

## REPORT

### Council

**Meeting Date: July 11, 2023**

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**FROM:** Community Infrastructure Commission

**DATE:** June 27, 2023

**SUBJECT:** Town-wide Rainwater Management Strategy Update

**LOCATION:**

**WARD:** Town-wide

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#### **RECOMMENDATION:**

1. That a new Stormwater Fee to fund the needs identified as part of the Rainwater Management Strategy be endorsed.
2. That staff proceed in the development of a Stormwater fee and report back in 2024 with an update on the type of fee and recommended structure.

#### **KEY FACTS:**

The following are key points for consideration with respect to this report:

- Town of Oakville declared a climate emergency in 2019 for the purposes of deepening the Oakville community commitment to protecting our economy, environment and community from climate change.
- The town's stormwater network includes storm sewer pipes, creeks, shoreline, stormwater management ponds, harbours, minor culverts and ditches.
- The RWM Strategy is the overarching umbrella that looks at all stormwater related needs to deliver a holistic long-term infrastructure plan, including a supporting financing strategy.
- The RWM Strategy will provide residents and Council information about the town's strategy to improve resiliency and adapt to climate change and protect both our natural assets and stormwater infrastructure.
- Based on the information available as of March 2023, Phase 1 of the RWM Strategy estimated 30-year long-term plan needs in the total of \$639.8 million, including stormwater infrastructure life-cycle needs and enhancements.

- RWM strategy Phase 2 developed a methodology to prioritize all the various project recommendations that aims to maximize benefit and create the most resiliency possible in an effective and cost-efficient manner.
- Based on preliminary financial analysis, the existing level of funding available from capital reserve/capital levy is insufficient to fund the 30-year RWM strategy needs.
- A new stormwater fee is recommended that would provide a long-term, sustainable funding source for stormwater infrastructure needs.
- Phase 3 of the RWM Strategy is to complete a financing strategy and development of fee model/options to support the delivery of the recommended 30-year plan for stormwater infrastructure.
- During the development of the strategy, improvements to the town's stormwater network continue to be implemented as part of our asset management planning and capital budget delivery. To date, a total of \$60.3 million has been included in the 2023 – 2032 capital forecast.
- Town website was updated with information on RWM Strategy and flood mitigation education material.

**BACKGROUND:****The Town of Oakville declared a climate emergency in 2019 to protect our economy, environment and community from climate change.**

In Southern Ontario, we are experiencing more intense and more frequent rainfall than ever. In response, the Town of Oakville declared a climate emergency in 2019 for the purposes of deepening the Oakville community commitment to protecting our economy, environment and community from climate change. These severe rainstorms can cause property damage and have a harmful effect on the environment as they release pollution into our community and into our lakes. Therefore, it is critical that water runoff from storms and melting snow is managed effectively.

**The town has had a stormwater network in place for many years that we continue to maintain and enhance.**

Storm water management is crucial in protecting public safety, to reduce flood risks, control erosion and maintain water quality in local natural waterways. The town manages stormwater runoff from rainfall events and snowmelt by ensuring a network of various stormwater infrastructure and natural assets are in place and functioning appropriately. The town is responsible for various types of stormwater infrastructure ranging from minor system (e.g. storm sewers and ditches) to major

system (e.g. overland flow on roads, creeks) drainage, stormwater management ponds and shoreline embankments. Effective management of the overall stormwater network helps to protect Oakville residents and businesses while preserving our natural environment. The town has had a stormwater network in place for over fifty years that we continue to maintain and enhance as design standards have evolved over time. Since the 1980's, design standards have been applied by the town to generally accommodate major system flows for the 100-year rainfall event.

**Town has completed various studies with infrastructure improvement recommendations to adapt and become more resilient to different types of flooding.**

Different areas in the town may experience different types of flooding such as riverine, lake, urban and basement flooding. Each type of flooding is controlled through various types of infrastructure, natural assets and management techniques that work together to provide protection as a whole to the community. Jurisdiction over the different types of infrastructure is shared between the Town, Conservation Authorities and the Region with all three having an important role to play. Over the years, the town has completed a number of different stormwater management initiatives, including various studies, environmental assessments and infrastructure condition audits for our shorelines, harbours, stormwater pipes and on various creeks to assess how to improve our infrastructure to adapt and become more resilient. In addition, staff have been developing long-term asset management plans in response to the new legislation requirements under "Asset Management Planning for Municipal Infrastructure" act. The new legislation not only requires that a municipality identify long-term life cycle needs for renewal of assets but also that a climate lens be applied when developing these plans.

**Town staff are developing a Rainwater Management Strategy to deliver a holistic long-term infrastructure plan and supporting financing strategy.**

In March 2022, staff presented an overview and roadmap of the town-wide [Rainwater Management \(RWM\) Strategy](#). The purpose of the RWM Strategy is to develop a long-term infrastructure plan and supporting financing strategy that maintains the infrastructure's state of good repair and identifies improvements to help build resiliency against impacts of climate change. Overall, this plan looks at the various types of stormwater infrastructure that help to mitigate flooding, control erosion, reduce pollution and maintain water quality. The RWM Strategy is the overarching umbrella that combines all the work that has been done to date and develops a comprehensive way of planning and implementing stormwater-related infrastructure into the future. It will encompass all town-owned tangible and natural assets related to pipes, culverts, shoreline, harbor shoreline, piers, riverines, stormwater ponds and ditches.

This multi-year project involves three interdependent phases over three years:

- PHASE 1 – Identifying the Needs
- PHASE 2 – Building Policy and Long-term Plan
- PHASE 3 – Financing Strategy and Implementation

The outcomes of the strategy will be:

- A defined capital program with needs identified and prioritized over the long-term (30 years);
- Defined actions to address climate change adaptation and improve resiliency;
- A financing strategy including consideration and evaluation of a dedicated funding source for stormwater related infrastructure needs;
- A roadmap of life-cycle renewal and improvements related to stormwater infrastructure;
- Provide residents and Council information on a Town-wide strategy to improve stormwater infrastructure resiliency and combat climate change.

The town joins a number of other municipalities such as Mississauga, Kitchener/Waterloo, York Region, Markham and Toronto in the fight to better manage rainwater and rainwater run off as we begin to understand the ever-changing environmental impacts of global warming.

#### **COMMENT/OPTIONS:**

The first and second phase of the project is now complete, which compiled all needs identified and evaluated them in order to develop an overall 30-year plan which was prioritized based on various risk factors and service objectives.

#### **Phase 1: Identify Needs**

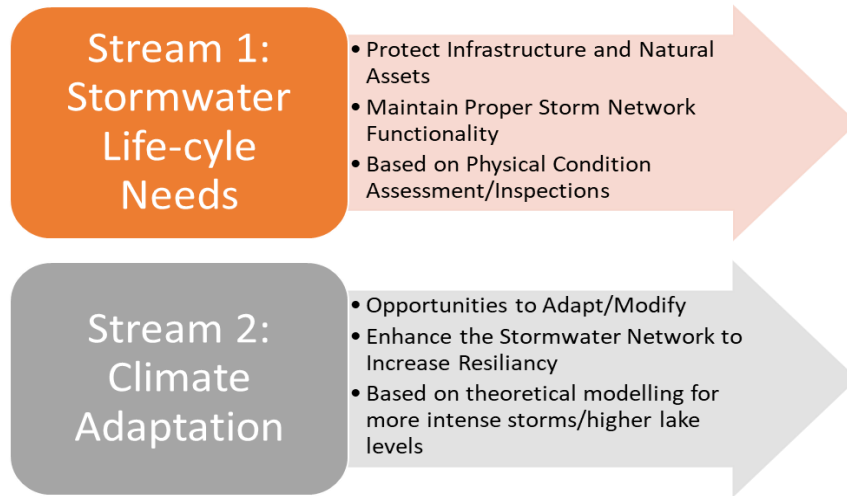
**Two separate streams identified, life cycle and climate adaptation needs totaling \$639.8 million over 30 years.**

Through the town's asset management planning, condition assessments are regularly completed on the various rainwater related assets to determine what life-cycle renewal and rehabilitation works are required over the near term and long-term 30-year horizon. Some of this infrastructure is approaching end of life and will require significant investment in the future. Maintaining our existing infrastructure in a state of good repair (SOGR) is essential in ensuring our stormwater network functions properly to continue to provide current level of stormwater protection.

In addition, over the past several years a number of flood assessment studies have been completed to understand the impacts of the more intense storm events or higher lake levels and to identify potential opportunities for adaptation. These

studies help to understand the extent of the vulnerability in different areas and develop potential options to enhance the town's existing stormwater network to provide more resiliency and increase the level of stormwater protection.

In summary, there are two separate streams that have been identified under the umbrella of the RWM strategy, each stream addresses different needs, service objectives and has different risks associated.



Based on the information available as of March 2023, the total estimated Rainwater Management Strategy 30-year needs total \$639.8 million, of which \$253.4 million will support maintaining the town's stormwater infrastructure in state of good repair and \$386.4 million in improvements to help adapt and improve resiliency to evolving climate change impacts. A summary of the total estimated needs by asset category or study is provided below. It should be noted that the 30-year program identified does not account for new infrastructure as a result of growth, therefore it will be important to continue to re-evaluate the RWM Strategy to continue to adapt and modify the 30-year plan as more information becomes available and assumptions change. More details on the specific capital renewal programs, various studies, outcomes, and recommended improvements are included in Appendix A.

**RWMP 30-YEAR RECOMMENDED FEE REQUIREMENT**

(Millions, in 2022 dollars)

Category/Asset Group	Total 30 Year	Average Annual Need	Objective
<b>a) STORMWATER LIFE-CYCLE NEEDS</b>			
Stormwater System Maintenance	\$ 63.0	\$ 2.1	<b>Maintain Infrastructure in SOGR</b>
Storm Sewers Rehabilitation	\$ 43.2	\$ 1.4	
Stormwater Pond Management	\$ 34.9	\$ 1.2	
Creek Erosion	\$ 70.0	\$ 2.3	
Shoreline Rehabilitation	\$ 26.6	\$ 0.9	
Minor Culverts Renewal	\$ 15.7	\$ 0.5	
<b>Sub-Total</b>	<b>\$ 253.4</b>	<b>\$ 8.4</b>	
<b>b) IMPROVEMENTS FOR CLIMATE ADAPTATION</b>			
Storm Sewer Masterplan Implementation	\$ 293.0	\$ 9.8	<b>Increase Resiliency to Storm Events</b>
Riverine Study Implementation	\$ 29.6	\$ 1.0	
Ditch Improvements and New Storm Sewers	\$ 34.8	\$ 1.2	
Parks & Harbour Shoreline Upgrades	\$ 29.0	\$ 1.0	
<b>Sub-Total</b>	<b>\$ 386.4</b>	<b>\$ 12.9</b>	
<b>Total RWM Funding Need</b>	<b>\$ 639.8</b>	<b>\$ 21.3</b>	

\*Major Culvert and Bridges not in scope

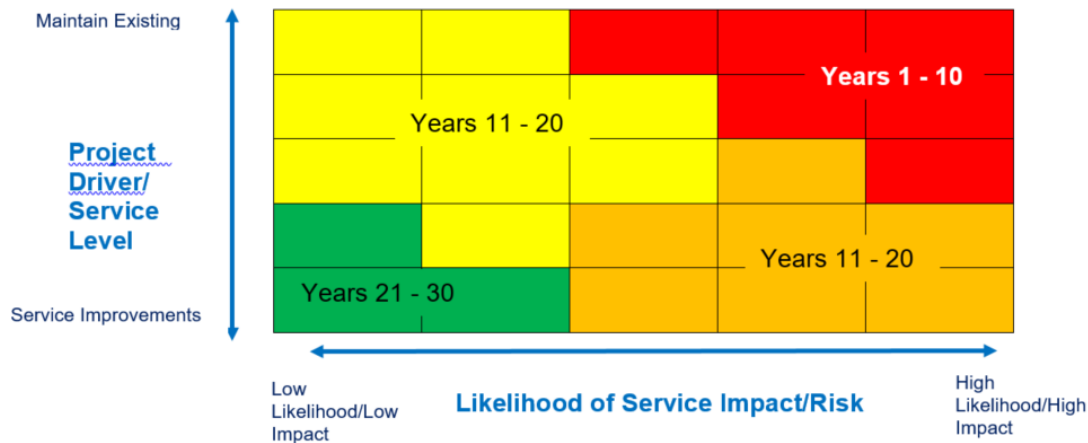
**Phase 2: Evaluation/Prioritization Methodology**

**Prioritization methodology was developed to maximize benefit and create the most resiliency possible.**

Due to the varied nature of the type of projects, service objectives and approach used to assess impact, it was difficult to determine a “one size fits all” methodology to evaluating all the recommendations. As such, the following prioritization principles were applied to all the recommendations:

- 1. Asset Management Strategy Project Prioritization Principles** – outlines a framework to prioritize needs based on project drivers such as Health and Safety, Maintain Existing Infrastructure, Service Level Improvements, Growth etc.. ([Asset Management Strategy](#))
- 2. Risk Principle** – prioritizes needs by assessing the risk of not implementing the project based on the likelihood of the event and the degree of service impact. (For example, the more intense storm events have a 1% probability of occurrence in any given year however, in 2017 and 2019 the town's shoreline experienced flooding as a result of the high lake levels in the spring.)
- 3. Existing Study Rankings/Recommendations** – each study has ranked recommendations and options using technical assessment tools specific to the nature of the study/assessment completed.
- 4. Evidence/Data Driven (condition/known issues)** – improvements in areas that have exhibited storm management events in the past would have higher priority.
- 5. Co-ordination with other projects** - to align renewal and replacement needs with various climate adaptation initiatives to optimize resources and foster a “dig once” principle.

Using the above principles, the various project recommendations were prioritized on a continuum based on the type of project driver vs the likelihood of service impact and risk as illustrated below.



By using this prioritization methodology, stormwater infrastructure in poorest condition, improvements in areas with storm prone conditions, and climate adaptation initiatives with the highest priority or service impact would be generally planned for in the 1- 10 years. Projects with medium condition or medium priority/impact would be generally planned for in the 11 – 20 year time frame and so on.

**30-year capital plan developed with the average annual RWM strategy needs total \$21.3 million per year.**

Under the umbrella of RWM strategy Phase 2, a 30-year capital plan has been developed where all the recommendations within the various studies have been reviewed and prioritized across the entire network to maximize benefit and create the most resiliency possible in an effective and cost-efficient manner. The RWM Strategy has identified a total capital requirement of \$639.8 million over the 30-year period. This represents an average annual need of \$21.3 million.

### **Phase 3 - Preliminary Financial Assessment**

**There is an estimated annual shortfall of \$12.4 million over 2023-2032 to support the needs of the RWM Strategy.**

As previously noted, the RWM Strategy has identified a total requirement of \$639.8 million over the 30-year period, representing an average annual need of \$21.3 million. Some of the infrastructure renewal programs have funding allocated based on previous capital plans developed. The 2023-2032 Capital Forecast included a

total annual average of \$8.9 million in existing funding, leaving an unfunded amount required of \$12.4 million.

**Annual Capital Levy is fully committed, preliminary financial assessment reviewed the sufficiency of the capital reserve.**

The Capital reserve and the annual Capital Levy would be the primary funding source for the capital needs identified in the RWM Strategy. Capital reserve and the annual capital levy are in place to support the town's long-term capital plan and to minimize tax rate impact of major capital expenditures. They serve as the primary source of funding for infrastructure renewal projects and ensure that funding is available to replace assets based on the town's asset management plan requirements. In addition, capital reserves are the main source of funding for program initiatives and make up the funding gap for the town share of growth-related capital projects that are not recoverable through growth funding tools.

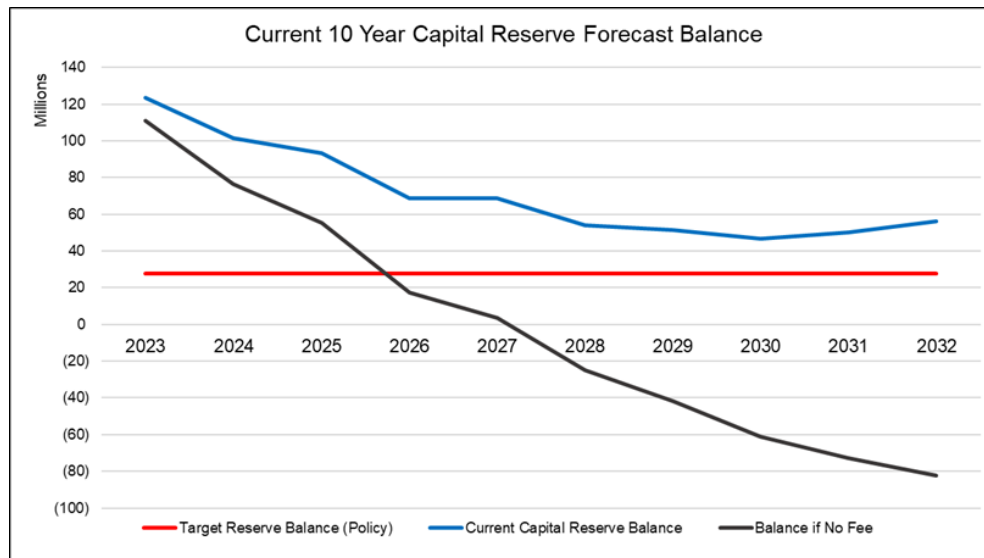
Based on the existing 2023-2032 capital forecast, the annual capital levy is fully allocated to capital projects over the 10-year period, therefore for the purpose of assessing the affordability of the RWM strategy, the preliminary financial assessment focuses on the capital reserve. It is important that the town's capital reserve is maintained at sufficient levels to minimize risk, support future initiatives, and mitigate unknown contingencies. Adequate reserve and reserve fund balances are imperative in the continued strong fiscal health of the town and contribute to the top credit ratings from S&P Global Ratings (AAA) and Moody's Investor Service (Aaa) maintained by Halton Region. GFOA recommends that capital reserves be at least the equivalent of one year's worth of the average capital requirements.

**The capital reserve balance is projected to result in a negative \$82 million balance without alternate funding source.**

The 2023 capital reserve balance is currently in a strong position, with a projected balance of \$124 million at year end, which is anticipated to decline to approximately \$56 million by 2032. The 2032 balance is 2 times the average projected spending of \$28 million, exceeding the town's target balance.

If the \$12.4 million annual additional funding required to support the long-term plan identified in the RWM Strategy were to be fully funded by the reserve without any alternative funding source, the capital reserve balance would decline below the target balance in 2026 and is projected to result in a negative \$82 million in 2032. The below chart illustrates the ending capital reserve balance based on the 2023-2032 capital forecast including capital needs from all program areas (blue line), and the forecast adding the additional \$12.4 million per year funding to support the RWM Strategy capital needs (black line).





Identifying the infrastructure needs over the long term is important as it allows the town to plan for these costs. Capital needs can have a significant impact on reserve balances, and they must be planned for to avoid declines in services or major tax increases. Further analysis was completed to look at the reserve impact over the longer-term 30-year horizon based on projected capital expenditures and revenues, the unfunded total of \$12.4 million per year beyond 2032 is not affordable as the reserve balance projection continues to decline.

**A new stormwater fee is recommended to provide a long-term, sustainable funding source for stormwater infrastructure needs.**

While the town does have the debt capacity over the short term to address RWM Strategy capital needs, funding these infrastructure costs through borrowing is not an option over the longer term as the town would exceed the limits within the Corporate Debt Policy, and potentially the provincially legislated repayment limit. In order to pay for RWM Strategy capital needs with the town's current revenue sources, other capital projects would need to be deferred or there would need to be an increase to property taxes.

The introduction of a new fee would provide a long-term, sustainable funding source for stormwater infrastructure needs. This new funding source would allow for the stormwater infrastructure improvements recommended, while maintaining the town's strong financial position and ability to continue to fund other program needs at existing levels and growth management needs. As noted in the January 17 *Reserves and Reserve Funds* report to Budget Committee, in the coming years the town must include all assets in the Asset Management Plan (AMP), including proposed levels of service and a fulsome financing strategy to address any gap in

funding. The RWM Strategy has clearly identified a gap in funding, and the introduction of a new fee would address this gap.

### **Phase 3 – Financing Strategy and Fee Development**

**The next phase of the RWM Strategy is to develop of financing strategy including fee model/options with recommendation anticipated in 2024.**

Having a dedicated stormwater fee would provide a sustainable funding source to support the delivery of the recommended 30-year plan for stormwater related infrastructure. Phase 3 of the RWM Strategy is to develop a financing strategy including evaluation of fee model/type options that can be easily communicated and tied back to the programs it will be supporting. In summary, the objective of developing a new stormwater fee is to provide a long-term sustainable funding source that will enable the town to continue to protect our stormwater infrastructure and natural assets and improve resiliency against climate change impacts.

Below is an overview of the various components related to development of a fee model and implementation:

- Develop fee structure guiding principles – Equitable vs User Benefit; ease of implementation vs detailed fee
- Evaluate fee model options – who is charged, how it is calculated (CVA, Roof size etc.)
- Develop a fee strategy – how much, over what term, structure of financing source, type of fee i.e. new fee, new capital levy, other etc.
- Research what other municipalities have developed / established as funding strategy.
- Evaluate fee collection method – tax bill, water bill, town-wide/area specific etc.
- Develop stormwater fee implementation plan – when/how to initiate new fee/funding source, billing requirements, communication plan and public engagement requirements.

In order to assist with this next phase of the RWM strategy, staff will be retaining a consultant to help develop different fee model/options and evaluate the different methodologies for consideration. It is anticipated that the RFP to retain the consultant would be released in July in order for work to begin in the fall of 2023. The development and evaluation of the different options is expected to take several months; therefore, staff would report back in 2024 with the recommended fee model/option and implementation plan.

## **Communication and Outreach**

### **Town website updated with information on RWM Strategy and flood mitigation education material.**

As part of the continuous improvement process, staff made a number of improvements to promote and education the general public on various aspects of stormwater management. The following popular topics has been included in the new town website:

- What is stormwater and how is it managed
- What are the different types of flooding
- How does the town manage stormwater and who are our partners
- What can a home owner do to help protect their assets
- Who to call to report flooding
- What is the Town doing to manage stormwater and adapt to climate change
- Link to Halton Region's basement flooding program

In addition, staff have been working on developing a series of brochures or information packets that can be distributed at public at events. A sample brochure is included in Appendix B.

Further, a new landing page has been created for the Rainwater Management Strategy as the overarching umbrella on planning and implementing stormwater tangible and natural asset for life-cycle needs and climate adaptation improvements.

Staff will continue to work with our partners (Conservation Authorities and Halton Region) on increasing public awareness and will determine the best options for public engagement as RWM Strategy progresses.

## **Conclusion**

### **A stormwater fee would provide a sustainable funding source to protect and enhance the stormwater network.**

The town has been developing a ***Town-wide Rainwater Management (RWM) Strategy*** that is the overarching umbrella providing a holistic way of planning for all stormwater related needs. Overall, this plan looks at the various types of stormwater infrastructure that help to reduce risk of flooding, control erosion, reduce pollution and maintain water quality. Phase 2 of the RWM strategy has prioritized recommendations from the various studies and assessments and has developed a long-term 30-year plan to support on-going life cycle needs and enhancements of the stormwater network at an estimated total of \$639.8 million. Based on preliminary financial analysis, the town does not have sufficient funding resources to

support the identified stormwater needs long-term. Having a dedicated stormwater fee would provide a sustainable funding source to ensure infrastructure is maintained in a good state and ensures our stormwater network functions properly; and would help to enhance the network to provide more resiliency against impacts of climate change.

Phase 3 of the RWM strategy is to complete a financing strategy and develop a fee model/options to support the delivery of the recommended 30 year long-term plan for stormwater related infrastructure.

**Improvements to rainwater infrastructure will continue during the RWM Strategy development.**

During the development of the RWM strategy, improvements to the town's stormwater infrastructure will continue to be incorporated into the capital forecast as part of ongoing asset management planning and capital budget development to continue our progress in protecting infrastructure and natural assets and improving resiliency. As part of the 2023 capital forecast approximately \$60.3 million has been included to support on-going management of storm sewer pipe rehabilitation, creek erosion needs, shoreline renewal and new storm sewers to improve drainage in south Oakville.

Overall, the RWM strategy will provide a long-term plan, a supporting financing strategy and information to Council and residents about the town's strategy to improve resiliency and adapt to climate change. This plan will reinforce Oakville's commitment to protecting our economy, environment and community from climate change.

**CONSIDERATIONS:**

**(A) PUBLIC**

Information and educational material related to stormwater management will be updated to assist members of the public with their questions regarding improving resiliency and adapting to impacts of climate change.

**(B) FINANCIAL**

There are no direct financial implications as a result of this report. As the development of the RWM strategy progresses, an overall financing strategy will be developed to fund the \$639.8 million estimated in long-term needs. It should also be noted that as work on phase 3 of the strategy is completed, consideration for additional FTE requirements to support the implementation of the capital plan of this size as well as the on-going execution and collection of the fee will be determined. Cost of the FTE support will be incorporated into the fee.

**(C) IMPACT ON OTHER DEPARTMENTS & USERS**

Asset Management, Transportation and Engineering, Parks and Open Space, Roads and Works, and Finance were consulted in the preparation of this report. Staff from these departments will be part of the project team in the development of the Town-wide Rainwater Management Strategy.

**(D) CORPORATE STRATEGIC GOALS**

This report addresses the following corporate strategic goal(s):

- Accountable Government - Creating a long-term capital plan to improve rainwater infrastructure with a financial strategy is fiscally prudent and ensure efficient delivery of improvements.
- Environment – Effective management of the overall rainwater related infrastructure network helps to protect Oakville residents while preserving our natural environment, and increase our resiliency against climate change.

**(E) CLIMATE CHANGE/ACTION**

Severe storms can cause property damage and have harmful effects on the environment. Storm water management is crucial in protecting public safety and health, to reduce flood risks, control erosion and maintain water quality in local natural waterways. Creating a long-term plan to maintain and enhance stormwater infrastructure will help ensure stormwater continues to be managed effectively as well as adapt to the impacts from more frequent and severe rainstorms resulting from climate change.

**APPENDICES:**

Appendix A – Rainwater Related 30 Year Capital Program Details

Appendix B – Stormwater Management Sample Information Brochure

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