



Report to: General Committee

Meeting Date: April 8, 2019

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**SUBJECT:** Flood Control Program and Stormwater Fee Update  
**PREPARED BY:** Mark Visser, ext. 4260  
Rob Grech, ext. 2357

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**RECOMMENDATION:**

1. That the report “Flood Control Program and Stormwater Fee Update” be received; and,
2. That an annual stormwater fee continue to be imposed on all property within the municipal boundaries of the City of Markham, save and except those noted in the Stormwater Fee By-law 2020-XXX as outlined in Appendix “A” to this staff report; and,
3. That the annual stormwater fee for Residential properties be increased in year 2020 from \$47 to \$50 per property; and further be increased by \$1 per year, each year thereafter; and,
4. That the annual stormwater fee rate for Non-Residential properties be increased in year 2020 by \$2 per \$100,000 of current value assessment (CVA); and further be increased by 2% per year, each year thereafter; and,
5. That the annual stormwater fee rate for Vacant Land properties be increased in year 2020 by \$2 per \$100,000 of current value assessment (CVA) and further be increased by 2% per year, each year thereafter; and,
6. That the Treasurer continue to be authorized to adjust the annual stormwater fee rate for both Non-Residential and Vacant Land properties to compensate for the average annual change in City-wide CVA; and,
7. That the annual stormwater fee levied continue to be included as a separate line item on the final tax bill of the property; and,
8. That the City continue to allocate \$2,000,000 per year of Federal Gas Tax funding to the Flood Control Program;
9. That By-law 2015-130 be repealed in its entirety and replaced with the Stormwater Fee By-law 2020-XXX as outlined in Appendix “A” to this staff report; and,
10. That staff report back to Council in 2024 with any required update to the annual Stormwater Fees, for implementation in 2025, to ensure that the Flood Control Program is adequately funded; and,

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11. That Staff be authorized and directed to do all things necessary to give effect to this resolution.

**EXECUTIVE SUMMARY:**

In February 2013, Council approved a long-term, 30-year, Flood Control Program which sets funding requirements to achieve level of service improvements for drainage systems.

Staff utilized three principles to develop the fee methodology:

- Ability to pay
- Equity / fairness (relationship to runoff)
- Ease of administration and communication

In 2014, Council approved the implementation of a stormwater fee of \$47 for residential properties, and the fee was included on property tax final installment bills beginning in 2015.

In 2015, Council approved the implementation of a stormwater fee of \$29 per \$100,000 current value assessment (CVA) for Non-Residential and Vacant Land properties, which was included on tax bills beginning in 2016. Council authorized the treasurer to adjust the Non-Residential and Vacant Land annual stormwater fee to compensate for the average change in the City CVA. As a result, the 2019 rate is \$26 per \$100,000 CVA.

At the time of fee implementation, the program costs were estimated at \$234M - \$288M (2014 dollars). Staff is to review and adjust the fee every 5 years to ensure the program is adequately funded. The review will include and evaluation of factors that may contribute to changes in the rate, including the costs of the program, the growth of the City, value changes in CVA, and inflation.

Program implementation is currently on schedule, and project status is summarized in Appendix 'B'. The following changes to the original program have been made:

- Implementation of a new Private Plumbing Protection Rebate Program, initiated in 2018;
- Acceleration of West Thornhill Phase 4A construction to 2021;
- Acceleration of the Markham Village/Unionville Flood Protection study, beginning in 2018.

Staff updated Flood Control Program cost estimates in 2018 for all phases of the Flood Control Program, resulting in an increase from the \$234M-\$288M range (2014 Dollars), used to set the original Stormwater Fees, to \$367M-\$382M (2018 Dollars). Taking into account the offset of the \$6.5M Canadian Water and Wastewater Fund (CWWF) and \$48.6M Disaster Mitigation and Adaptation Fund (DMAF) grant funding obtained, and that original fees were set based on a \$288M (2014 Dollars) funding amount, there is an estimated revenue shortfall of \$24M-39M (2018 Dollars) for the 30 year program.

In order to eliminate the funding shortfall, staff recommend stormwater fee increases of \$3 for residential properties and \$2 per \$100,000 CVA for non-residential and vacant land

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properties in 2020, along with subsequent annual increases of \$1/year for residential properties and 2% per year for non-residential and vacant land properties. These fees, in combination with the annual \$2M allocation of the Federal Gas Tax grant (as approved by Council in 2013), are necessary in order to ensure the Flood Control Program is fully funded over the 30-year time frame of the initiative.

The above changes are reflected in By-law 2020-XXX, a by-law to repeal and replace Stormwater Fee By-law 2015-130, which is included as Appendix “A” to this staff report.

The City will continue to use the tax billing system for the billing and collection of the annual stormwater fees, and it is recommended that the City continue to allocate \$2,000,000 per year of Federal Gas Tax funding to the Flood Control Program.

**PURPOSE:**

The purpose of this report is to:

- To provide a status update on the City of Markham 30 year Flood Control Program and its funding requirements.
- Obtain Council endorsement of By-law 2020-XXX, a by-law to repeal and replace Stormwater Fee By-law 2015-130 as outlined in Appendix “A” to this staff report.

**BACKGROUND:**

In February 2013, Council approved a long-term, 30-year, Flood Control Program which sets funding requirements to achieve level of service improvements for drainage systems. Council also identified City-wide fees and Federal Gas Tax Funds as the funding sources for the program. The adoption of City-wide fees recognizes that proposed improvements will contribute to overall community benefits.

In June 2013, Council directed Staff to develop an implementation plan for the long-term flood control strategy and a City-wide fee structure based on runoff contribution. In November 2013, Council approved a City-wide Stormwater Fee structure consisting of flat and variable fees. The approved fee structure allocates fees to residential and non-residential property categories in proportion to City-wide runoff potential. The proportion of high-runoff surfaces City-wide is 60% residential and 40% non-residential.

Staff utilized three principles to develop the fee methodology:

- Ability to pay
- Equity / fairness (relationship to runoff)
- Ease of administration and communication

On November 17, 2014, Council approved the implementation of a stormwater fee of \$47 for residential properties, and the fee was included on property tax final installment bills beginning in 2015. At that time, the program costs were estimated at \$234M - \$288M (2014 dollars).

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On May 26, 2015, Council approved the following:

- That billing of annual stormwater fee for Non-Residential and Vacant Land properties commence in 2016 at a rate of \$29 per \$100,000 of current value assessment (CVA).
- That the Treasurer be authorized to adjust the annual stormwater rate for Non-Residential and Vacant Land properties to compensate for the average change in the City CVA.
- That any property with a CVA of less than \$100,000 shall not have a stormwater fee imposed upon it.

Based on the average changes in CVA, the Stormwater Fee rate for non-residential and vacant land property is \$26 per \$100,000 CVA for 2019.

The following process for updating the fee was included in a Staff report in May of 2015: “The Stormwater Fee will be reviewed every 5 years. At the time of the review, Staff will evaluate those factors that may contribute to changes in the rate, including the costs of the program, the growth of the City, value changes in CVA, and inflation. Staff will make changes to the fee to ensure the flood control program is adequately funded.”

In September 2017, the City obtained a funding grant of \$6.5M for West Thornhill 2B from the Ministry of Infrastructure of Ontario through the Clean Water and Wastewater Fund (CWWF).

Also in September 2017, Council approved the following changes to the Flood Control Program:

- Implementation of a new Private Plumbing Protection Rebate Program, to be initiated in 2018;
- Acceleration of West Thornhill Phase 4A construction to 2021;
- Acceleration of the Markham Village/Unionville Flood Protection study, beginning in 2018.

In March 2019, the City’s application for funding from the Disaster Mitigation and Adaptation Fund (DMAF) was approved for the full grant request in the amount of \$48.6M for the Don Mills Channel, West Thornhill Phases 3 & 4 and Thornhill Community Centre from Infrastructure Canada. . Staff will submit a separate report on the grant seeking Council authority to execute an agreement with Infrastructure Canada.

## **OPTIONS/ DISCUSSION:**

### **A) Project status and Implementation Timeline**

The Citywide Flood Control Program includes projects that range from major capital improvements to the storm system, to educational programs and subsidies for residents to improve their private plumbing systems. Outside of the Citywide Flood Control Program, Environmental Services also compliments flood mitigation through its Downspout Disconnection program, erosion control program, and coordinates sanitary sewer improvements along with stormwater pipe upgrades. These various initiatives range from

a private/local level, to large infrastructure improvements to provide a comprehensive flood mitigation program.

The award of the \$48.6M DMAF grant from Infrastructure Canada has allowed the City to expedite the completion of the Don Mills Channel project by 3 years, with the planned completion of the project now scheduled for 2027.

A summary of the project status and comparison of original and updated schedule for all phases of the Flood Control Program and other complimentary programs are provided below. Location maps have been included in Appendix 'B'.

**Table 1 Flood Control Program - Project Status and Implementation Status**

Area	Original Implementation Schedule	Current Implementation Schedule	Status
<b>West Thornhill</b>			
Phase 1A: Bayview Glen Area	2014 - 2015	2014 - 2015	Completed as of Nov. 2016; Maintenance completion Nov. 2017
Phase 1B: Bayview Glen Area	2015 - 2016	2015 - 2016	Substantially completed as of Aug. 2016; Maintenance completion Aug. 2018
Phase 1C: Canadiana Road	2016	2016	Substantially completed as of Dec. 2016; Maintenance completion Dec. 2018;
Phase 2A: Grandview Area	2016 - 2017	2016 - 2017	Substantially completed as of Dec 2016; Maintenance completion Dec. 2018
Phase 2B: Grandview Area (Park & Proctor Ave)	2017-2018	2017 - 2018	Substantially completed as of Dec. 2017; Maintenance completion Dec. 2019
Phase 2C: Grandview Area	2018-2019	2018 - 2019	Construction commencement: Jun. 2018
Phase 2D: Grandview Area	2020-2021	2019 - 2020	Construction commencement: April 2019
Phase 3: Clark Ave/ Henderson Area	2021-2022	2020 - 2022	Design – 90% complete
Phase 4: Royal Orchard Area	2023-2025	2021 & 2023 – 2025	Design – 30% complete
<b>Don Mills Channel</b>			
Woodbine/Denison	2018-2030	2018-2027	Environmental Assessment – 100% Complete Property acquisition – 50% complete
<b>City Wide Program</b>			
Private Plumbing Protection Rebate Program	N/A	2018-2020	Program Implementation Underway
Markham Village/Unionville	2030-2044	2018-2030	Environmental Assessment – 30% Complete
Other City Wide Areas	2030-2044	2030-2044	Not Initiated

**B) Stormwater Fee Review**

Staff updated Flood Control Program cost estimates in 2018 for all phases of the Flood Control Program, resulting in an increase from the \$234M-\$288M range (2014 Dollars), used to set the original Stormwater Fees, to \$367M-\$382M (2018 Dollars). Taking into account the offset of the \$6.5M CWWF and \$48.6M DMAF grant funding obtained, and that original fees were set based on a \$288M (2014 Dollars) funding amount, there is an estimated revenue shortfall of \$24M-\$39M (2018 Dollars) for the 30 year program.

The primary drivers in these Flood Control Program cost increases include:

- Project advancement from planning level estimates, and Municipal Class Environmental Assessment concept estimates, to more defined preliminary and final design costs estimates:
  - Changes to the scope and extent of the work occur when more is known about the site conditions
- Detail design would include more information on size/technical specifications of what will be built including actual site conditions that were unforeseen during detailed design
- Inflation / construction market escalation
- Implementation schedule changes affecting borrowing costs

Staff are recommending an initial increase of \$3 per residential property in 2020, followed by \$1/year increases thereafter. Similarly, non-residential properties would have \$2 per \$100,000 CVA increase in 2020 with 2% annual increases thereafter. As the stormwater rates have not increased since they were implemented, the proposed increases are less than inflation over that period.

Table 2 illustrates the proposed stormwater fee increases:

**Table 2 – Recommended Stormwater Fee Update**

	Initial Increase in 2020	Incremental Annual Increases after 2020
Residential Increase	\$3	\$1/year
Non-Residential Increase	\$2/\$100,000 CVA	2%/year

This rate update would allow the City to collect funds equal to the estimated program costs. The City would incur borrowing costs associated with a negative reserve balance (reaching \$55M in 2027). These negative balances may be funded through internal borrowing. The DMAF grant will contribute to mitigate larger fee increases and at the same time accelerate the timelines for key projects.

Examples of fees for various property types under this option are shown in Table 3.

**Table 3 Proposed Stormwater Fees for Various Property Types (\$)**

Type (CVA Value)	2019 (Existing)	2020 (New)	2021 (New)	2022 (New)	2023 (New)	2024 (New)
Residential	\$47	\$50	\$51	\$52	\$53	\$54
Non-Residential (\$0.5M CVA)	\$130	\$140	\$143	\$146	\$149	\$152
Non-Residential (\$1M CVA)	\$260	\$280	\$286	\$291	\$297	\$303
Non-Residential (\$2M CVA)	\$520	\$560	\$571	\$583	\$594	\$606
Non-Residential (\$5M CVA)	\$1,300	\$1,400	\$1,428	\$1,457	\$1,486	\$1,515
Non-Residential (\$10M CVA)	\$2,600	\$2,800	\$2,856	\$2,913	\$2,971	\$3,031
Non-Residential (\$20M CVA)	\$5,200	\$5,600	\$5,712	\$5,826	\$5,943	\$6,062
Non-Residential (\$50M CVA)	\$13,000	\$14,000	\$14,280	\$14,566	\$14,857	\$15,154
Non-Residential (\$425M CVA)	\$110,500	\$119,000	\$121,380	\$123,808	\$126,284	\$128,809

The proposed non-residential stormwater fee equates only 1.5% (industrial) to 1.7% (commercial) of the total tax bill for Non-Residential type properties. The average impact of the proposed fee *increase* is less than 1 cent per square foot per year.

The annual stormwater fee will continue to be imposed on all properties within the municipal boundaries of the City of Markham, save and except those noted in the Stormwater Fee By-law 2020-XXX as outlined in Appendix “A” to this staff report.

### **FINANCIAL CONSIDERATIONS**

Staff recommend stormwater fee increases of \$3 for residential properties and \$2 per \$100,000 CVA for non-residential and vacant land properties in 2020, along with annual increases of \$1/year for residential properties and 2% per year for non-residential and vacant land properties. These fees, in combination with the annual \$2M allocation of the Federal Gas Tax grant (as approved by Council in 2013), are necessary in order to ensure the Flood Control Program is fully funded over the 30-year time frame of the initiative.

As staff are endeavoring to complete the work in a timely manner, much of the work will be undertaken in advance of the City receiving the stormwater fee revenue. The following graph noted below illustrates the forecasted expenditures and the projected revenue (note: the fluctuation in revenue between 2018 and 2027 is related to the timing of the \$6.5M CWWF grant, and \$48.6M DMAF grant):

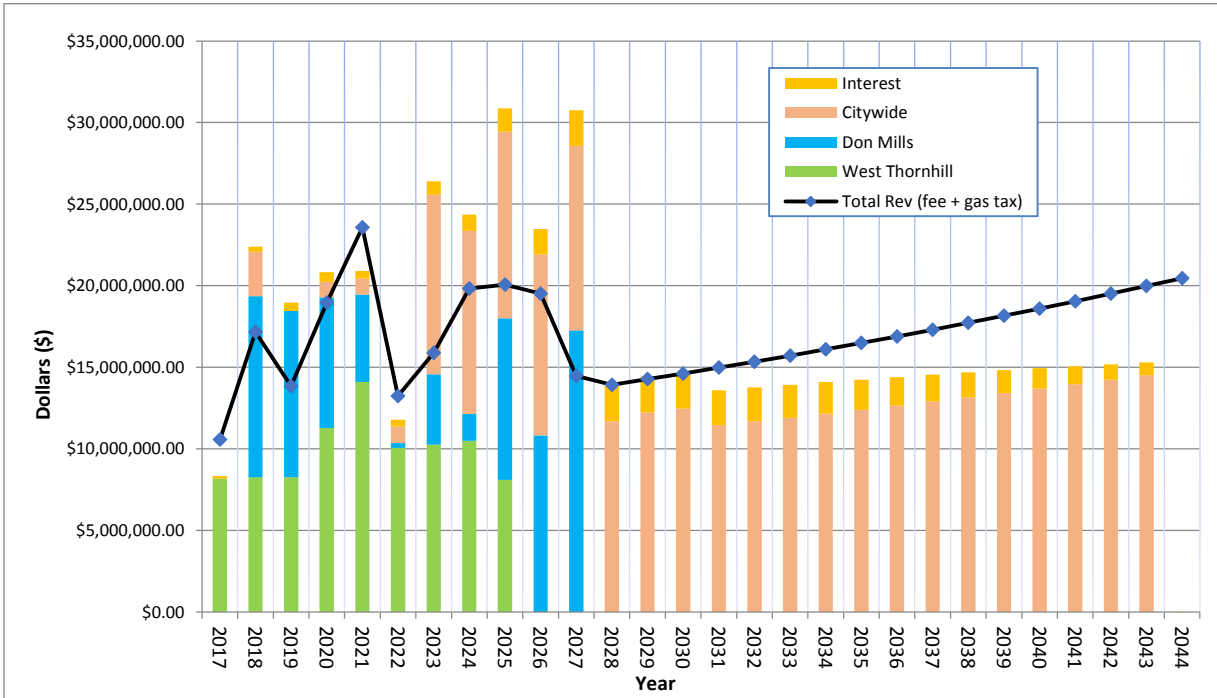


Figure 1 Stormwater Revenue/Expense Trending

As a result of the accelerated expenditures, the Stormwater Fee Reserve is projected to be in a negative balance throughout the duration of the Flood Control program, with a peak negative balance of approximately \$57M:

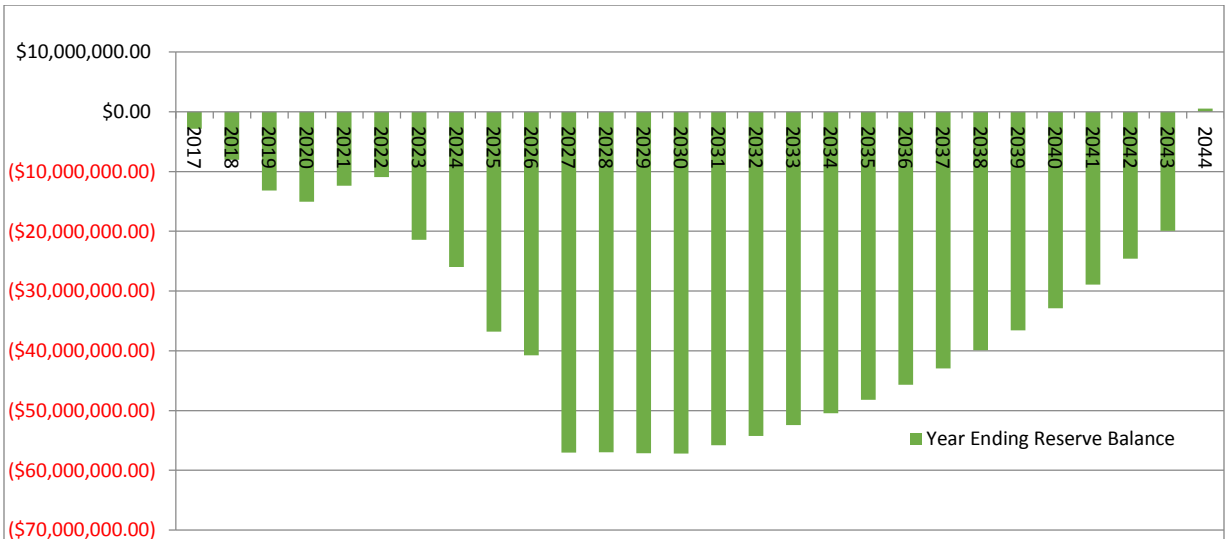


Figure 2 Stormwater Reserve Balance

Currently, the City is managing the negative reserve balance through internal borrowing. As the reserve continues to move into a further negative position, there may be a need for external borrowing.



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The City will continue to use the tax billing system for the billing and collection of the annual stormwater fees. The 2020 Stormwater Fee increase of \$3/property from \$47 to \$50/year per residential property will be reflected on the final tax bill in June 2020. The 2020 Stormwater Fee increase of \$2/\$100,000 CVA for non-residential properties will be reflected on the final tax bill in September 2020.

The Stormwater Fee will be reviewed by staff every 5 years and staff will report back to Council in 2024 with any required changes to Stormwater Fees, for implementation in 2025, to ensure that the Flood Control Program is adequately funded. Staff will evaluate those factors that may contribute to changes in the rate including cost of the program, the growth of the City, value changes in CVA, and inflation.

It is recommended that the Treasurer continue to be authorized to adjust the annual stormwater rate for Non-Residential and vacant land properties to compensate for the average change in the City CVA.

It is recommended that the City continue to allocate \$2,000,000 per year of Federal Gas Tax funding to the Flood Control Program.

#### **HUMAN RESOURCES CONSIDERATIONS**

Not Applicable.

#### **ALIGNMENT WITH STRATEGIC PRIORITIES:**

The Flood Control Program is aligned with our objectives to provide better quality services to the public and is consistent with “Building Markham’s Future Together” strategic plan’s goal of a *Safe & Sustainable Community*.

#### **BUSINESS UNITS CONSULTED AND AFFECTED:**

Not Applicable

#### **RECOMMENDED BY:**

Phoebe Fu, Director, Environmental Services

Brenda Librecz, Commissioner, Fire & Community Services

Joel Lustig, Treasurer

Trinela Cane, Commissioner, Corporate Services

#### **ATTACHMENTS:**

Appendix ‘A’ – Stormwater Fee By-Law 2020-XXX

Appendix ‘B’ – Flood Control Program Location Maps

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**APPENDIX A****Bylaw 2020-XXX**

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**A by-law to repeal and replace Stormwater Fee By-law 2015-130**

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**Whereas** Section 11 of the *Municipal Act, 2001*, S.O. 2001, c.25, as amended, (the “Municipal Act”) authorizes The Corporation of the City of Markham (the “City”) to exercise authority over drainage and flood control matters; and,

**Whereas** Section 391 of the Municipal Act authorizes the City to pass bylaws imposing fees or charges on persons for services or activities provided or done by or on behalf of it; and,

**Whereas** the Council for the City deems it necessary and desirable to implement a stormwater Flood Control Program for purposes of the safety and well-being of persons, and the City’s economic and environmental well-being; and,

**Whereas** the Council for the City deems it necessary and desirable to create a separate Stormwater Fee to fund capital projects to improve the storm drainage system;

**Now Therefore** the Council for The Corporation of the City of Markham enacts as follows:

**1. Definitions**

In this Bylaw:

- (a) “City” means The Corporation of the City of Markham;
- (b) “Council” means the Council of The Corporation of the City of Markham;
- (c) “MPAC” means the Municipal Property Assessment Corporation;
- (d) “Property” means any real property within the geographical boundary of the City of Markham;
- (e) “Property Owner” means an individual, partnership or corporation who owns Property;
- (f) “Property” means Property within the geographical boundary of the City of Markham classified by the MPAC;

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- (g) “Residential Property” means Property within the geographical boundary of the City of Markham classified as Residential by the MPAC;
- (h) “Non-Residential Property” means Property within the geographical boundary of the City of Markham classified as Non-Residential by the MPAC;
- (i) “Vacant Land” means Property within the geographical boundary of the City of Markham classified as Land without structures or outbuildings by the MPAC;
- (j) “Stormwater” means surface and rain water, melted snow and ice, and uncontaminated water when discharged to the stormwater drainage system from freshwater swimming pools, underground drains, foundation drains and groundwater;
- (k) “Stormwater Fee” means the amount charged under this Bylaw based upon the rate and class of the Property;
- (l) “Treasurer” means the Treasurer of the City or his/her delegate;
- (m) “Tax Bill” means the property tax bill under the Municipal Act sent to Property Owners by the City;
- (n) “Flood Control Program” means the City-wide upgrade of storm drainage systems as approved in Class Environmental Assessment or other remediation studies.
2. THAT an annual Stormwater Fee be imposed on all property within the City of Markham, save and except those noted as exempt in this bylaw to fund a long-term Flood Control Program which includes construction of storm drainage system capital projects and administration of the stormwater program.
3. THAT the annual Stormwater Fee for Residential properties be increased in year 2020 from \$47 to \$50 per property; and further be increased by \$1 per year, each year thereafter; AND,
4. THAT the annual Stormwater Fee rate for Non-Residential properties be increased in year 2020 by \$2 per \$100,000 of current value assessment (CVA) and further be increased by 2% per year, each year thereafter; AND
5. THAT the annual Stormwater Fee rate for Vacant Land properties be increased in year 2020 by \$2 per \$100,000 of current value assessment (CVA) and be increased by 2% per year, each year thereafter; AND

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6. THAT the Treasurer continue to be authorized to adjust the annual stormwater fee rate for both Non-Residential and Vacant Land properties to compensate for the average annual change in City-wide CVA; AND
  7. THAT any Property with a total CVA of less than \$100,000, as determined by MPAC is exempt from this by-law and shall not have a Stormwater Fee imposed upon it; AND
  8. THAT any Property owned by the City is exempt from this by-law and shall not have a Stormwater Fee imposed upon it; AND
  9. THAT any Property owned by a District School Board or School Authority as defined under the Ontario *Education Act*, as amended, is exempt from this by-law and shall not have a Stormwater Fee imposed upon it; AND
  10. THAT the annual Stormwater Fee levied by this by-law be included as a separate line item on the final tax bill of the property; AND
  11. THAT the Stormwater Fee levied by this by-law be due and payable in conjunction with the tax bill installments of the property; AND
  12. THAT payment of the Stormwater Fee be paid to the Treasurer at the Municipal Offices, 101 Town Centre Boulevard, Markham, Ontario, L3R 9W3; AND
  13. THAT By-law 2015-130 be repealed in its entirety and replaced with the Stormwater Fee By-law as outlined in Appendix "A" to this staff report; and further
  14. THAT this by-law come into force and effect on the date it is passed.

**READ A FIRST, SECOND, AND THIRD TIME AND PASSED ON THIS XX DAY OF XX**

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Kimberley Kitteringham  
City Clerk

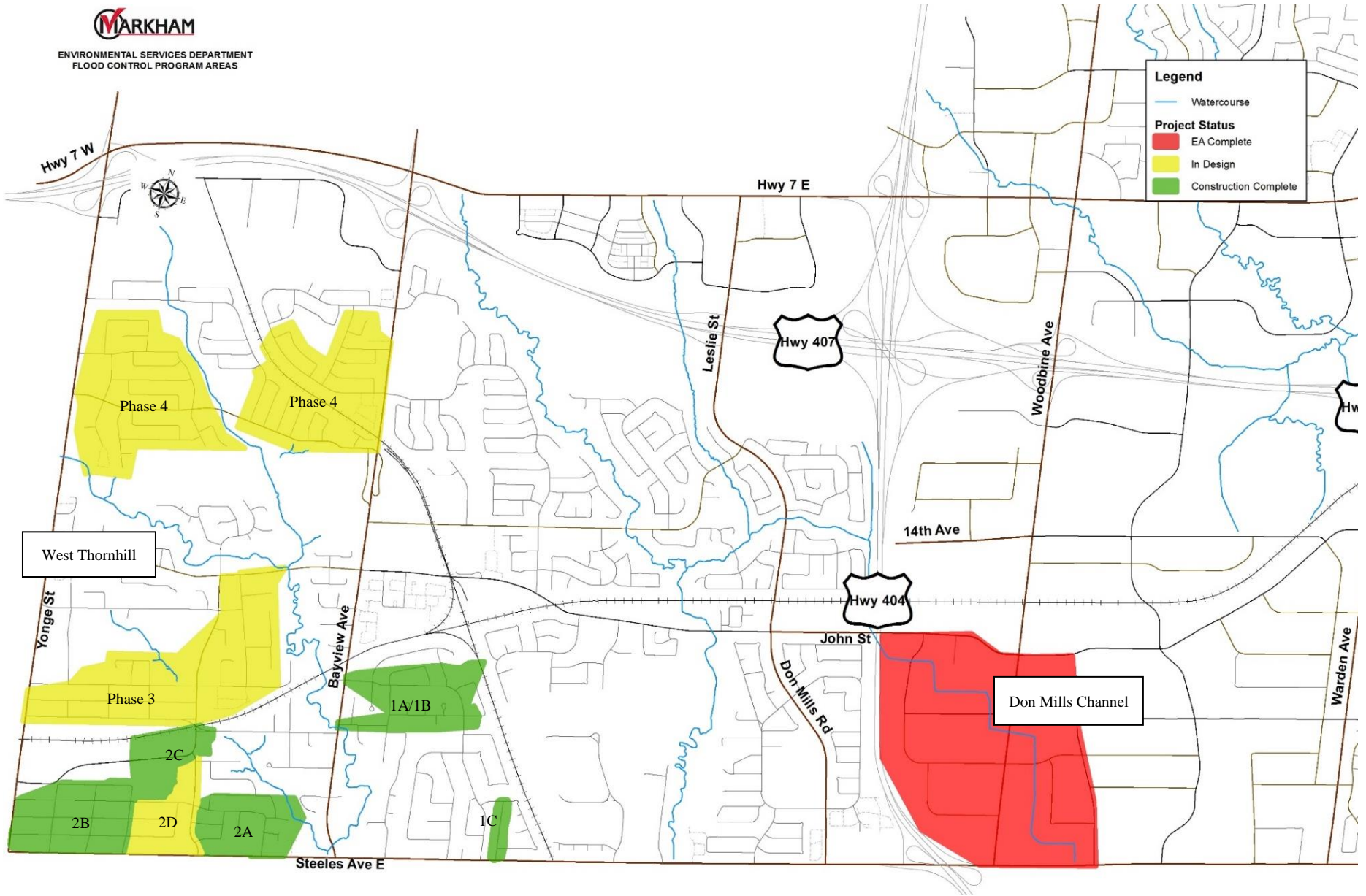
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Frank Scarpitti  
Mayor

# APPENDIX B: LOCATION MAPS



ENVIRONMENTAL SERVICES DEPARTMENT  
FLOOD CONTROL PROGRAM AREAS





ENVIRONMENTAL SERVICES DEPARTMENT  
FLOOD CONTROL PROGRAM AREAS



**Legend**

-  Watercourse
-  Construction Complete
-  Design Underway
-  Project Not Initiated
-  EA Underway

