

# Appendix G – Program Sheets

# Stormwater Retrofit Program

## PROGRAM DESCRIPTION

The Stormwater Retrofit Program involves the study of older built-up urban areas with little or no stormwater management function, and implementation of measures intended to improve water quality and erosion conditions in receiving watercourses and reduce the risk of beach closures. These measures may include stormwater management facilities, Low Impact Development measures to control runoff at source, identification and elimination of other sources of bacterial contamination such as cross-connections between the storm and sanitary drainage systems, and private property initiatives such as the Rain Ready Ottawa program. The City's renewal program is leveraged to implement measures where applicable.

## PROGRAM SCHEDULE

Implementation of the existing stormwater retrofit program is on-going. The studies needed to develop an updated Stormwater Retrofit Master Plan that addresses the remaining priority areas of the City are expected to be completed by 2028.

## PROGRAM RATIONALE

### Updated Program

**What:** The City established a new program to implement the recommendations from two area-specific Stormwater Retrofit Studies to support the goals of the Ottawa River Action Plan. The main objective of the program is to mitigate the impacts of existing development on the City's local watercourses and beaches. The update to this program establishes study priorities for other areas of the City and a five-stage process to establish a retrofit master plan for these areas. The study priorities will focus on existing areas that drain to sensitive local watercourses that drain to the Rideau and/or Ottawa Rivers.

**Why:** The City's beaches and existing watercourses are subject to water quality impacts and/or erosion as a result of unmanaged runoff from existing development areas. Retrofit plans are needed to mitigate those impacts.

## PROGRAM FUNDING AND ADMINISTRATION

Start Up Study Costs	The cost of completing priority studies to support the updated stormwater master plan is estimated at \$1.8M
Start Up Staffing Implications	The updated program will be managed by existing staff
Funding Sources	Studies and project identified under the program are funded by the City's rate budget
Long Range Financial Plan Implications	Long range costs will include capital, operation, and maintenance for stormwater retrofit projects. These will be assessed through preparation of the updated retrofit master plan.
Asset Management Implications	New municipal assets commissioned through the program will require long-term management including operation, maintenance and life-cycle renewal. Associated costs will be assessed through the master planning process as well as through the on-going evaluation of projects that have been implemented through the existing program.

## FOLLOW-UP ACTIONS

The following actions are required to pursue the program development and implementation plan of this program:

1. Scope and initiate studies needed to support development of the updated stormwater retrofit master plan
2. On-going implementation of existing stormwater retrofit plans
3. Inform recommendations for expansion of existing Rain Ready Ottawa program



# On-Site Stormwater Management

## PROGRAM DESCRIPTION

On-site stormwater management is a proven tool to control excess runoff from affecting existing storm systems. Building permit applications will require calculations to identify net increase in hard surface area on the property, the required storage volume, and controlled release rate. Drawings and specifications that support the application will need to include elements that provide the required storage and control measures. The City's approval will leverage the existing grading and drainage plan review process. Securities will be withheld to ensure compliance and will be released upon receipt of a letter certifying that the works have been implemented. Design tools and guides will be available to support the applications.

## PROGRAM SCHEDULE

Pre-requisite actions for program startup include:

Completion of supporting design tools and guides, final process changes, Council approval of By-law amendments, and implementation by Q3 2024

## PROGRAM RATIONALE

### NEW PROGRAM

**What:** New infill and redevelopment approval requirement involving detention and controlled release of stormwater runoff. This is needed to ensure that peak rates of runoff from private property to City's drainage system do not increase as a result of increases in hard surface area. This stormwater requirement is currently applied to low-rise, infill redevelopments subject to Site Plan Control and Plan of Condominium. Under this new program, the requirement would also apply to any infill residential development project involving one or more dwelling units with a net increase in hard surface area (some smaller additions may be exempted). This requirement would be implemented through various City by-law amendments, including the Zoning By-law.

**Why:** To minimize the impact of intensification on the performance of existing stormwater systems, and the level of service to existing residents. Supports the goals of the Official Plan and the Stormwater Asset Management Plan.

## PROGRAM FUNDING AND ADMINISTRATION

Start Up Costs	A consultant assignment will be required to support the completion of design tools and guides, as well as program implementation.
Start Up Staffing Implications	Three new staff to support the review of on-site stormwater management plans. A fourth position will be needed in the second year of the program to support inspections.
Funding Sources	Building permit fees will be used to fund the new positions
Asset Management Implications	The program optimizes use of existing assets and avoids costly development-driven upgrades to existing storm drainage systems. The City's upgrades to these systems will continue to be driven by renewal to maintain a state of good repair. These upgrades will be leveraged to improve existing levels of service and address climate change impacts.

## FOLLOW-UP ACTIONS

The following actions are required to pursue the program development and implementation plan of this program:

1. Confirmation of necessary changes to City processes; detailed development of changes to City by-laws.
2. Execution of inter-departmental implementation plan.
3. Finalization of guides and tools to support the development industry.



# Intensification Capacity Management

## PROGRAM DESCRIPTION

This program would support community planning and development approvals in built-up areas of the City. It will identify projects to ensure sufficient local system capacities to support intensification. These projects could include local pipe network upgrades, removal of wet weather flows from sanitary sewer systems, and elimination of water losses from the water distribution system. The program would be supported by local development projections, monitoring and modelling of existing local pipe and surface drainage systems, capacity and risk assessments, and servicing studies coordinated with planning studies. It will also leverage the City's infrastructure renewal program to incorporate capacity upgrades as part of renewal projects.

## PROGRAM SCHEDULE

Development of program details including new funding mechanisms for ICMP projects, and initiation of program starting in 2024. Full ICMP program roll-out in 2025.

## PROGRAM RATIONALE

### NEW PROGRAM

**What:** Creation of a new Infrastructure Capacity Management Program (ICMP). In support of the Official Plan and the Infrastructure Master Plan, this program would coordinate the City's growth-driven capacity management needs for local water and sewer infrastructure systems.

**Why:** The Official Plan provides new goals for intensification that will place increased pressure on existing local water and sewer systems. The City can no longer rely on available residual capacities in these systems, or a reactive approach to capacity needs through individual development applications. Without this program, levels of service in existing development areas will degrade over time and many development projects will not be able to proceed due to local system capacity constraints.

## PROGRAM FUNDING AND ADMINISTRATION

Start Up Costs	Supporting study costs accounted for in 10-year budget forecast
Start Up Staffing Implications	Three new staff positions to initiate program, establish priorities, manage studies, and scope projects.
Funding Sources	Staff positions initially funded by rate budget with potential future development fee contribution. Project costs to be shared between growth and existing development (rate budget) based on benefits to each. Further study to confirm funding mechanism for growth contributions.
Asset Management Implications	Program will support improved coordination between renewal and growth needs in the built-up areas of the City. Will optimize use of existing assets. Cost sharing will ensure that renewal budgets are protected.

## FOLLOW-UP ACTIONS

The following actions are required to initiate program implementation:

4. Fill new staff positions and establish internal and external stakeholder groups to support the program
5. Establish initial implementation priorities
6. Identify infrastructure study priorities in coordination with Secondary Planning studies and in consultation with development stakeholders.



# Flow Monitoring Program

## PROGRAM DESCRIPTION

This program would be a key component of the new Infrastructure Capacity Management Program (ICMP). New permanent and temporary flow and level monitors would be installed:

- 3 Permanent Trunk Flow Monitors on key trunks
- 3 Permanent Trunk Level Monitors to support Operations
- 140 Temporary Flow Monitors to support Intensification

## PROGRAM SCHEDULE

Key trunk flow monitors to be installed in 2025. Full flow monitoring program to be rolled out from 2026 – 2029.

## PROGRAM RATIONALE

### NEW PROGRAM

**What:** Expansion of the City’s existing flow monitoring to include new permanent and temporary flow and level monitors on key trunks downstream of intensification and greenfield development.

**Why:** The Official Plan provides new goals for intensification that will place increased pressure on existing local and trunk sewer systems. Flow and level monitoring will provide actual data that can be used to monitor remaining capacity and plan for sanitary trunk, sewer, and pump station upgrades to maintain existing levels of service.

## PROGRAM FUNDING AND ADMINISTRATION

Start Up Costs	Permanent Flow Monitoring: Estimated startup installation, including soft costs: \$2,100,000 Temporary Flow Monitoring: Estimated annual cost: \$225,000 per year for five years.
Start Up Staffing Implications	Existing Asset Management staff will initiate the program. New staff from the ICMP will administer the program.
Funding Sources	Flow monitoring will funded by rate budget.
Asset Management Implications	Program will optimize remaining capacity of existing assets, thereby enabling more precise targeting of extraneous flow removal and other flood mitigation measures and will enable a more precise understanding of capacity available and opportunities to create capacity.

## FOLLOW-UP ACTIONS

The following actions are required to initiate program implementation:

7. Initiate installation of 6 priority permanent trunk monitors.
8. Through the implementation of the ICMP, confirm proposed temporary flow monitoring locations and types. Temporary flow monitors should be prioritized in the West Nepean Collector and Rideau River sewersheds in the first phase of the project.

