300 mm) in a draft plan are to be recovered through CWH development charges if it is triggered by external uses.
- **Sanitary/Storm Sewers and Stormwater Management Facilities**
 - To be recovered through ASDC/Local.
- **Enhanced Streetscaping**
 - Enhanced streetscaping on internal roads within a plan of subdivision or abutting site plan are to be recovered 50 per cent through CWH development charges and 50 per cent through the local developer/non-growth.
 - Enhanced streetscaping on external arterial and collector roads are to be recovered 50 per cent through CWH development charges and 50 per cent through the local developer/non-growth.

These policies are subject to ongoing review and update and to be approved by Council.

APPENDIX I

DRAFT DC BY-LAWS

(AVAILABLE UNDER SEPARATE COVER)