

# Infrastructure Master Plan

A Growth-focused plan for Ottawa's  
Water Resources Systems

Changes to Spring 2023 Draft IMP

May 2024

# Introduction

- This document is part of the Online Engagement for the 2024 Infrastructure Master Plan (IMP) project. It is intended to provide a summary of the changes since the draft 2023 IMP summary was published for public review in spring 2023.
- The City's new Official Plan (OP) guides growth and development of the City until 2046, when the City's population is expected to reach 1.4 million.
- The OP was approved by the province in 2022 with 600 ha of additional expansion lands added. The additional lands were subsequently removed by the province in October 2023.
- The IMP has been updated to reflect the final approved OP. The figure that is presented below displays the changes to approved expansion lands (2021 to 2023).

Further background information is provided on the City's project website:

<https://engage.ottawa.ca/infrastructure-master-plan>

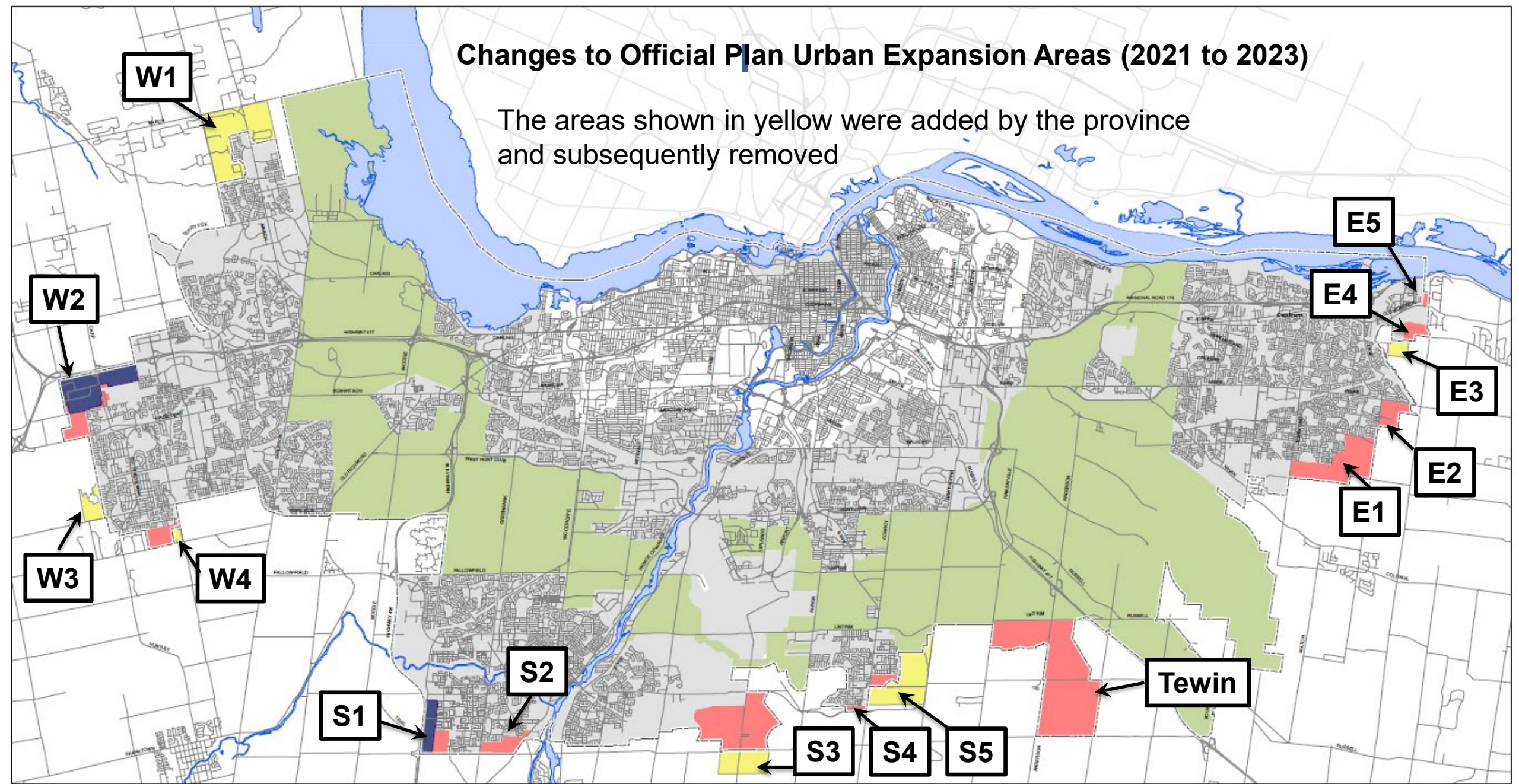
## **This document addresses the following:**

- **Changes to Urban Expansion Areas**
- **Water Master Plan Changes**
- **Wastewater Master Plan Changes**
- **Summary of Updated Project List**
- **Progress Update on Intensification Programs**
- **IMP Implementation**
- **Council Approval of the IMP**
- **Next Steps**



# Changes to Official Plan Urban Expansion Areas (2021 to 2023)

The areas shown in yellow were added by the province and subsequently removed





# Updates to the Infrastructure Master Plan Since Spring 2023 Public Consultations

Changes to the IMP since Spring 2023 are largely a result of:

- Expansion area removal
- Review of project costs, and escalation to 2024 dollars
- New information on specific intensification development plans and projects
- Refinement of analysis related to specific capital project recommendations

These changes only affect the Water and Wastewater Master Plan components of the IMP. Additional efforts have also been made to further develop the proposed On-Site Stormwater Management program. However, this work does not affect the IMP as presented in Spring 2023.



# Changes to Water Master Plan

Since the draft IMP summary was published in May, 2023, 7 projects have been **removed** and 4 projects have been **adjusted**. No new projects have been **added**. As a result, the net total cost of the WMP has dropped from \$883M to \$711M.

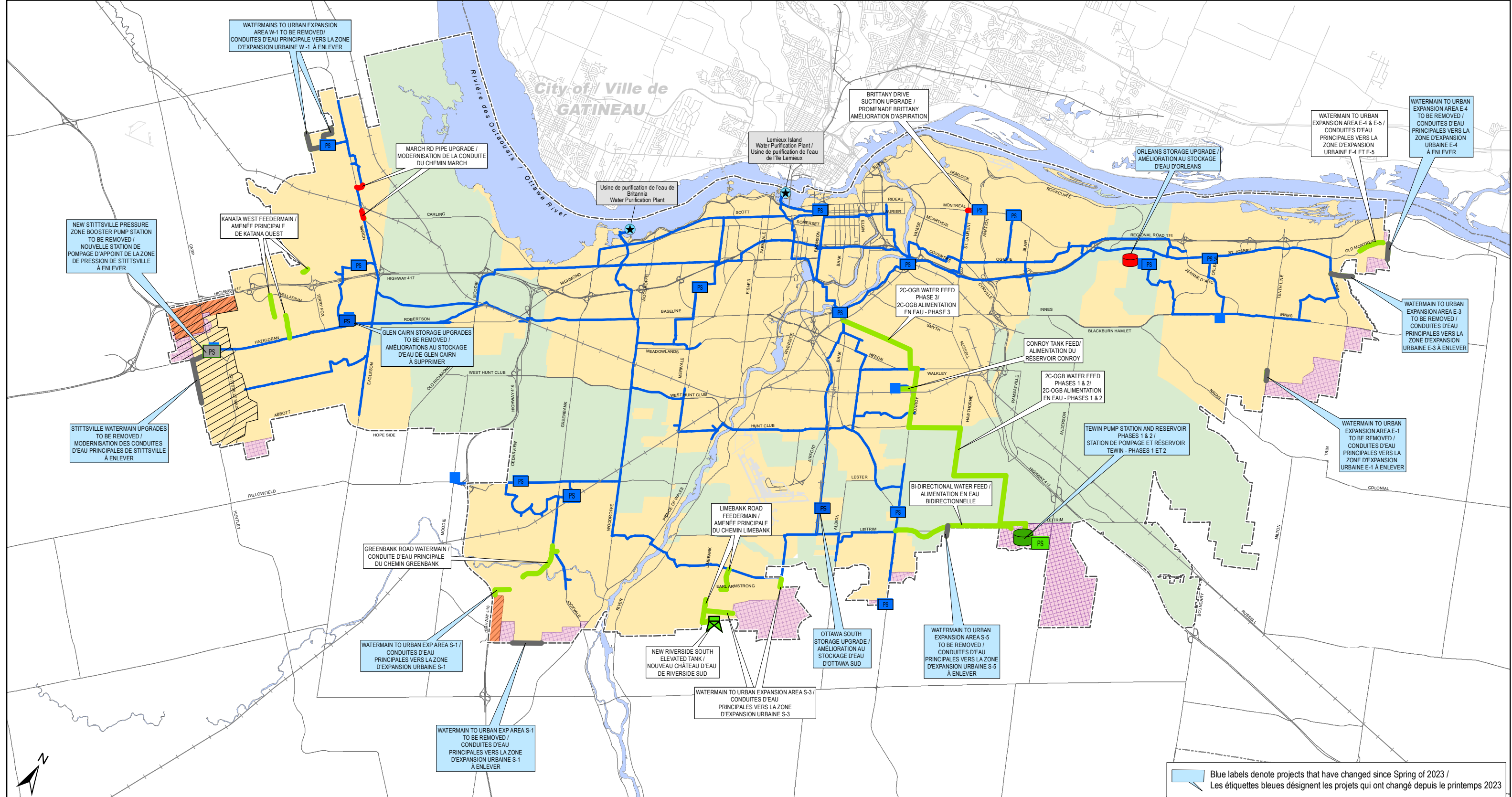
## Projects Removed

- (1) New Stittsville Pump Station
- (2) Stittsville Watermain Upgrades
- (3) Watermains for Expansion Area W1 (Klondike Rd/Old Second Line from Morgan's Grant Pump Station to W1)
- (4) Watermain for Expansion Area E3 (Waters Road from Trim Road to E-3)
- (5) Watermain for Expansion Area E4 (Old Montreal Road watermain)
- (6) Watermain for Expansion Area S5 (Hawthorne Road watermain)
- (7) Glen Cairn Reservoir Expansion

## Projects Adjusted

- (1) Orleans Storage Upgrade – Minor adjustment to expansion storage volume
- (2) Ottawa South Storage Upgrade - Reduction of expansion storage volume
- (3) Watermains for Expansion Area S-1 - Proposed section on Barnsdale removed
- (4) Tewin Pumping Station - Reduced facility sizing due to removal of expansion areas in South Urban Community





**EXISTING / EXISTANT**

- Treatment Plant / Usine de traitement
- Existing Pump Station / Existant station de pompage
- Water Storage Facility / Réservoirs d'eau
- Watermains (No upgrades; diameter ≥400mm) / Conduites d'eau principales (pas de travaux de modernisation; diamètre de ≥400 mm)

**PS RECOMMENDATIONS / STATION DE POMPAGE : RECOMMANDATIONS**

- New PS (New Project) / Nouvelle station de pompage (nouveau projet)

**STORAGE RECOMMENDATIONS / STOCKAGE : RECOMMANDATIONS**

- New Elevated Tank / Nouveau château d'eau
- New Reservoir (New Project) / Nouveau réservoir (nouveau projet)
- Existing Reservoir Expansion (New Project) / Agrandissement du réservoir existant (nouveau projet)

**WATERMAIN RECOMMENDATIONS / CONDUITE D'EAU PRINCIPALE : RECOMMANDATIONS**

- New Watermain / Nouvelles conduites d'eau principales
- Watermain Upgrades / Modernisation des conduites d'eau principales
- Future Pressure Zone / Zone de pression projetée
- Public Service Area / Zone de desserte

**URBAN EXPANSION AREAS / ZONES D'EXPANSION URBAINE**

- Future Neighbourhood / Futur quartier
- Industrial and Logistics / Industrie et Logistique
- Urban Boundary / Périmètre d'urbanisation
- Greenbelt / Ceinture de verdure

Blue labels denote projects that have changed since Spring of 2023 / Les étiquettes bleues désignent les projets qui ont changé depuis le printemps 2023



**EXISTING AND PROPOSED WATER SYSTEM / RÉSEAU D'ÉGOUT EXISTANT ET PROPOSÉ**

## Water Master Plan – Updated Capital Program (Part 1)

The following table lists all projects recommended in the Water Master Plan (except for the Tewin area), including the benefitting area, the required timeframe for implementation, total estimated capital cost, and the portion of costs to be funded by Development Charges (DC). The balance of costs are covered by the City's rate budget.

Project Name	Area	2013 Master Plan	Timing	Total Estimate	% DC
Kanata West Feedermain Ph2	Suburban W	Yes	2029-2034	\$4,400,000	90
Kanata West Feedermain Ph3	Suburban W	Yes	2029-2034	\$6,000,000	90
Kanata West Feedermain Ph4	Suburban W	Yes	2029-2034	\$13,800,000	90
March Rd Upgrades	Suburban W	Yes	2024-2029	\$5,000,000	90
Orleans Storage Upgrade	Suburban E	Yes	2029-2034	\$154,400,000	100
New Watermain for Area E-4 & E-5	Suburban E	No	2039-2044	\$6,300,000	100
Ottawa South Storage Upgrade	Suburban SE	Yes	2024-2029	\$45,300,000	90
New Riverside South Elevated Tank	Suburban SE	Yes	2024-2029	\$33,800,000	90
Limebank Feedermain Phase 2	Suburban SE	Yes	2024-2029	\$11,100,000	90
Limebank Feedermain Phase 3	Suburban SE	Yes	2029-2034	\$8,100,000	90
Greenbank Watermain	Suburban SW	Yes	2029-2034	\$14,100,000	90
New Watermain for Area S-1	Suburban SE	No	2029-2034	\$5,100,000	100
New Watermains for Area S-3	Suburban SE	No	2029-2034	\$15,200,000	100
Brittany Dr Suction Upgrade	Urban / Downtown	Yes	2039-2044	\$2,800,000	50

## Water Master Plan – Capital Program (Part 2)

### Tewin-Related Water Infrastructure Needs

The following Tewin-related drinking water infrastructure is needed to satisfy 2046 demands for both Tewin and the broader South Urban Community (SUC) including Leitrim, Riverside South, and Barrhaven. The project costing is based on oversizing of the water feeds given urban expansion potential in the general area that could occur beyond the Official Planning period. As such, the balance of costs not covered by Development Charges are largely related to oversizing to provide “Post Period Capacity” (PPC), except as noted below. PPC costs would be recovered from the potential future development. Project oversizing and associated financing will be reviewed through a Class Environmental Assessment and functional design process.

Project Name	Area	2013 Master Plan	Timing	Total Estimate	% DC *
New 2C-OGB Water Feed Phases 1 & 2	Tewin / SUC	No	2029-2034	\$174,300,000	58
Bi-Directional Water Feed	Tewin / SUC	No	2029-2034	\$52,900,000	83
New 2C-OGB Water Feed Phase 3 - Billings Bridge to Conroy Feed	Tewin / SUC	No	2034-2039	\$82,700,000	46 **
Tewin - Pump Station & Reservoir Ph1	Tewin / SUC	No	2029-2034	\$44,100,000	100
Tewin - Pump Station & Reservoir Ph2	Tewin / SUC	No	2034-2039	\$18,900,000	100
Conroy Tank Feed	Tewin / SUC	No	2034-2039	\$12,600,000	46 **

\* Includes both Tewin Area Specific Development Charges and general suburban (Outside Greenbelt) Development Charges

\*\* 12% of cost covered by City’s water rate budget as a result of a benefit to existing development. The remaining 42% is PPC



# Changes to Wastewater Master Plan

Since the draft IMP summary was published in May 2023, 1 project was **removed**, 5 project scopes have been **adjusted** and 5 new projects have been **added**. As a net result, the total cost of the WWMMP has increased from **\$471M** to **\$797M**.

## Projects Removed

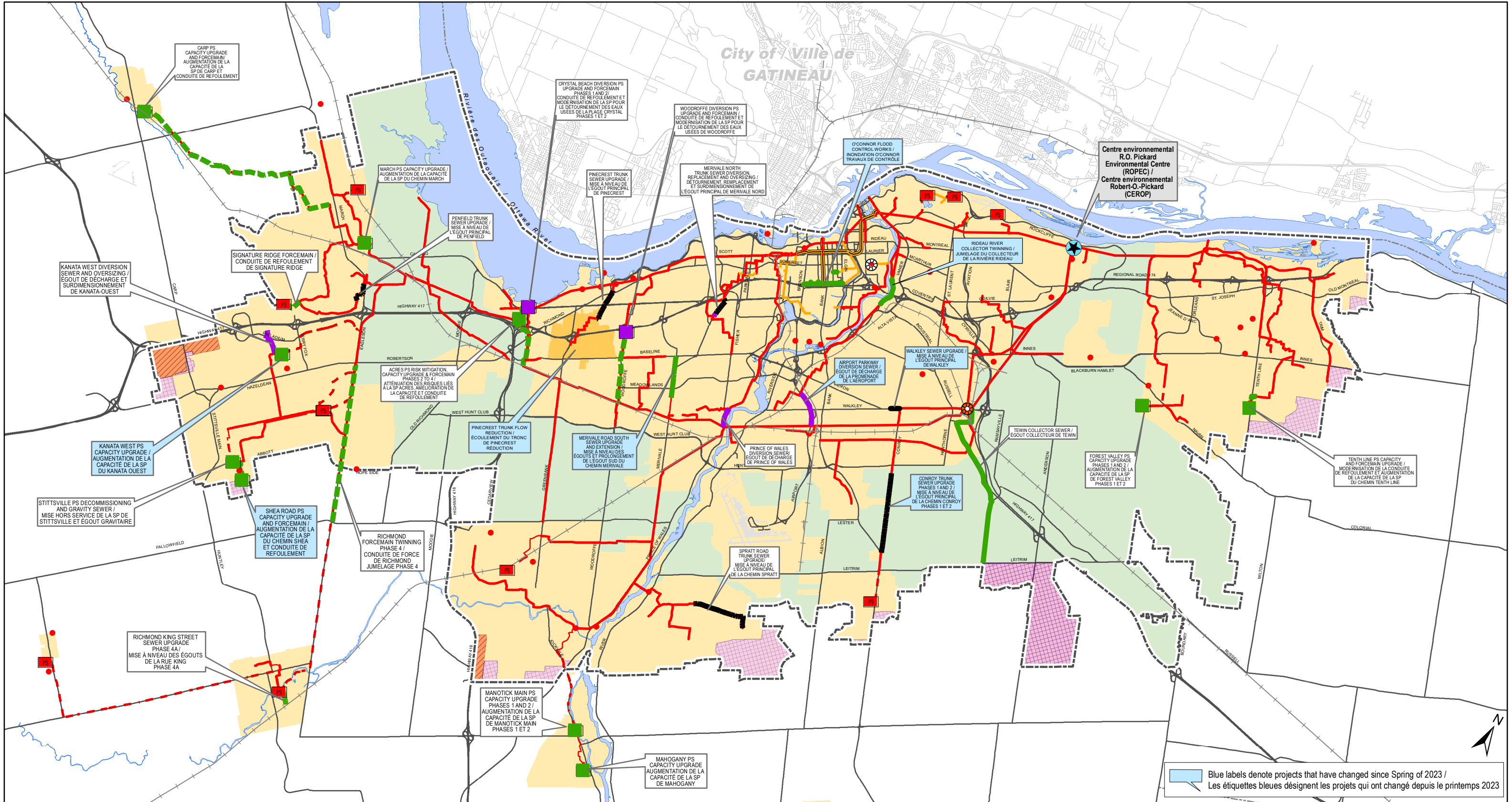
- (1) Baseline Road Upgrade

## Projects Adjusted

- (1) Merivale South Sewer Upgrade and Extension: increased scope to support intensification in Baseline-Clyde area.
- (2) Conroy Trunk Upgrade (Phase 2): reduced scope because of removal of lands from urban boundary
- (3) Airport Parkway: Construction method changed to reflect Functional Design Study (tunnelling instead of open-cut)
- (4) Shea Road Pumping: Adjusted to reflect Master Planning recommendations for Stittsville South
- (5) Tewin Collector Sewer: Changed sewer alignment and construction method (tunnelling instead of open-cut)

## Projects Added

- (1) Rideau River Collector Twinning: added to support intensification in the Hurdman, St. Laurent and Tremblay areas.
- (2) Kanata West Pumping Station Capacity Upgrade
- (3) Pinecrest Trunk Flow Reduction
- (4) Walkley Sewer Upgrades
- (5) O'Connor Flood Control Works (previously identified in 2013 IMP)



Blue labels denote projects that have changed since Spring of 2023 /  
Les étiquettes bleues désignent les projets qui ont changé depuis le printemps 2023

**NEW PROJECTS / DE NOUVEAUX PROJETS**

- New Diversion Sewer /  
Nouvel égout de décharge
- New Sewer Upgrade /  
Nouvelle modernisation de l'égout
- - - New Forcemain /  
Nouvelle conduite de refolement
- New Sanitary Sewer /  
Nouvel égout sanitaire
- Wastewater Pump Station Upgrade /  
Modernisation de la station de pompage des eaux usées
- Diversion Pump Station Upgrade /  
Modernisation de la station de pompage de détournement

**EXISTING INFRASTRUCTURE / INFRASTRUCTURES EXISTANTES**

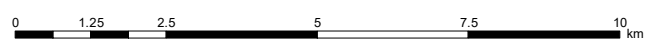
- Combined Sewage Storage Tunnel /  
Tunnel de stockage des égouts unitaires
- Combined Trunk Sewer /  
Egout unitaire collecteur
- Sanitary Trunk Sewer /  
Egout sanitaire collecteur
- - - Forcemain /  
Conduite de refolement
- Trunk Flow Removal Area /  
Zone d'élimination du débit de l'égout principal

- ⊗ Chamber /  
Chambre
- ⊗ Storage Tank /  
Réservoir de stockage
- ★ Treatment Plant /  
Usine de traitement
- PS Main Pump Station /  
Station de pompage principale
- Local Pump Station /  
Station de pompage locale
- Public Service Area /  
Zone de desserte

**URBAN EXPANSION AREAS / ZONES D'EXPANSION URBAINE**

- Future Neighbourhood /  
Futur quartier
- Industrial and Logistics /  
Industrie et Logistique
- Urban Boundary /  
Périmètre d'urbanisation
- Greenbelt /  
Ceinture de verdure

**EXISTING AND PROPOSED  
WASTEWATER SYSTEM /  
RÉSEAU D'ÉGOUT  
EXISTANT ET PROPOSÉ**





## Wastewater Master Plan – Capital Program (Part 1)

The following table lists all projects recommended in the Wastewater Master Plan, including the benefitting area, the required timeframe for implementation, total capital cost, and the portion of costs to be funded by Development Charges (DC). The balance of costs will mainly be covered by the City's rate budget due to improvements to the existing system, and the remainder represent Post Period Capacity costs. The list of projects continues on the subsequent two slides.

Project Name	Area	2013 Master Plan	Timing	Total Estimate	% DC
King Street Trunk Upgrade (Richmond Phase 4a)	Rural	No	2024-2029	\$6,600,000	75
Carp Pump Station and Forcemain Upgrade	Rural	Yes	2029-2034	\$30,100,000	75
Richmond Forcemain Twinning (Phase 4)	Rural	Yes	2024-2029	\$38,600,000	75
Manotick Main Pump Station Upgrade (Phase 1)	Rural	Yes	2024-2029	\$2,500,000	64
Manotick Main Pump Station Upgrade (Phase 2)	Rural	Yes	2044-2046	\$4,300,000	5
Mahogany Pump Station Upgrade	Rural	No	2024-2029	\$3,300,000	90
Penfield Trunk Upgrade	Suburban W	No	2029-2034	\$7,800,000	95
Kanata West Diversion Sewer	Suburban W	No	2029-2034	\$3,000,000	95
Kanata West Sewer Oversizing	Suburban W	No	2029-2034	\$1,800,000	100
Kanata West Pump Station Upgrade	Suburban W	Yes	2029-2034	\$3,300,000	100
March Pump Station Upgrade	Suburban W	Yes	2039-2044	\$2,800,000	70
Signature Ridge Forcemain	Suburban W	Yes	2029-2034	\$5,900,000	75

## Wastewater Master Plan – Capital Program (Part 2)

Project Name	Area	2013 Master Plan	Timing	Total Estimate	% DC
Stittsville Pump Station Decommissioning / Gravity Sewer	Suburban W	Yes	2024-2029	\$6,500,000	30
Shea Rd Pump Station and Forcemain Upgrade	Suburban W	No	2029-2034	\$7,800,000	100
Acres Pump Station Upgrades (Phase 2)	Suburban W	Yes	2024-2029	\$25,500,000	48
Acres Pump Station Upgrades (Phase 3)	Suburban W	Yes	2029-2034	\$34,100,000	39
Acres Pump Station Overflow (Phase 4)	Suburban W	Yes	2034-2039	\$26,300,000	80
Spratt Road Trunk Upgrade	Suburban SW	No	2029-2034	\$13,800,000	90 *
Conroy Trunk Upgrade (Phase 1)	Suburban SE	Yes	2029-2034	\$12,300,000	90 *
Conroy Trunk Upgrade (Phase 2)	Suburban SE	No	2029-2034	\$8,800,000	90 *
Walkley Sewer Upgrades	Suburban SE	No	2034-2039	\$2,700,000	95
Forest Valley Pump Station Upgrade (Phase 1)	Suburban E	Yes	2029-2034	\$2,600,000	4
Forest Valley Pump Station Upgrade (Phase 2)	Suburban E	Yes	2044-2046	\$3,000,000	100
Tenth Line Pump Station and Forcemain Upgrade	Suburban E	No	2034-2039	\$2,300,000	100
Merivale South Sewer Upgrade and Extension	Urban / Downtown	No	2024-2029	\$10,100,000	100

\* Projects with a component of Post-Period Capacity (PPC)



## Wastewater Master Plan – Capital Program (Part 3)

Project Name	Area	2013 Master Plan	Timing	Total Estimate	% DC
Pinecrest Trunk Upgrade	Urban / Downtown	No	2029-2034	\$11,000,000	95
Pinecrest Trunk Flow Reduction	Urban / Downtown	No	2024-2029	\$5,300,000	95
Merivale North Diversion Sewer	Urban / Downtown	No	2024-2029	\$1,400,000	95
Merivale North Sewer Replacement and Oversizing	Urban / Downtown	No	2024-2029	\$4,600,000	5
O'Connor Flood Control Works	Urban / Downtown	No	2034-2039	\$119,000,000	5
Rideau River Collector Twinning	Urban / Downtown	Yes	2034-2039	\$21,400,000	100
Prince of Wales Diversion Sewer	Urban / Downtown	No	2039-2044	\$5,300,000	80
Crystal Beach Diversion PS Upgrade and Forcemain (Phase 1)	Urban / Downtown	No	2029-2034	\$32,600,000	80
Crystal Beach Diversion PS Upgrade and Forcemain (Phase 2)	Urban / Downtown	No	2039-2044	\$31,100,000	80
Woodroffe Diversion PS Upgrade and Forcemain	Urban / Downtown	No	2029-2034	\$59,900,000	80
Airport Parkway Diversion Sewer	Urban / Downtown	No	2024-2029	\$34,700,000	80
Tewin Collector Sewer	Tewin	No	2029-2034	\$205,400,000	77.5 *

\* **Projects with a component of Post-Period Capacity (PPC)**

## Overall Project Costs – Comparison of Spring 2023 to Present

Projects	2023 IMP (2023 dollars)				2024 IMP (2024 dollars)			
	Capital Cost (\$M)	DC (\$M)	PPC (\$M)	BTE (\$M)	Capital Cost (\$M)	DC (\$M)	PPC (\$M)	BTE (\$M)
Water Master Plan (excl. Tewin/SUC)	508	488	0	20	325	310	0	16
Wastewater Master Plan (excl. Tewin/SUC)	348	239	0	109	592	364	2	226**
Tewin/SUC water	375	238*	117	20	386	252*	123	11
Tewin wastewater	123	123*	0	0	205	159*	46	0
<b>Sub-total</b>	<b>1,354</b>	<b>1,088</b>	<b>117</b>	<b>149</b>	<b>1,508</b>	<b>1,085</b>	<b>171</b>	<b>253</b>
Lemieux	28	21	0	7	35	26	0	9
ROPEC	347	323	0	24	459	426†	0	33
<b>Total</b>	<b>1,729</b>	<b>1,432</b>	<b>117</b>	<b>180</b>	<b>2,002</b>	<b>1,538</b>	<b>171</b>	<b>294</b>

\* Includes Tewin Area-Specific Development Charge (ASDC)

\*\* Large Benefit to Existing (BTE) increase is attributed to the O'Connor Flood Control Works project

† ROPEC costs are currently total growth: Development Charge (DC) and Post-period Capacity (PPC) –will be updated prior DC By-law update



# Progress Update on Intensification Programs

The 2023 draft IMP recommended two new programs to support intensification. The plan noted that further effort was needed to develop the proposed On-Site Stormwater Management (SWM) program before implementation. The following is a summary of work that has been underway since May 2023 in support of this program:

- Finalized On-Site SWM Implementation Plan. This is a high-level plan focussed on required by-law amendments and business process changes. Implementation details are currently being prepared.
- Completed a municipal peer comparison of On-Site SWM practices across Ontario and select out-of-province municipalities.
- Completed an independent cost analysis of On-Site SWM solutions for small development projects involving 1-3 dwelling units (i.e. projects that were not previously subject to an On-Site SWM requirement through a Site Plan approval process)
- Completed an On-Site SWM design study of actual (approved) City of Ottawa building permit plans to assess feasibility and costs for small development projects.
- Initiated a design criteria study to review and confirm SWM requirements for small sites
- Initiated a project to develop an implementation process for administering the new program
- Initiated an assignment to prepare an information package and design tools to assist developers and property owners with planning On-Site SWM for small sites

# IMP Implementation

As noted during the Spring 2023 consultations, IMP implementation will involve the efforts of numerous City business areas as well as the development industry, following Council approval of the plan. These efforts will include:

- Project-specific studies to confirm the scope, location, and alignment of projects identified in the Water and Wastewater Master Plans
- Project-specific Environmental Assessment studies where needed.
- Project design and construction.
- Preparation of draft urban expansion area studies by development industry for City approval.
- Preparation of remaining studies under Stormwater Retrofit program and continue implementation of recommendations from previous studies.
- Development and Implementation of Intensification Servicing Programs, including:
  - Design tools, guidelines and standards.
  - By-law amendments to support new On-Site Stormwater Management program.
  - New funding mechanism for local projects supporting intensification.



Subsequent reports to Council will seek approval to implement a detailed On-Site SWM program and identify recommended improvements and any additional resource needs for the Intensification Servicing Programs based on monitoring and evaluation.

Subsequent updates to the IMP will be prepared in coordination with future Official Plan reviews based on updated projections and provincial housing targets.

## Council Approval of IMP

**Draft Recommendations** in the staff report seeking Council approval of the 2024 IMP are expected to include the following:

- Approve the Infrastructure Master Plan, including:
  - Infrastructure policies
  - Water and wastewater projects
  - Stormwater Management Strategy
  - Proposed Infrastructure Capacity Management Program (ICMP)
- Direct staff to complete Class Environmental Assessments and functional design studies for the capital projects as required.
- Investigate alternatives for funding capital projects identified under the ICMP and report back to Council.
- Approve 2 permanent staff resources funded from rate to support the requirements of the ICMP
- Direct staff to publish Notice of Master Plan to initiate a 30-day public review period, after which the Class Environmental Assessment requirements for Master Plans will have been satisfied and the IMP will be considered final



## Next Steps

Following Committee and Council approval, the IMP will be finalized and posted for 30-day public review, in accordance with the Class Environmental Assessment process for Master Plans.

Additional information on the project can be found on the City's website at:

<https://engage.ottawa.ca/infrastructure-master-plan>

You can also contact the City's Project Manager at:

Christopher Rogers, P.Eng.  
Program Manager, Infrastructure Planning  
Infrastructure and Water Services Department, City of Ottawa  
Email: [imp-pdi@ottawa.ca](mailto:imp-pdi@ottawa.ca)  
Tel: 613-580-2424 ext. 27785