

2024 Recommended Water, Wastewater and Stormwater Budget



Public Works
Hamilton Water



2024 Rate Supported Budget AGENDA

- Division and Rate Budget Overview
- 2023 Budget Year Highlights
- Supporting Hamilton's Growth
- Challenges
- 2024 Budget Priority Investments
- 2024 Recommended Budget
- FTE Business Cases
- Government Advocacy

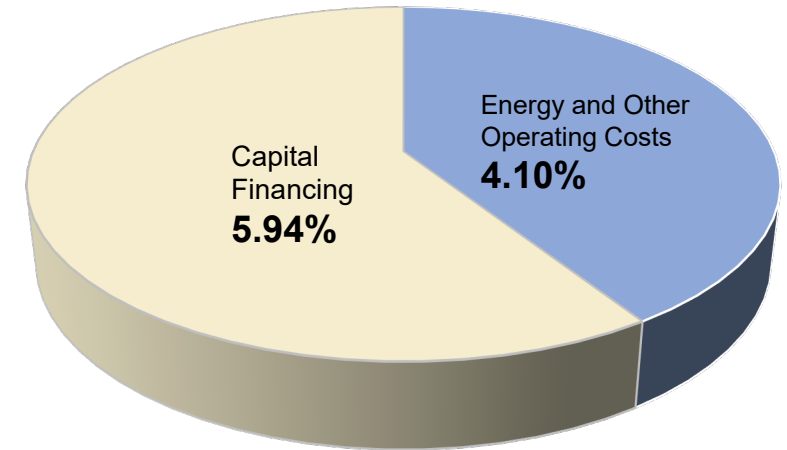


2024 Rate Supported Budget 2024 RATE BUDGET OVERVIEW

Proposed water bill (rate) increase for the typical residential account - **10.04%**

- Recommended 2024 **operating budget of \$121M** (11.6% increase from 2023 approved)
- Recommended 2024 **capital budget of \$286M** (29% decrease from last year's estimate)
- 10-year capital forecast has increased by **\$863M**
- Recommending **24** new FTEs aligned to Term of Council priorities and Mayoral Directive (MDI 2023-02)

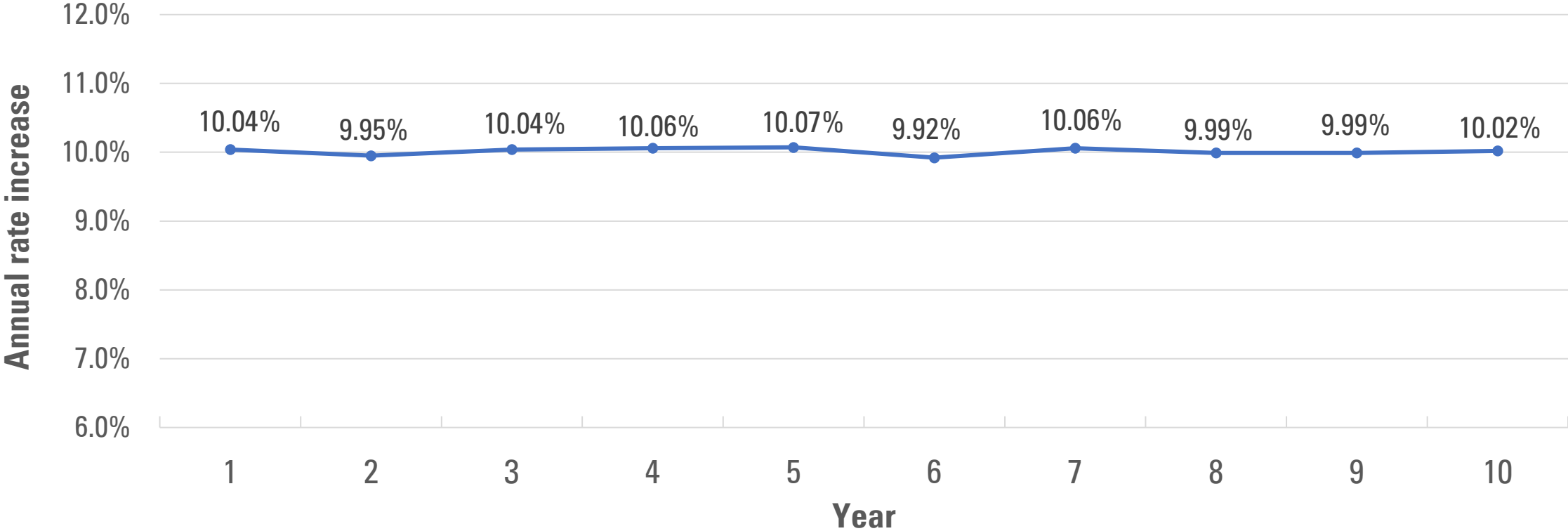
Drivers of 10.04% Increase



2024 Projected Average Rate Impact		
	\$	%
Energy and Other Operating Costs	\$35.94	4.10%
Capital Financing	\$52.16	5.94%
Average Residential Impact	\$88.10	10.04%

2024 RATE BUDGET OVERVIEW

10 Year Rate Forecast



- Recommending an average rate increase of 10% per year for 10 years to fund needed infrastructure investments

DRINKING WATER QUALITY MANAGEMENT SYSTEM POLICY



The City of Hamilton owns, maintains and operates various drinking water systems. The City is committed to:

- S** *Safe, high quality, consistent supply of drinking water*
- A** *Always improving the Drinking Water Quality Management System*
- F** *Following and complying with applicable legislation*
- E** *Effective and open communication with the community concerning matters of drinking water quality*



WASTEWATER QUALITY MANAGEMENT SYSTEM POLICY



The City of Hamilton owns, maintains and operates various wastewater systems. The City is committed to:

- C** *Compliance with all legal and other requirements*
- L** *Leaders in pollution prevention*
- E** *Effective Communication with the community*
- A** *Always improving the Wastewater Quality Management System*
- N** *Noteworthy innovation*





Water Supply
Water Distribution
Water Support
Services
Infrastructure
Management



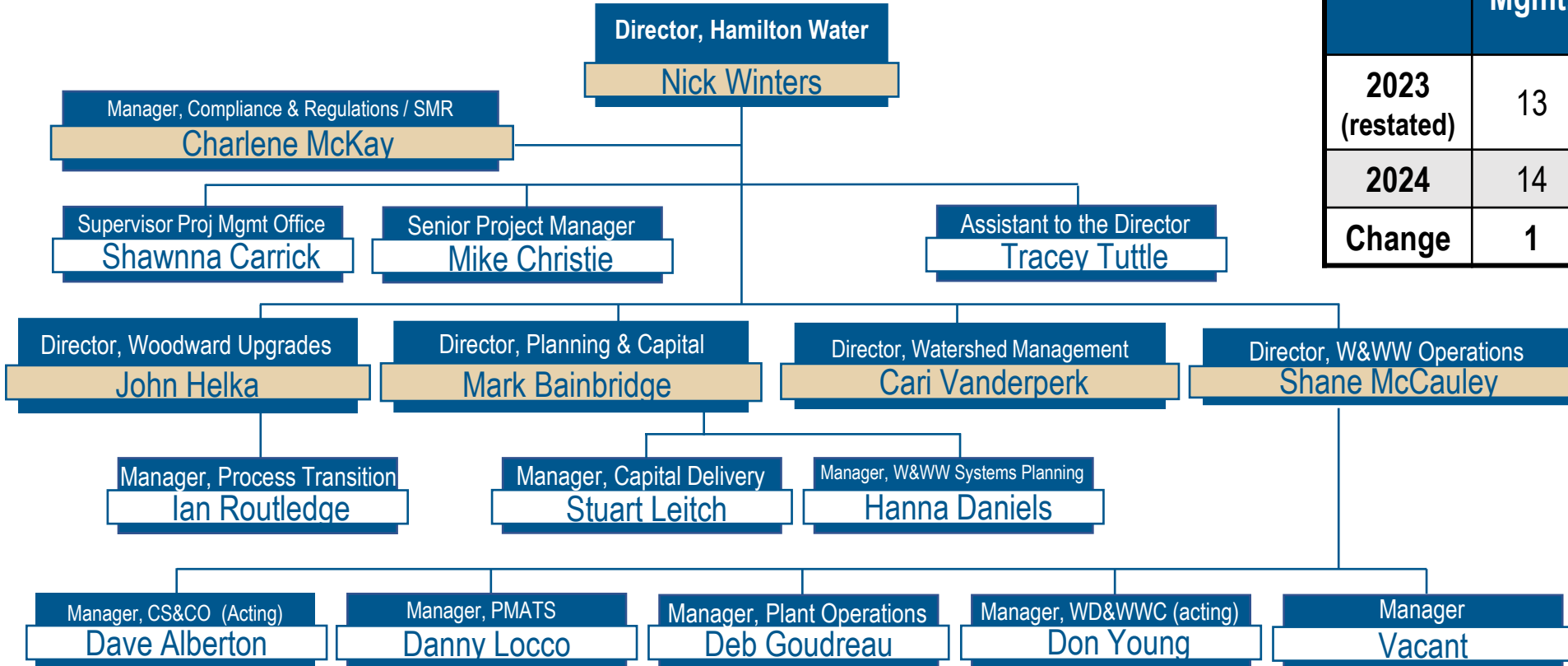
Wastewater Treatment
Wastewater Collection
Wastewater Support
Services
Infrastructure
Management



Stormwater Treatment
Stormwater Collection
Stormwater Support
Services
Infrastructure
Management

Hamilton Water – Services and Sub-Services

2024 Rate Supported Budget ORGANIZATIONAL CHART



	Mgmt.	Staff	Total	Staff: Mgmt. Ratio
2023 (restated)	13	355.65	368.65	27.36:1
2024	14	378.65	392.65	27.05:1
Change	1	23	24	

2023 WATER FORECAST



4
WELL SYSTEMS
CARLISLE
FRELTON
GREENSVILLE
LYNDEN

2,131

KILOMETRES OF
WATERMAINS

170

WATERMAIN
BREAKS
REPAIRED



3 TARGETED
CONSTRUCTION
PROJECTS

2 COMPLETED
CONSTRUCTION
PROJECTS



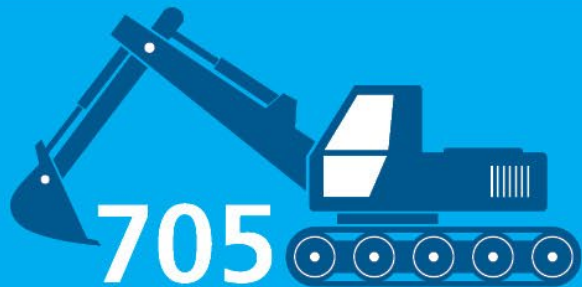
DAY-TO-DAY OPERATIONS
AND MAINTENANCE OF

13,628
HYDRANTS AND
314 POST HYDRANTS



13

WATER
RESERVOIR



705

SUBSTANDARD
WATER SERVICE LINE REPLACEMENTS



7
WATER
TOWERS



30,492

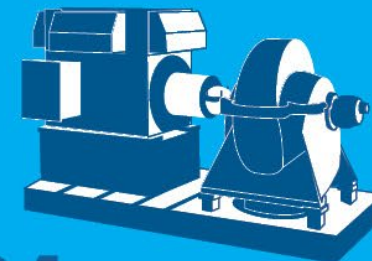
WATER TREATMENT
PLANT SAMPLES
TESTED

25,512

WATER DISTRIBUTION
SAMPLES TESTED

158,500

TOTAL NUMBER OF
WATER METERS



24 WATER
PUMPING STATIONS

74.34 BILLION LITRES OF
WATER TREATED



1 WATER
TREATMENT PLANT

TOTAL WATER ASSETS - \$4.25 BILLION

2023 STORMWATER FORECAST

60

WET PONDS
(YTD)



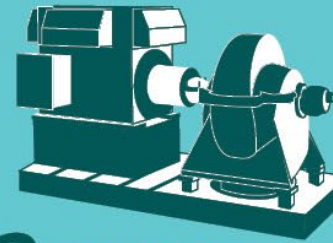
61

DRY PONDS
(YTD)



149

KILOMETRES OF
WATERCOURSES



2 STORMWATER
PUMPING STATIONS

7

WETLANDS



60

KILOMETRES
OF MUNICIPAL DRAINS



STORMWATER STORAGE CAPACITY

970.5

METRES OF
SHORELINE
ASSETS AT

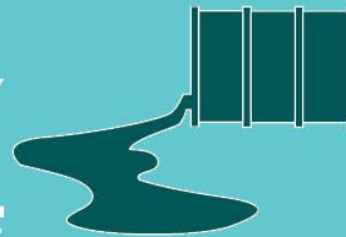


907

RAIN BARRELS
SOLD ONLINE

700

EMERGENCY
SPILL
ACTIVATIONS



90

OIL &
GRIT
SEPARATORS

1,289

KILOMETRES OF STORM SEWERS

TOTAL STORMWATER ASSETS - \$3.14 BILLION

2023 WASTEWATER FORECAST



2023 SYSTEM PERFORMANCE

DUNDAS WWTP



4,406ML
wastewater
treatment
forecast



continuous
compliance within
wastewater
effluent limits

WOODWARD WTP



74,337ML
water treatment
forecast



15 AWQI
adverse water quality issue
(YTD)



\$2.53M
cost avoidance
global adjustment
forecast (YTD)

WOODWARD WWTP



125,107ML
wastewater
treatment forecast



83%
capacity utilization
(5 yr Average)

51,750 TONNES
biosolids processed on site
forecast



4,397
megawatt hours
generated by cogen unit
(YTD)



continuous
compliance within
wastewater
effluent limits



39,606
gigajoules
generated by Bio-gas
purification unit (YTD)

20
plant bypasses (YTD)

10
odour
complaints
(YTD)

2023 BUDGET YEAR HIGHLIGHTS



2023 BUDGET YEAR HIGHLIGHTS

2022-2026 Term of Council Priorities



Sustainable Economic and Ecological Development



Safe and Thriving Neighbourhoods



Responsiveness and Transparency





Woodward WWTP Upgrades

2024 Rate Supported Budget

2023 BUDGET YEAR HIGHLIGHTS



Contract 1 – Main Pumping Station

Contract Value: **\$87.6 Million (Current \$86.2M)**

Construction Began: **May 2017**

Substantial Performance: **August 31, 2022**

Work Performed to Date: **\$85.5 Million (99%)**



New Treated Effluent Outfall to Red Hill Creek



Contract 2 – Electrical and Chlorination Upgrades

Contract Value: **\$60.9 Million (Current \$62.9M)**

Construction Began: **October 2017**

Substantial Performance: **November 11, 2022**

Work Performed to Date: **\$62.1 Million (99%)**



Contract 3 – Tertiary Treatment Upgrades

Contract Value: **\$165.3 Million (Current \$184.5M)**

Construction Began: **May 2019**

Substantial Performance: **Expected January 2024**

Work Performed to Date: **\$179.9 Million (98%)**



Woodward Upgrades Ribbon Cutting



2024 Rate Supported Budget 2023 BUDGET YEAR HIGHLIGHTS

Chedoke Creek Targeted Dredging

- Dredging remobilization and installation of floating pipeline complete
- In-water work re-initiated on July 17, 2023
- Completion expected by November 30, 2023
- Environmental monitoring agreements with Huron-Wendat Nation, Mississaugas of the Credit First Nation, Six Nations of the Grand River, and Haudenosaunee Confederacy Chiefs Council (via HDI)
- **Project Budget – \$11.35M**



Real Time Control Phase 2 (Major Milestone)

- Improved monitoring and control of combined sewer flows during wet weather
- Once complete, an additional capture rate of 7 million litres of combined sewage per year is anticipated
- Reduction in overflows will directly contribute to water quality improvements in Cootes Paradise
- **Project Budget – \$16.75M**





Operational Achievements

- **100% compliance at Woodward and Dundas Wastewater Treatment Plants**
 - Significant staff effort to maintain compliance
 - **Woodward WWTP** (76 consecutive months) - industrial spills upsetting plant performance
 - **Dundas WWTP** (103 consecutive months) - aging and failing infrastructure
- **Waterworks Bylaw and Sewer & Drain Bylaw Update**



Woodward Wastewater Treatment Plant effluent outfall



Sewer and Drain Bylaw Public Information Centre



2023 BUDGET YEAR HIGHLIGHTS

Burlington & Rutherford Spill Actions

- Risk-based Inspection Program for Cross Connected Sewer Pipes (Pilot)
- Review & updates to existing programs / processes
- New programs / processes
 - ✓ Dry Weather In-Pipe Sampling Program
 - ✓ Risk Based Inspection Program (Full System)
 - ✓ Sewage Spills Communication Plan
- Approval of 12 FTEs to implement the new programs and address other system risks (Sept 8th Public Works Committee)

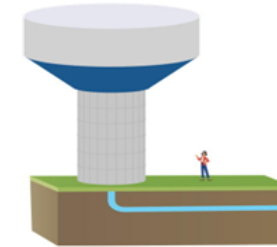
Post-spill repairs to Rutherford/Myrtle sewer infrastructure



2023 BUDGET YEAR HIGHLIGHTS

Master Plans / Environmental Assessments

- **Water, Wastewater, and Stormwater Master Plan**
- Ainslie Wood Sewer Separation EA
- West End Sewer Separation EA
- Lower Chedoke EA
- Chedoke Watershed Stormwater Retrofits EA
- Greensville Municipal Backup Well EA
- Waterdown Trunk Watermain Twinning EA
- Greenhill Water Pumping Station EA
- Carlisle Water Storage Facility EA
- Governors Road Water Pumping Station EA
- McMaster University Gardens W. Sanitary Pumping Station EA
- Eastport Sanitary Pumping Station EA
- Winona Area Flooding and Drainage Improvements EA
- Rosedale Stormwater Improvements and Sewer Separation EA
- Stormwater Management Facility Retrofits EA



Elevated Tank



Booster Pumping Station
& In-ground Storage Tank

Hamilton

Ainslie Wood
Neighbourhood Creek
Separation Municipal
Class Environmental
Assessment

Virtual Public Information Centre No.1
February 24th – March 10th, 2023

**RESILIENT
CONSULTING**

Ainslie Wood EA – Virtual PIC #1



2023 BUDGET YEAR HIGHLIGHTS

Projects in Design

- WTP Dissolved Air Flotation Pilot (2024)
- WTP High Lift Pumping Station HVAC (2024)
- Lynden Municipal Well Upgrades (2024)
- Highland Road Reservoir Upgrades (2025)
- WTP Low Voltage Electrical Upgrades (2025)
- WTP Pre-Treatment Isolation Valves (2025)

Water



- Dundas WWTP Health & Safety Immediate Needs (2025)
- CSO Backflow Preventors (2025)
- Greenhill CSO Upgrades (2026)

Wastewater



- Grafton and Centennial Stormwater Pumping Stations (2025)

Stormwater

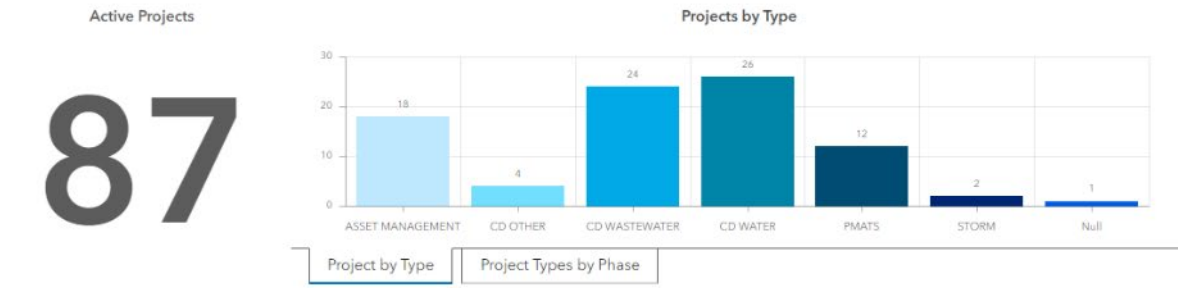
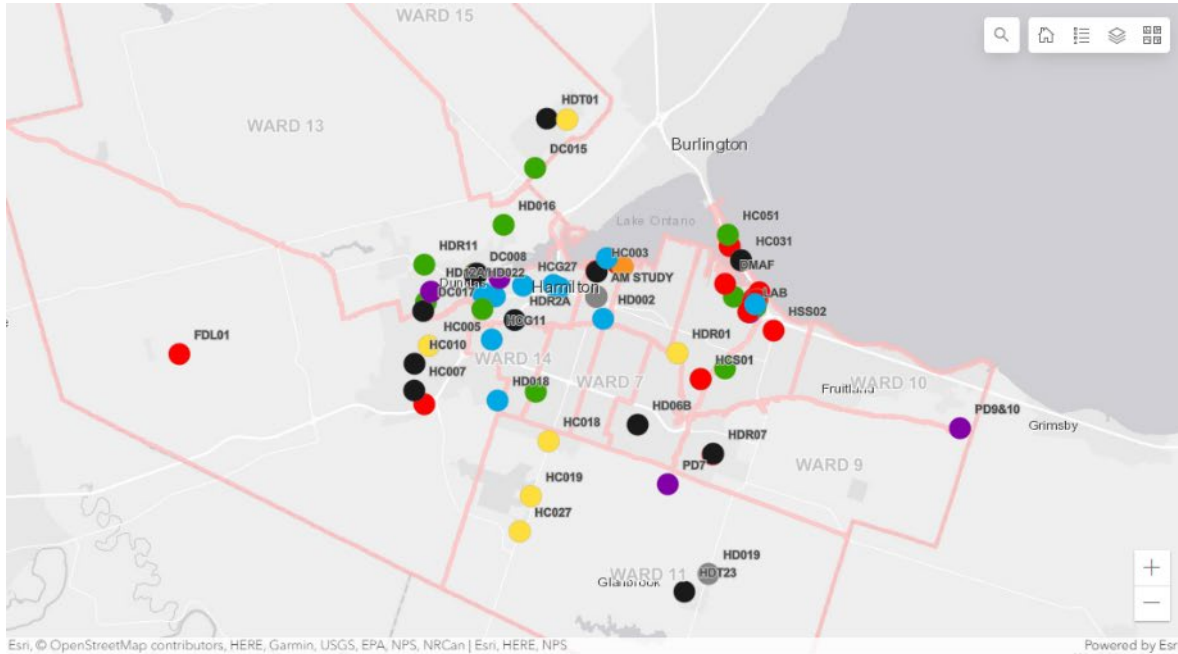


(year in parentheses indicates when completion of construction is anticipated)



2023 BUDGET YEAR HIGHLIGHTS

Capital Upgrades in Construction





2023 BUDGET YEAR HIGHLIGHTS

Large Capital – Emergency Maintenance



**Scenic Reservoir
Expansion Joint Repairs
\$1.5M**



**Digester 3
Emergency Repairs
\$4.7M**





Community Engagement

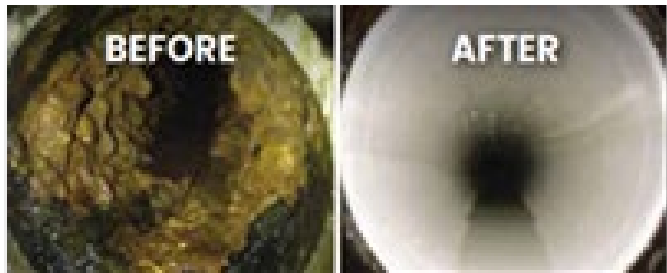
- Hamilton & District Heavy Construction (HAND) Association
- Children's Water Festival and World Toilet Day
- First Nations monitoring agreements
- Ward 3 meeting - Wentworth Spill
- Protective Plumbing Program Survey
- Stormwater Funding Review consultations
- Environmental Assessment consultations





2023 BUDGET YEAR HIGHLIGHTS

Infrastructure Renewal



- **Watermain Renewal**

- **4.16 km** installed in 2023 YTD, 2.93 km installed in 2022
- **\$6M** average annual expenditure
- Kenilworth Feedermain - critical emergency work

- **Sewermain Renewal**

- **11.5 km** lined in 2023 YTD
- **438 km** of sewer mains lined since 1993
- Sewermain lining program has achieved a cost avoidance of **\$335M** since program inception vs open cut replacement

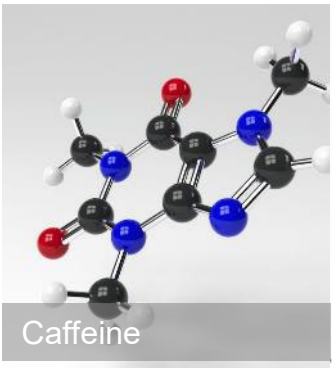


2023 BUDGET YEAR HIGHLIGHTS

Continuous Improvement



Hydrant spare parts program



Initiative	Cost Savings / Avoidance
Water Meter Work Order Optimization	\$140,000 since Q4 2021
Laboratory – Caffeine analysis accreditation	\$125,000 in year 1, up to \$275K annually thereafter
Hydrant spare parts program	\$93,000 to date
Watermain proactive leak detection	\$1.79M from 2019-2023



SUPPORTING HAMILTON'S GROWTH

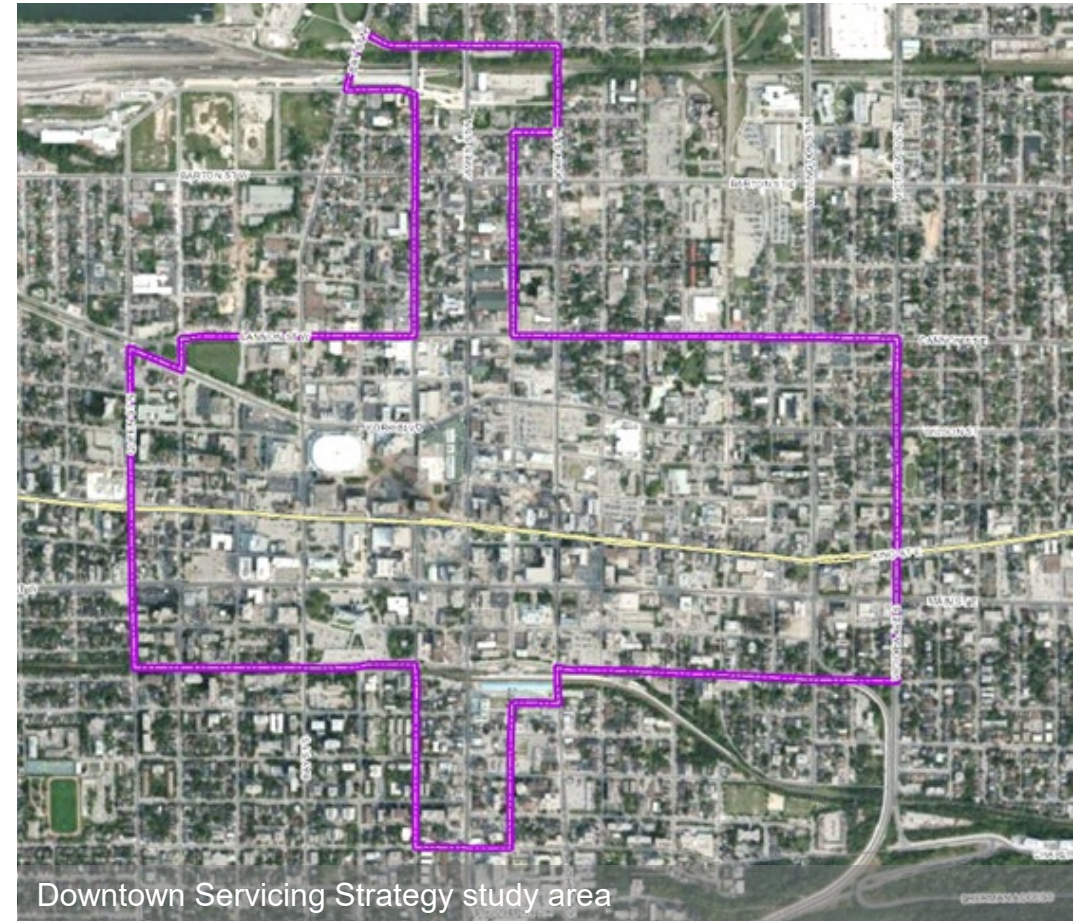




SUPPORTING HAMILTON'S GROWTH

Hamilton Downtown Servicing Strategy

- **Objectives**
 - Prioritizing renewal and upgrades of water and sewer infrastructure to support the intensification of downtown Hamilton
 - Reduce flooding and combined sewer discharges to the natural environment
- **Results**
 - Confirmation that current stormwater control criteria is generally effective; additional control required in some areas
 - Identified and prioritized water and sewer Infrastructure that is the most constrained
- **Next Steps** - detailed infrastructure plan

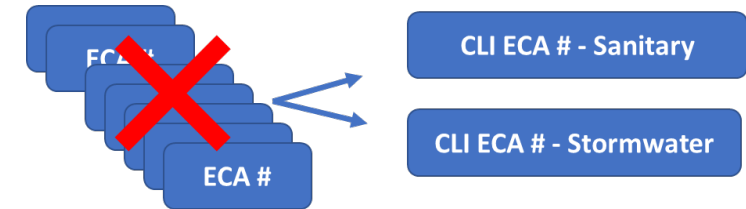




SUPPORTING HAMILTON'S GROWTH

Consolidating our Wastewater Approvals

- Consolidated Linear Infrastructure (CLI) Environmental Compliance Approvals (ECA) for our wastewater/stormwater system
- Multi-Year process, submitted to the Province in 2021
- Final CLI ECAs expected in early 2024
- **Anticipated Benefits**
 - All collection system requirements in one approval, streamlined pre-approval for low-risk projects
 - Consistent operational and compliance requirements across systems
- **Risks** - approval of new flows into the combined sewer system, increased resources needed for operations & maintenance





SUPPORTING HAMILTON'S GROWTH

Development Approvals



Downtown Hamilton renewal (c/o Jason Thorne)

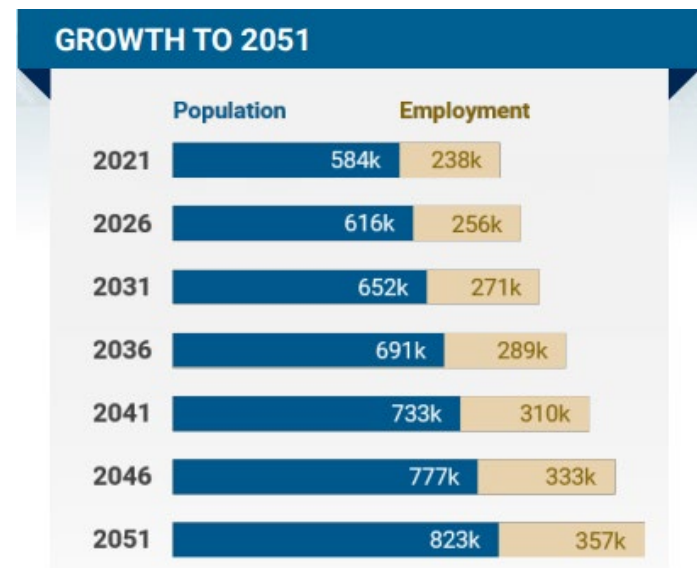
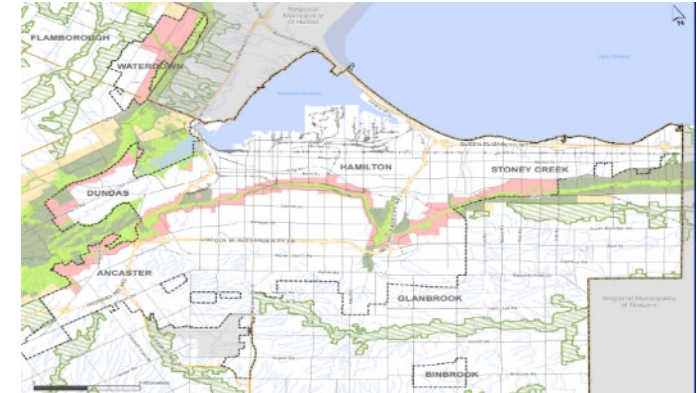
- Staff focus on expedited review times from Bill 109, resulting in deferral of some infrastructure planning projects and EAs
- Challenges with allocating sewer capacity with short review/approval timelines
- Dedicated hydraulic modelling staff will directly support accurate and responsive development reviews on water/wastewater system capacity



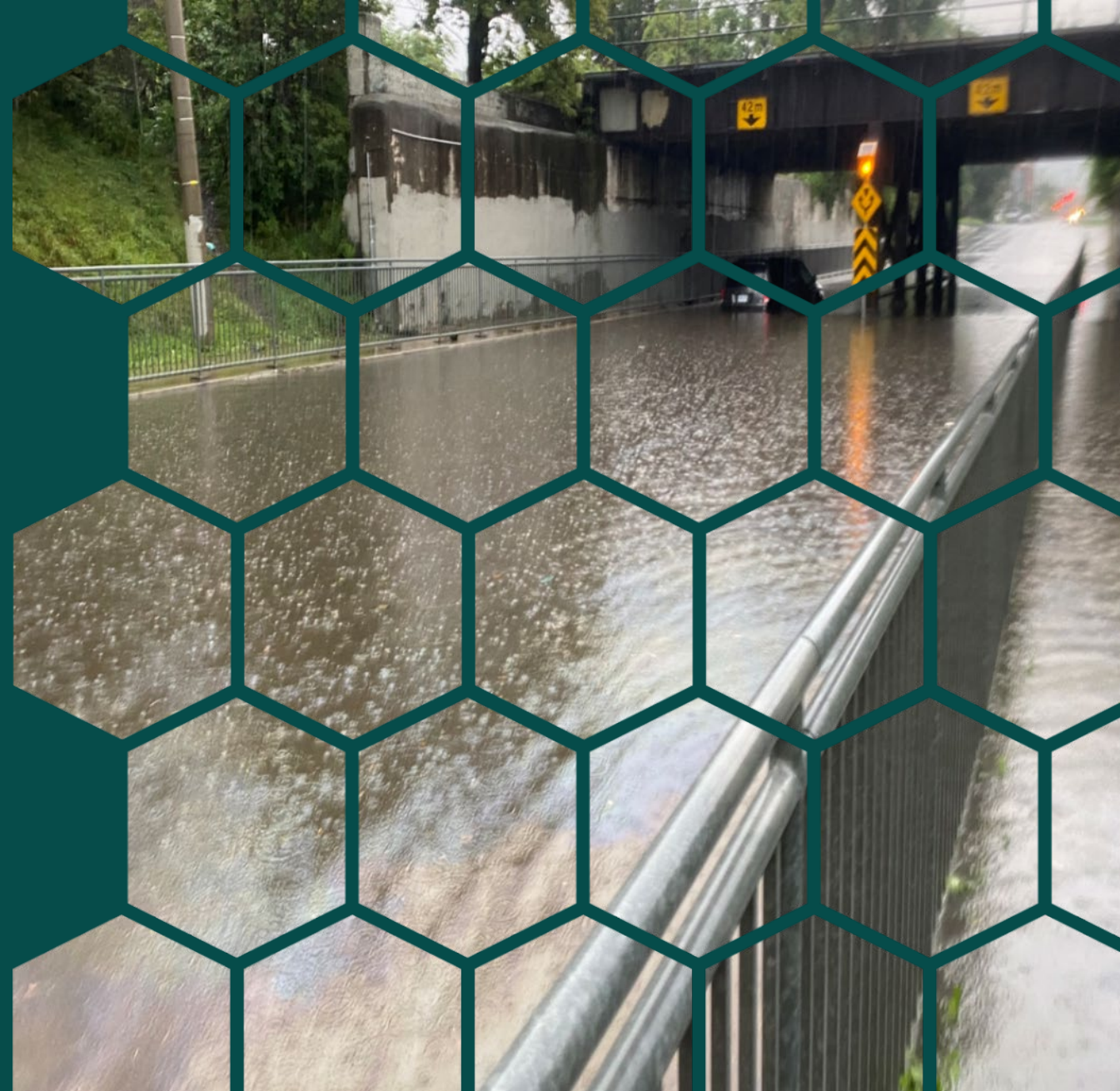
SUPPORTING HAMILTON'S GROWTH

Water, Wastewater, and Stormwater Master Plan

- Project initiated in 2017
- Significant delays due to changing municipal/provincial decisions and legislative amendments (e.g. Growth Plan, urban boundary expansion, Greenbelt land use)
- The Master Plan helps define:
 - Policy around how we expand our systems
 - System improvements to reduce risk and enhance service
 - Impacts of growth on Combined Sewer Overflow capture rate
 - How on-site control impacts sewer system function
- Study is expected to be completed by Q4 2024



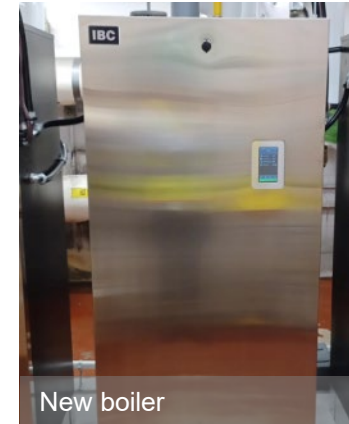
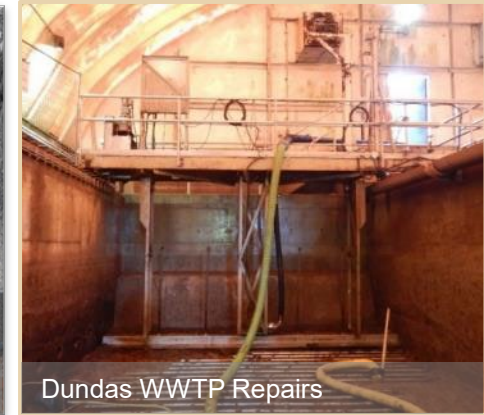
CHALLENGES





Aging Infrastructure

- **Dundas Wastewater Treatment Plant** – Health and safety issues due to deteriorating infrastructure, operational risks due to equipment age/condition
- **Digester #3 Emergency Repairs** – Digester 3 emergency repair completed, rehabilitation of Digester #3 and #5 scheduled to start in 2023, reduced digester capacity for next two years (\$4.7M)
- **Policy 10 Emergency Repairs** – Boiler Return Lines (\$900K), Stonechurch/Tunbridge boilers (\$150K)
- **Water Treatment Plant Filter Underdrains** – Some underdrains are showing signs of failure which has required prioritized intervention



2024 Rate Supported Budget
CHALLENGES – WATER ASSETS

Critical Asset Summary				
Critical Assets	Quantity	Replacement Cost	Condition	Stewardship Measures
 Water Treatment Plant	1	\$1.0 billion	Poor	# of instances Chlorine is below/above target at the WTP 8
 Pump Station	18	\$125.3 million	Good	Inspection Frequency Weekly
 Wells & Well Stations	8 wells 6 stations	\$21.9 million	Fair Good	# Drinking Water Advisories 0
 Watermain	2,129 km	\$1.6 billion	Fair	Emergency breaks repaired within 2 days 100%

Annual infrastructure gap for water assets

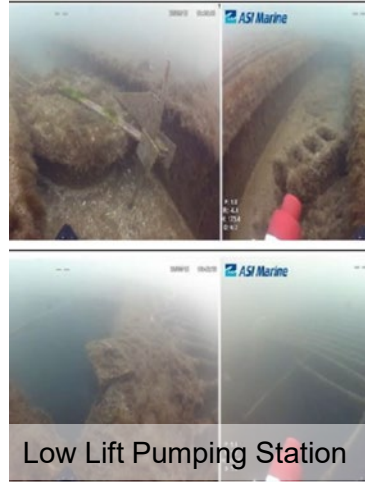
\$20 million



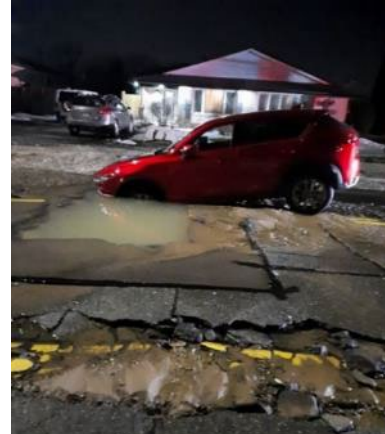
2024 Rate Supported Budget CHALLENGES – WATER ASSETS



Large watermain break – Ward 1, Nov 2023



Low Lift Pumping Station



Watermain Break



Filter bed undrain debris



High Lift Pumping Station



Watermain Break



Tuberculation

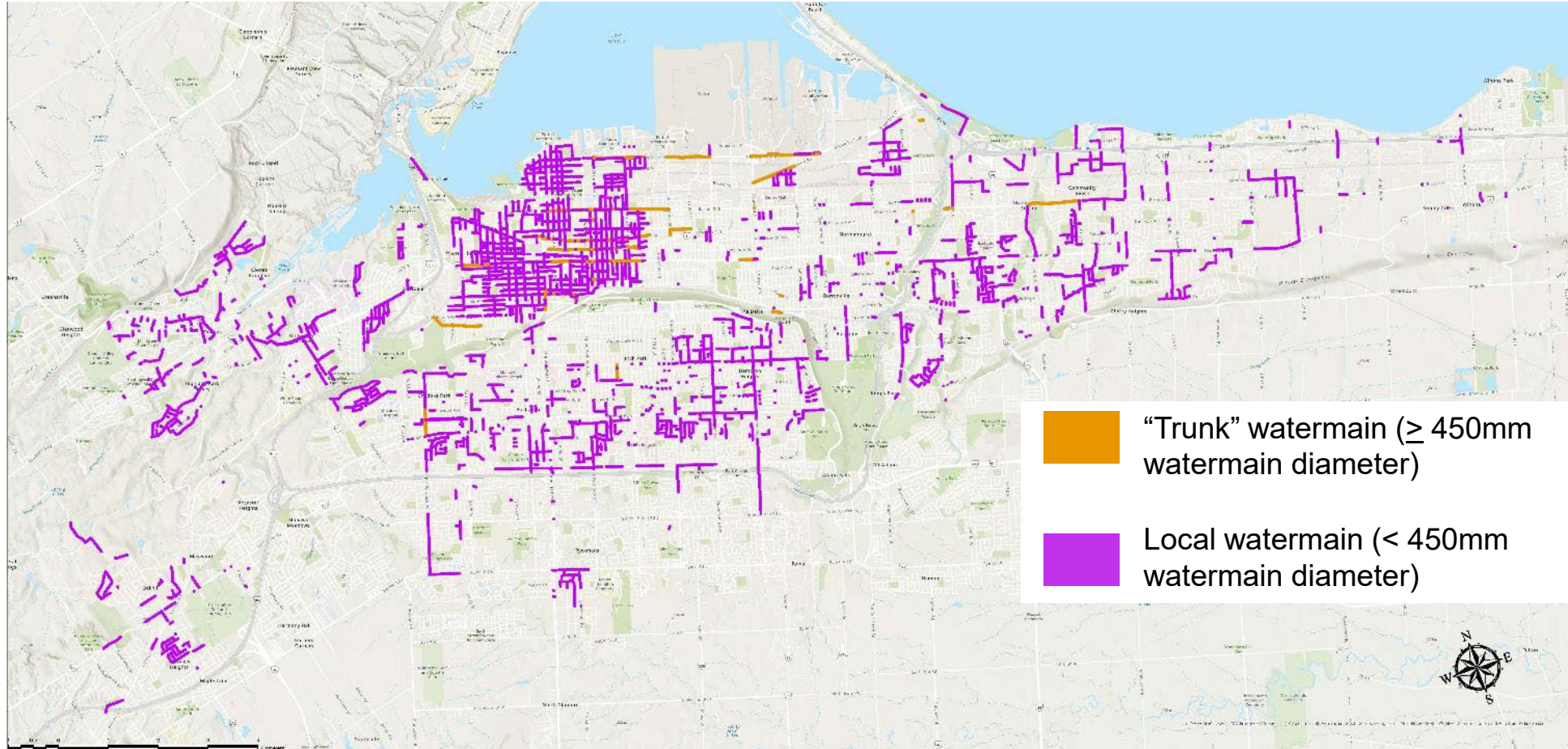


WTP watermains



Station at Main & Whitney

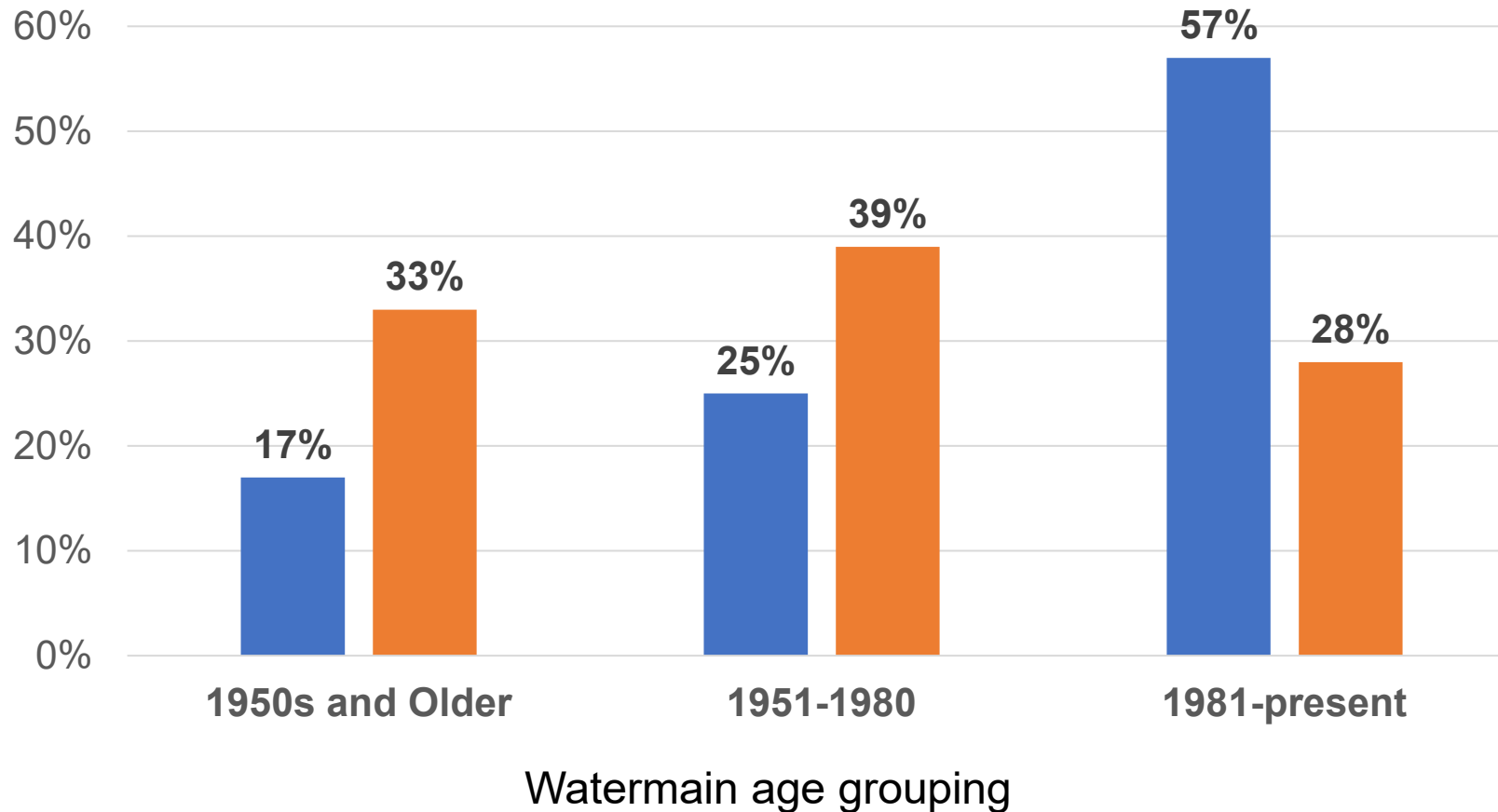
Cast Iron Watermains (non-rehabilitated)



10.7
watermain
breaks per
100 km of
watermain
(2022 data,
all pipe
materials)

2024 Rate Supported Budget
CHALLENGES – WATER ASSETS

Watermain Age Profile



- Local Watermains
- Transmission Watermains

9% of the distribution network is critical watermain (450mm watermain diameter and larger)

CHALLENGES – WASTEWATER ASSETS

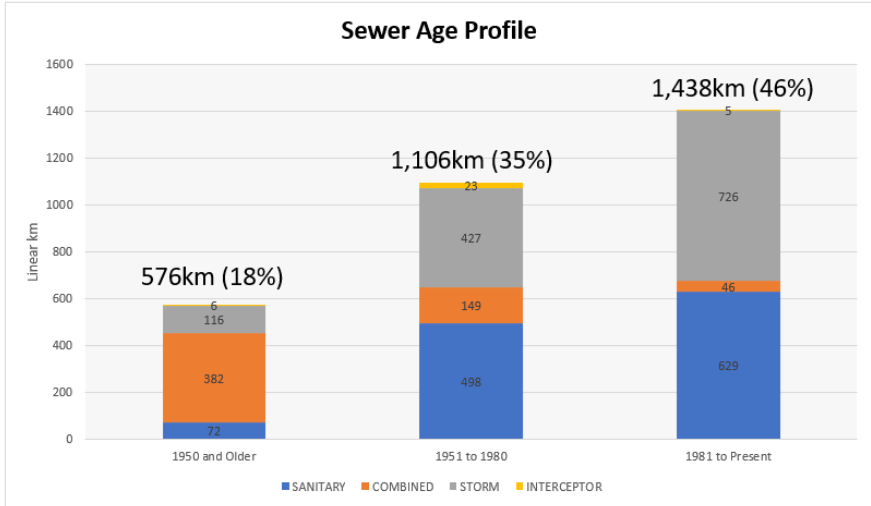
Critical Asset Summary				
Critical Assets	Quantity	Replacement Cost	Condition	Stewardship Measures
 Wastewater Treatment Plant	2	\$3.2 billion	Fair	# of bypasses at Woodward WWTP in 2021 23
 Pump Station	71	\$181.2 million	Fair	% completed monthly inspections in 2021 92.12%
 CSO Tanks	9	\$222.9 million	Fair	# of CSO tank overflow events in 2021 27
 Gravity Main	1,798 km	\$2.4 billion	Good	Length of sewermain lined in 2021 22.3 km

Annual infrastructure gap for wastewater assets

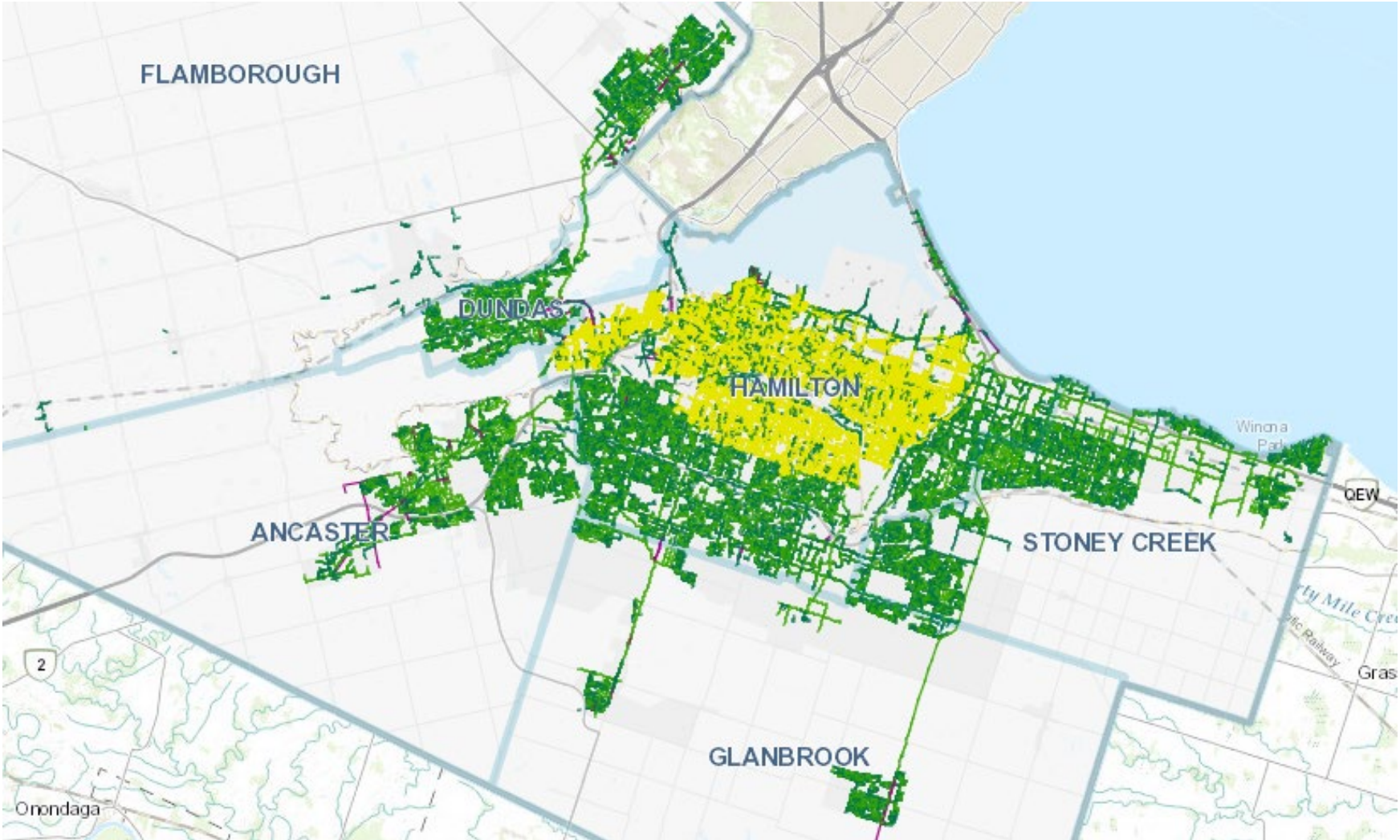
\$50 million





2024 Rate Supported Budget CHALLENGES – WASTEWATER ASSETS






CHALLENGES – WASTEWATER ASSETS



-  Combined sewer
-  Separated storm or sanitary sewers

CHALLENGES – STORMWATER ASSETS

Critical Asset Summary				
Critical Assets	Quantity	Replacement Cost	Condition	Stewardship Measures
 Stormwater Management ponds	119	\$179 million	Good	% of Ponds inspected in 2021 100%
 Pump Station	2	\$9.52 million	Very Good	Inspection Frequency Monthly
 Gravity Main	1,263 km	\$1.8 billion	Good	km's of Main Inspected in 2021 78 km

Data Confidence

VERY HIGH MEDIUM VERY LOW

Annual infrastructure gap for stormwater assets

\$31 million

2024 Rate Supported Budget
CHALLENGES – STORMWATER ASSETS



Species-at-risk relocation



Erosion, damaged infrastructure



Church Street Outfall



Debris jams at Borer's Creek



Debris from storm event – Dundas, July 2023



Phragmites



Damaged outfall



Encroachments



2024 Rate Supported Budget CHALLENGES

Staffing

- **Plant Maintenance and Technical Services** – despite active recruitment, Maintenance Team had as high as 14 vacancies for a complement of 30 tradespeople (47% vacancy)
- **Customer Service and Community Outreach** - 1 out of 5 positions vacant
- **Compliance and Regulations** - High staff turnover (losses to other divisions, increase in leaves and temporary positions), increased onboarding/mentoring requirements
- **Planning & Capital** - Environmental Assessments and capital projects delayed due to vacancies, significant staff effort to attract limited pool of qualified project managers and engineers
- **Plant Operations** – Significant overtime due to vacancies





2024 Rate Supported Budget CHALLENGES

Capital Program

- Some Tender Submissions are coming in over budget
 - 2022 - Real Time Control Phase 2
 - 2023 - Calvin St and Garner Road Pumping Station Upgrades
- Costs are higher but stabilizing
- Supply chain delays, longer lead times for equipment and supplies
- Accelerating projects to support growth



Woodward WTP Upgrades – Clearwell extension

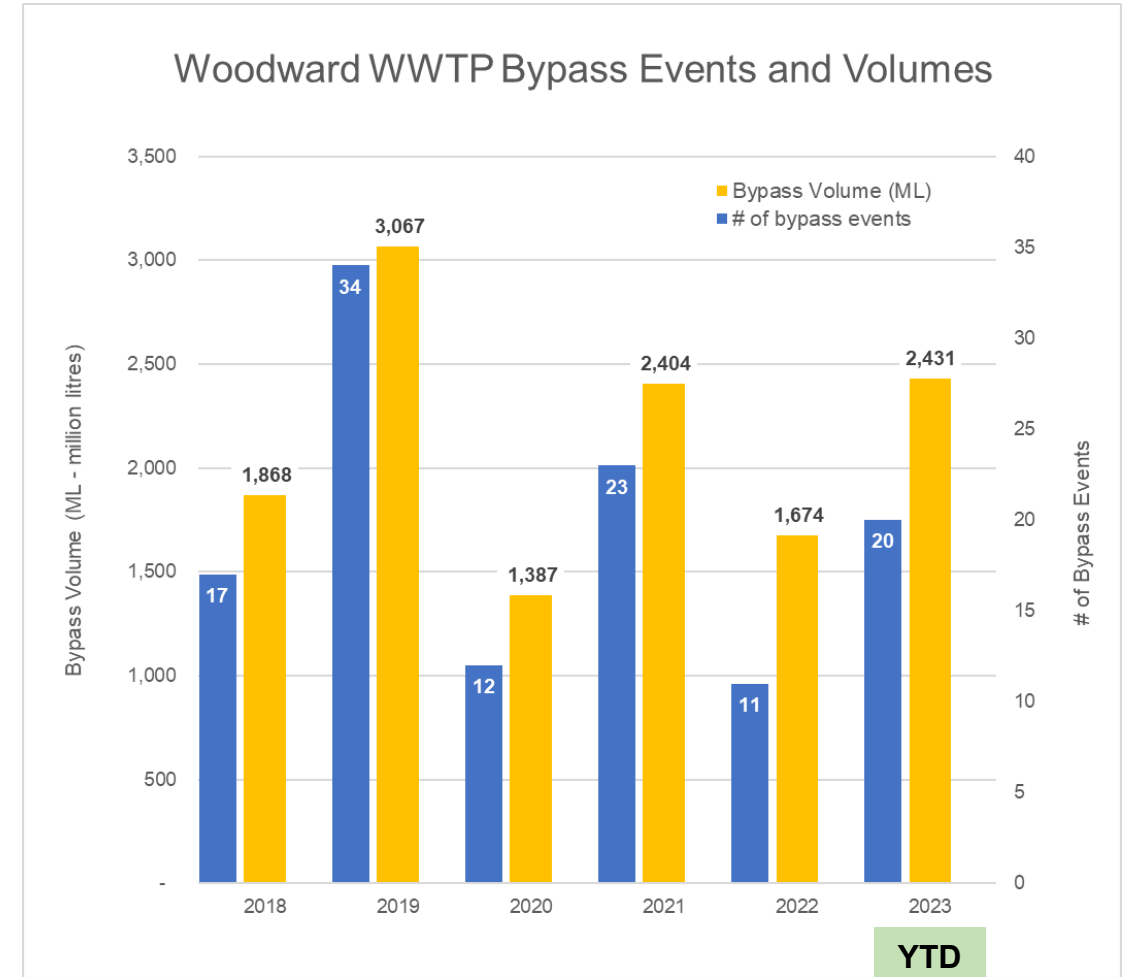


Climate Change

- Increased Combined Sewer Overflow and WWTP Bypass events in 2023 vs. 2022
- Increasing water temperatures has impacts on chlorine residual at the extremities of the distribution system

Achievements and Opportunities

- Renewable natural gas and co-generation
- \$2.5M in cost avoidance global adjustment YTD
- DMAF applications submitted for \$36M in capital projects
- Flooding and Drainage Improvement Framework EAs (2024), Real Time Control
- Public Works Climate Team





Planning and Growth

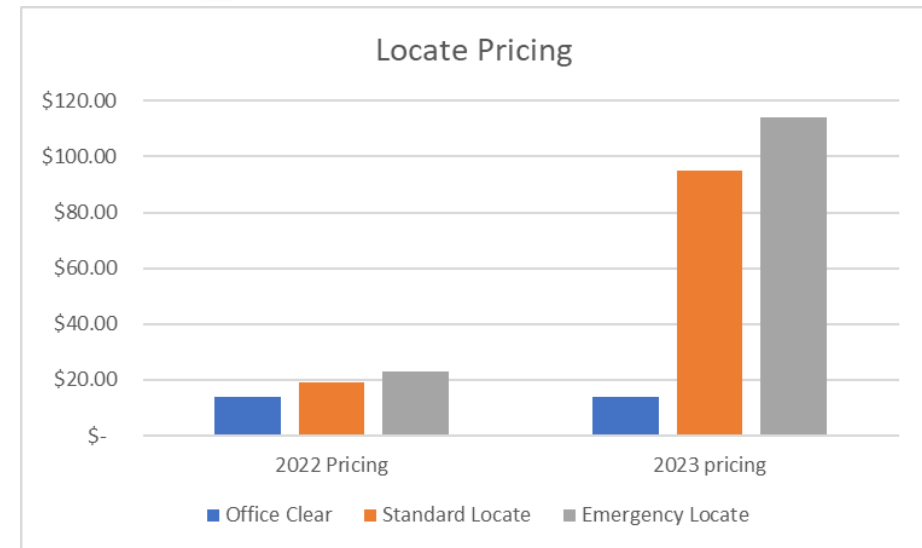
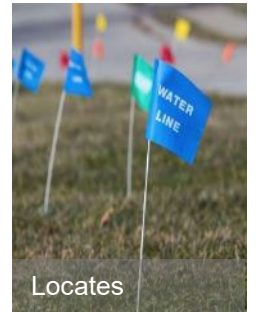
- MECP Guideline F-5-5 has implications for development approvals
- Capacity monitoring and allocation
- Bill 23/109 impacts – development application review turnaround time, development charge risks
- Groundwater dewatering and private stormwater infrastructure





Regulatory Challenges

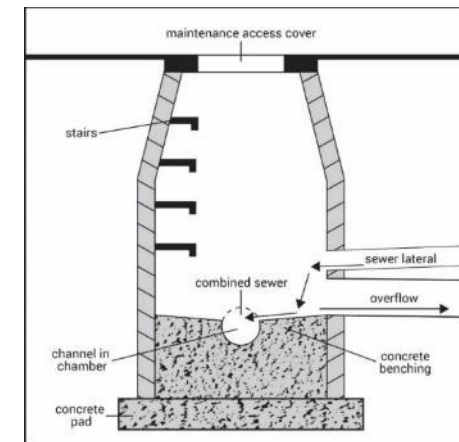
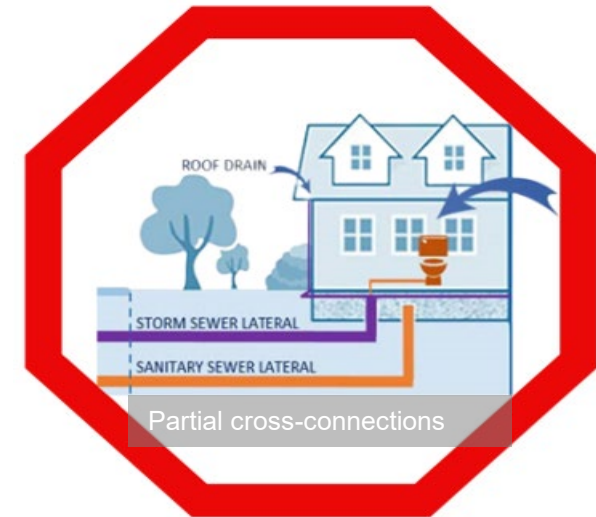
- **Utility Locates**
 - **High contractor costs, risk of fines**
 - 33,000 locate requests in 2022, highest on record
 - Locate compliance rate is 69%, well below vendor contract standard of 95%
 - Business case for internal Locates Office
- **Excess Soils**
 - Significant increase in expenditures since 2019 (**\$1.5M** in 2022)
 - 2025 limitation of sending reuse soil to landfill
 - Excess Soils Management staff support in Engineering Services





Sewer System – Legacy Issues

- **Partial sewer lateral cross connections**
 - 46 partial sewer lateral cross connections
 - No homeowner incentive to allow private access
 - Consideration for residential assistance program, Sewer & Drain Bylaw updates
- **Burlington/Myrtle spills**
 - Provincial Officer's Orders resulting from improper sewer connections
 - Public Works Committee Report – Burlington Street Sewage Spill Update (September 8th) – 12 new FTEs
- **Sewer Regulator Condition**
 - Accelerated rehabilitation program required



Kinrade Ave - sewer cross-section



Sewer regulator



Indigenous Engagement

- **Consistent City-wide approach is critical**
 - Inconsistent approaches across Ontario regarding engagement – learning opportunities
 - Establishing corporate policy and staff training
 - Agreements and capacity funding
- **Relationship building**
 - What does meaningful engagement look like?
 - Timing challenges
 - Pursuant to Urban Indigenous Strategy
- **Potential outcomes**
 - Incorporating social procurement, new corporate policy, capacity funding agreements, incorporating Indigenous knowledge into project planning



**NATION
HURONNE-
WENDAT**



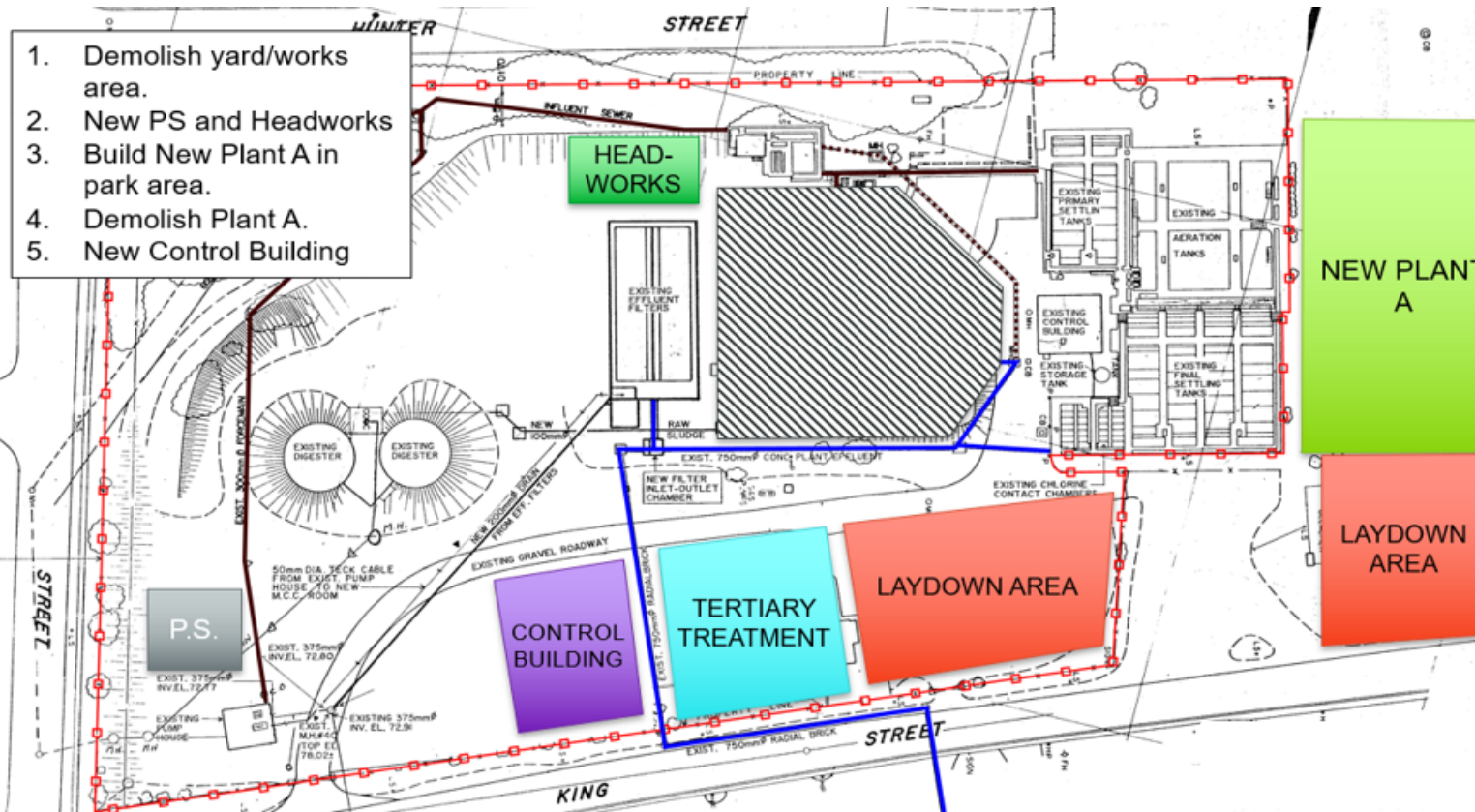
2024 BUDGET PRIORITY INVESTMENTS





2024 BUDGET PRIORITY INVESTMENTS

Dundas Wastewater Treatment Plant



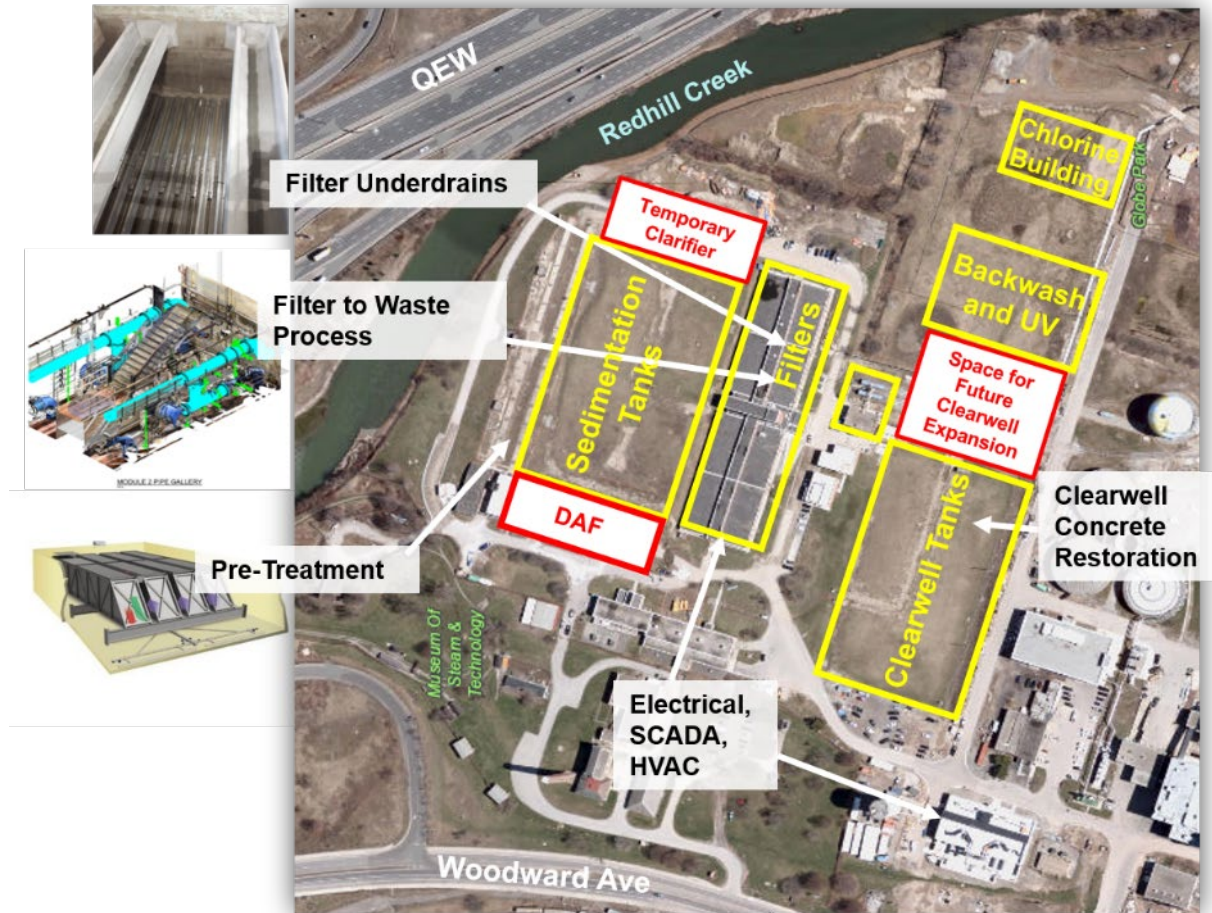
- Using asset management to identify infrastructure needs
- Analyzing costs for enhanced treatment as well as stewardship opportunities (Wastewater Centre of Excellence, community outreach)
- Conceptual Design Study completion expected Q1 2024, Council report on future treatment/design options in 2024



2024 BUDGET PRIORITY INVESTMENTS

Water Treatment Plant Upgrades

- **Water Quality Upgrades + Lifecycle Renewal (\$295M construction cost estimate)** – UV Facility, filter-to-waste, chlorine building, backwash pumps, filter underdrains
- **Capacity Expansion (\$183M construction cost estimate)** - Sedimentation tank “bottleneck” will be relieved to support increased demands from growth
- **Climate Change Resilience** – Dissolved Air Flotation (DAF) water treatment pilot - 2024
- Design Peer Review Study completion expected Q4 2023, Council report in 2024

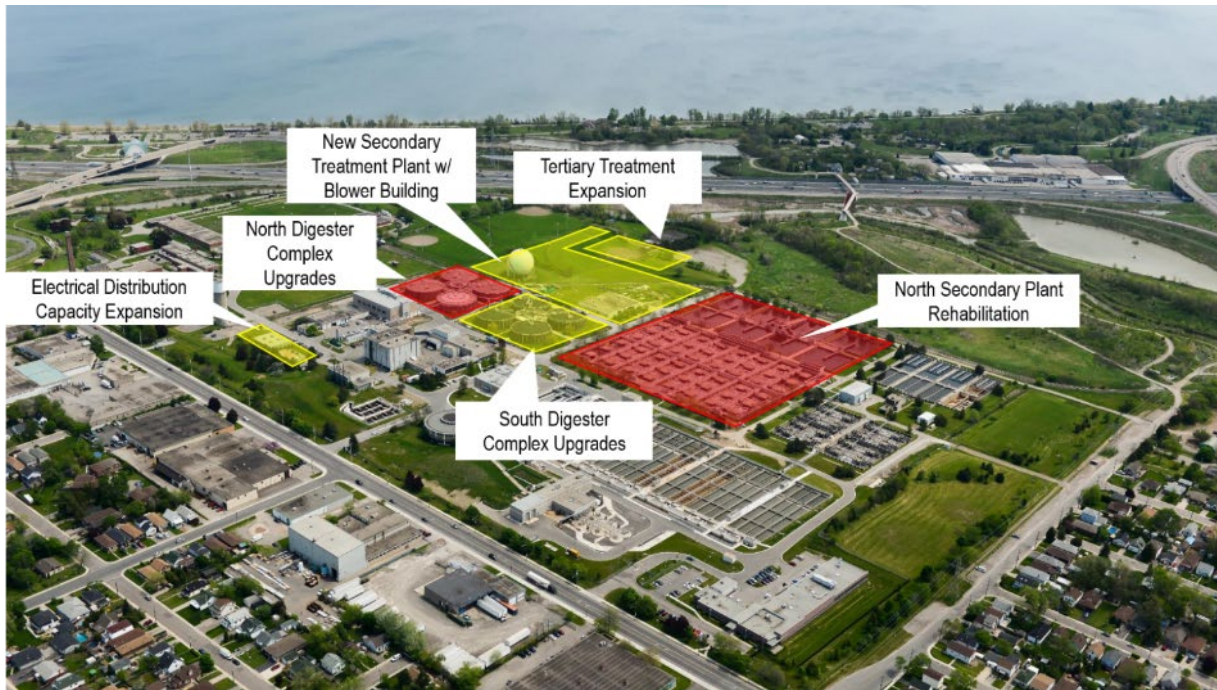




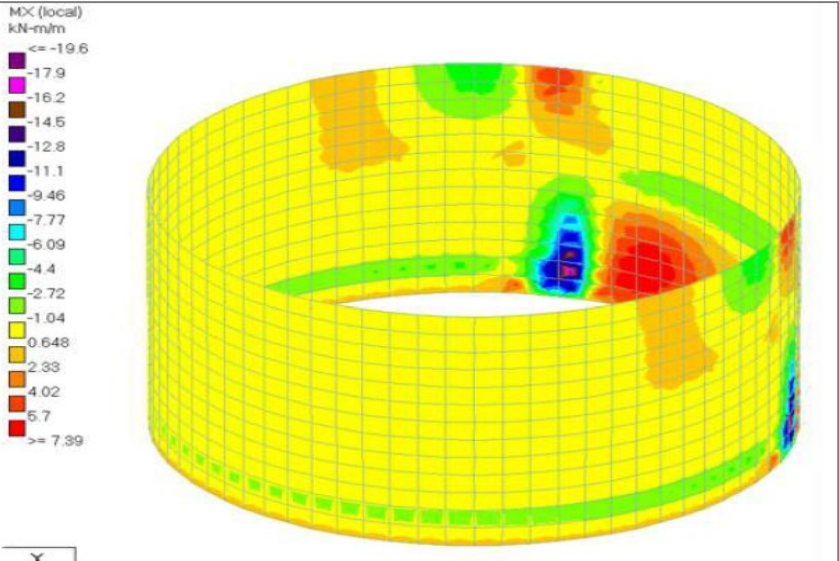
2024 BUDGET PRIORITY INVESTMENTS

Woodward Upgrades Phase 2 - Expansion Project

- Increasing average rated capacity to 500 Megalitres per Day (MLD) and peak capacity to 1000 MLD to meet growth requirements
- Rehabilitation/renewal of existing treatment plant infrastructure, expansion of tertiary treatment
- Anaerobic digesters rehabilitation – renewable natural gas, cost recovery
- **\$445M** construction cost estimate (**\$146.5M net**)
- Estimated target completion date of **2032**



2024 BUDGET PRIORITY INVESTMENTS



Modelled stress test results on Dundas WWTP Digester walls

Vertical Asset Management

- Asset Condition Audits/Assessments to improve data accuracy
- Considerable backlog of facility upgrades, criticality prioritization, emergency maintenance costs
- **2023 Focus** – Financial Plan, Risk Management Plan
- **2024-2025** – Collaboration with Corporate Asset Management Office
 - Life cycle curves, costing framework, level of service, community engagement, procedure development, Enterprise Asset Management implementation



Woodward WTP sedimentation tank concrete spalling (pen for scale)



Dundas WWTP

Sewer Rehabilitation

2024 Rate Supported Budget

2024 BUDGET PRIORITY INVESTMENTS

Ward 1 - Bold St Trunk Sewer – Locke to Poulette

- Rehabilitation of 145m of brick trunk sewer using Glass Reinforced Plastic

Ward 4 - Strathearne Trunk Sewer – Strathearne Avenue

- Rehabilitation of 780m of concrete trunk sewer using crack injection

Wards 6 & 11 - Mountain Industrial Trunk Sewer (Glover Road, Rymal Road)

- Rehabilitation of 1800m of Reinforced Concrete Pipe using Cured in Place Pipe

Ward 8 - Upper James @ Claremont Access

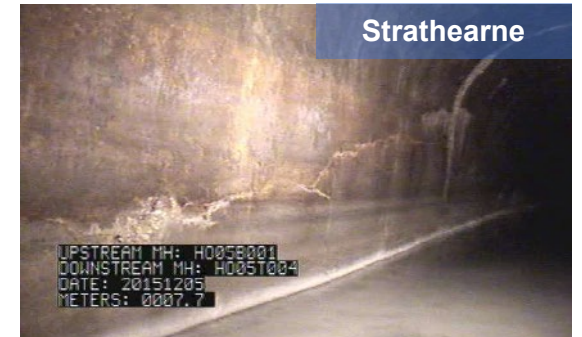
- Rehabilitation of 112m of large concrete using Glass Reinforced Plastic

Ward 10 - Eastern Sanitary Interceptor - South Service Road near Fruitland

- Rehabilitation of 1700m using Cured in Place Pipe

Ward 12 - Ancaster Sewage Works – near Filman Road, Linc/403 ramps

- Rehabilitation of 860m of concrete trunk sewer using Cured in Place Pipe





2024 BUDGET PRIORITY INVESTMENTS

Stormwater Education Campaign

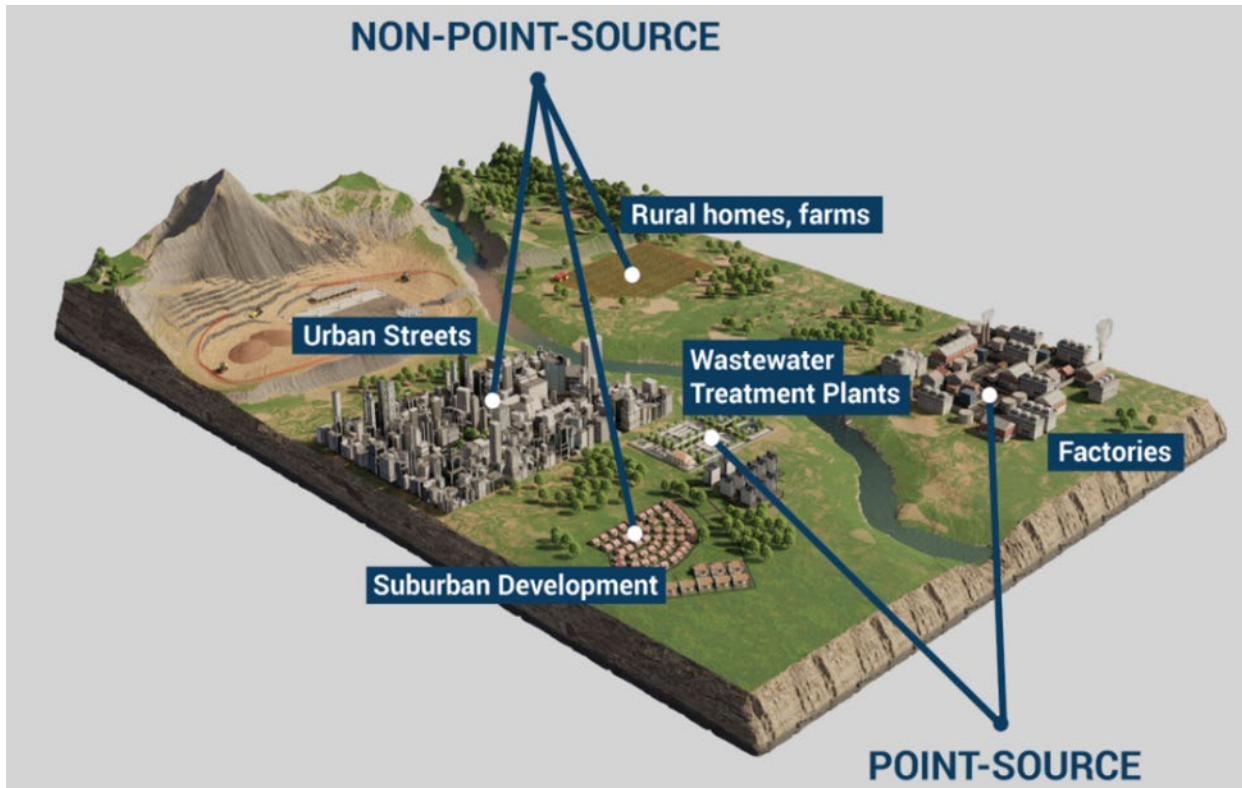
- Stormwater Fee Education
- Watershed Action Plan
- Catch Basin Awareness
- Stormwater Facilities – Operations & Maintenance, Safety
- Rain Gauge Education
- Private Disconnection Program Outreach





2024 BUDGET PRIORITY INVESTMENTS

City of Hamilton Watershed Action Plan



- Council priority to advance key municipal projects to improve watershed conditions across Hamilton
- Action plans are currently being evaluated and prioritized by the Stakeholder Liaison Committee comprised of City staff, Conservation Authorities, and RBG
- Public engagement via Engage Hamilton in 2024
- Council Report in 2024 on recommendations for the City of Hamilton Watershed Action Plan



2024 BUDGET PRIORITY INVESTMENTS

Operational Projects & Programs

- **Plant Operations - Global Chlorination Study**
 - Goal is to reduce water age, improve water quality and stabilize chlorine residuals year round
 - Develop operational strategies and identify infrastructure improvements
 - Terms of Reference complete, anticipating proposals by Q1 2024
 - Anticipated completion - Q2 2025
- **Environmental Monitoring and Enforcement**
 - Implement Phase 2 of the Surface Water Quality Monitoring Program



Surface Water Quality Program sampling



2024 BUDGET PRIORITY INVESTMENTS

Stormwater Funding Review

- Sustainable, dedicated funding source for stormwater capital and operations
- Council-approved guiding principles (November 2022)
- Council approval of new storm rate structure (June 2023)
- Storm fee effective September 2025
- Next steps - finalizing incentive programs (Q1 2024)
- No 2024 budget impact

Utility Billing Transition

- Estimated “Go live” date Q2 2025
- Cloud-based billing software solution procurement complete
- Next steps – procurement for meter reading, contact centre, bill print, customer portal and back office staff recruitment
- No 2024 budget impact





2024 BUDGET

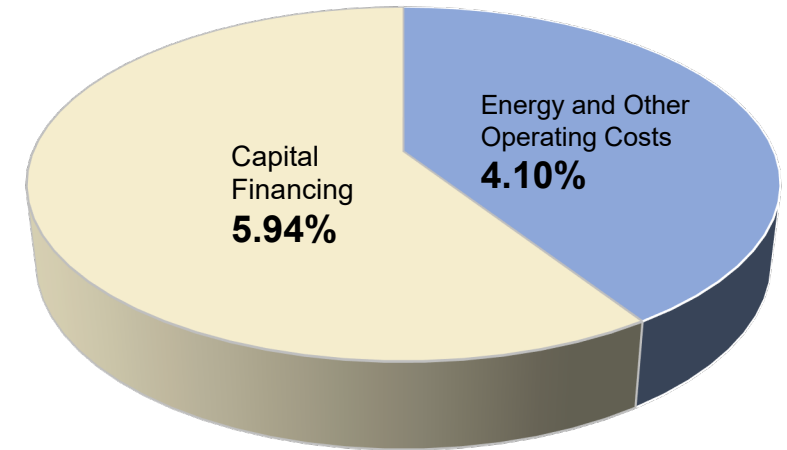
2024 Rate Supported Budget

2024 RATE BUDGET OVERVIEW

Proposed water bill (rate) increase for the typical residential account - **10.04%**

- Recommended 2024 **operating budget of \$121M** (11.6% increase from 2023 approved)
- Recommended 2024 **capital budget of \$286M** (29% decrease from last year's estimate)
- 10-year capital forecast has increased by **\$863M**
- Recommending **24** new FTEs aligned to Term of Council priorities and Mayoral Directive (MDI 2023-02)

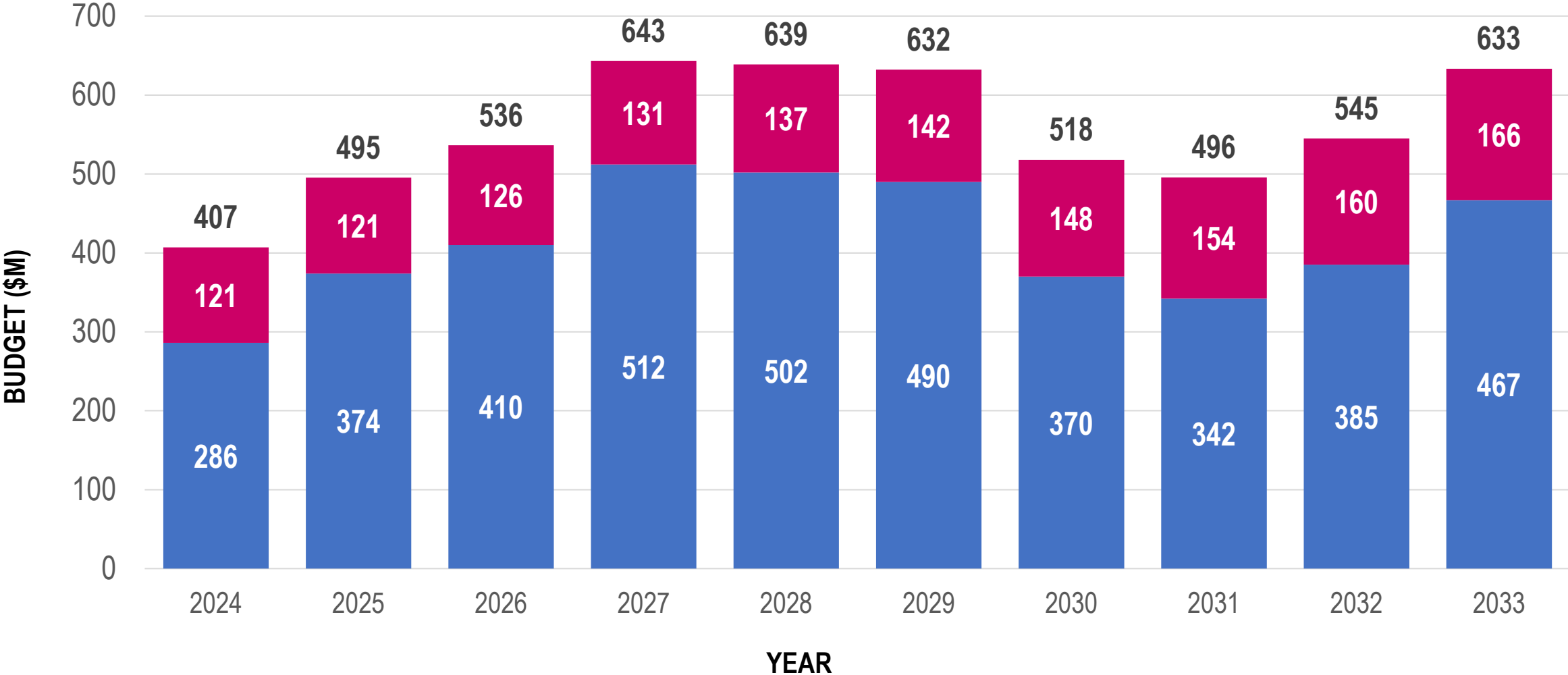
Drivers of 10.04% Increase



2024 Projected Average Rate Impact		
	\$	%
Energy and Other Operating Costs	\$35.94	4.10%
Capital Financing	\$52.16	5.94%
Average Residential Impact	\$88.10	10.04%

10 YEAR COMBINED RATE BUDGET FORECAST

- 2024 Recommended Operating Budget Forecast
- 2024 Recommended Capital Budget Forecast (Gross)





OPERATING BUDGET

2024 Rate Supported Budget OPERATING BUDGET OVERVIEW

2024 Operating Budget Request Breakdown

2023 Council Approved Budget (net of Capital Recoveries)		\$108,512,318	
2024 Maintenance Budget Increases	\$10,550,359		9.7%
2024 New FTE Business Cases - 24 FTEs *	\$463,983		0.4%
FTEs resulting from Burlington St Sewage Spill Programs - 12 FTEs - Report PW22088(b)	\$1,479,262		1.4%
2024 Service Level / Budget Enhancements	\$1,365,000		1.3%
2024 Budget Efficiencies / Redundancies / Realignment	(1,257,797)		-1.2%
2024 Requested Budget Increase		\$12,600,807	11.6%
2024 Requested Operating Budget (net of Capital Recoveries)		\$121,113,125	

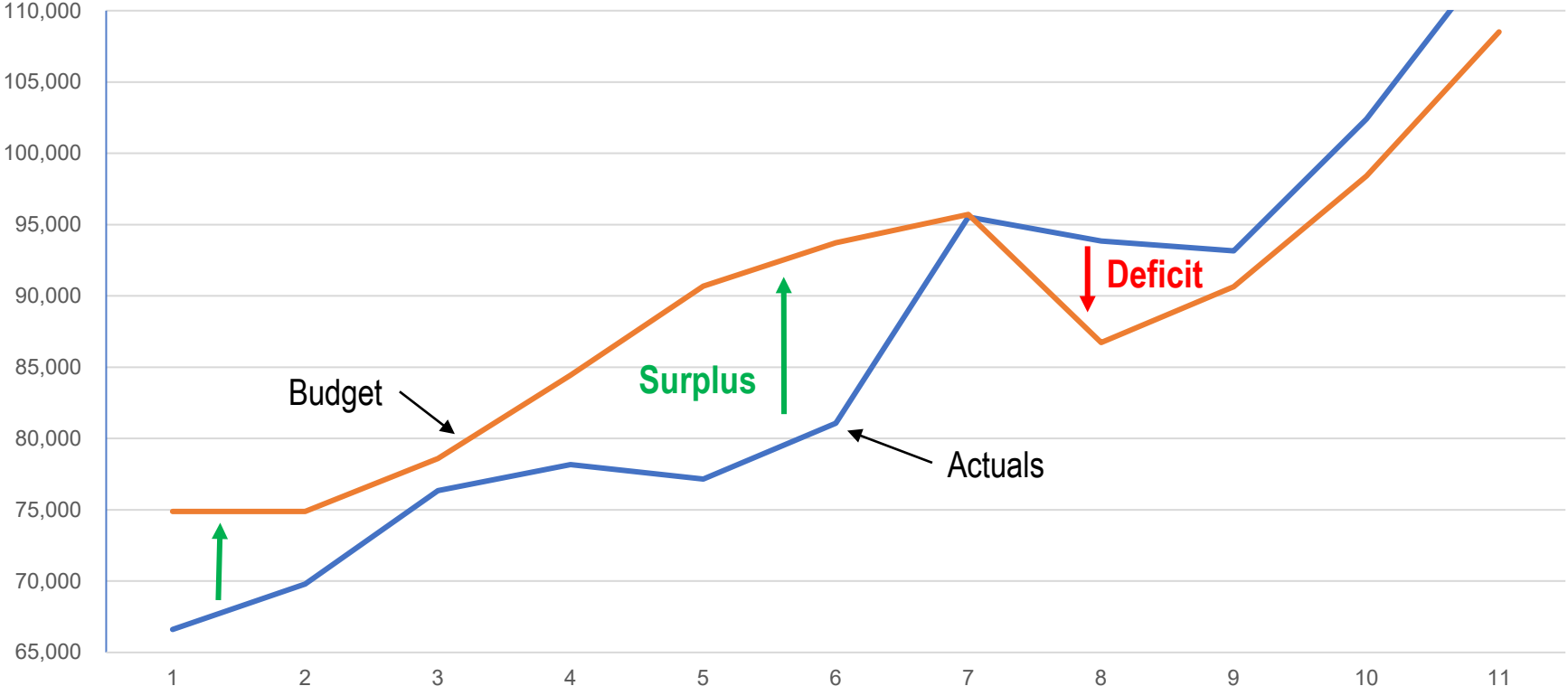
Note:

* New FTE Requests are net of Capital and Reserve Recoveries.

- The 2024 Operating Budget was forecasted to be \$113.1M as part of the 2023 Budget Process
- The Change Between the 2024 Budget Request and the 2024 “Plan” is \$8.05M or 7.1%
- 2024 FTE Recommendations Account for \$464K of the Operating Budget Increase or 0.4% net

RATE OPERATING BUDGET VARIANCE HISTORY

(\$000) (Net of capital recoveries)



— Budget
— Actuals

(Data has been pulled from the Variance Reports submitted to Council)

(\$000)	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023*
Budget	\$ 74,890	\$ 74,879	\$ 78,602	\$ 84,433	\$ 90,687	\$ 93,738	\$ 95,724	\$ 86,720	\$ 90,652	\$ 98,411	\$ 108,512
Actuals	\$ 66,595	\$ 69,799	\$ 76,343	\$ 78,162	\$ 77,162	\$ 81,076	\$ 95,539	\$ 93,842	\$ 92,696	\$ 102,404	\$ 114,461
Variance \$	\$ 8,295	\$ 5,080	\$ 2,259	\$ 6,271	\$ 13,525	\$ 12,662	\$ 185	\$ (7,122)	\$ (2,044)	\$ (3,993)	\$ (5,949)
Variance %	11.1%	6.8%	2.9%	7.4%	14.9%	13.5%	0.2%	(8.2%)	(2.3%)	(4.1%)	(5.5%)

() Denotes unfavourable variance
*** 2023 Actuals are forecasted**

2024 Rate Supported Budget
MAINTENANCE BUDGET DRIVERS

Cost Category	Budget Driver	Budget Impact (\$000s)	% of Total Impact
Employee Related Costs	CBA Salaries & Benefits Increases	\$1,458	13.8%
Facility Pressures	Hydro	\$334	3.2%
	Natural Gas	\$234	2.2%
	Water & Sewer	\$186	1.8%
	Security	\$115	1.1%
	Other (Property Taxes, Garbage Collection, Telephone)	\$197	1.9%
Contractual Pressures	Locates Contract	\$3,730	35.4%
	Biosolids Contract	\$1,344	12.7%
	Fluids & Chemicals	\$1,137	10.8%
	Alectra Service Contract	\$240	2.3%
	PMATS, Laboratory Service Operating Supplies	\$150	1.4%
	WDWWC, PMATS Contracts	\$500	4.7%
	Other (Excess Soil, Spill Response, HVAC R&M)	\$268	2.5%

SUMMARY

Cost Category	Budget Impact (\$000s)	% of Total Impact
Employee Related Costs	\$1,458	13.8%
Facility Pressures	\$1,066	10.1%
Contractual Pressures	\$7,368	69.8%
Corporate Cost Allocation	\$659	6.2%
Total Impact	\$10,550	100%

2024 Rate Supported Budget

SERVICE LEVEL / BUDGET ENHANCEMENTS

Cost Category	Budget Driver	Budget Impact (\$000s)	% of Total Impact
Employee Related Costs	Tax Levy Funded Positions	\$441	32%
Facility Pressures	Security	\$131	10%
	Ground Maintenance	\$50	4%
Contractual / Consulting Pressures	Treatment Plant High Voltage Maintenance	\$576	42%
	Environmental Enforcement & Monitoring Consulting Assignment	\$100	7%
Material & Supplies / Agency Payments	Hamilton Harbour Remedial Action Plan	\$67	5%
Total Impact		\$1,365	100%

To offset the budget pressure of these service level enhancements, approximately **\$1.26M of savings** (budget efficiencies, redundancies and re-alignments) have been proposed



2024 Rate Supported Budget

OPERATING BUDGET – BY SYSTEM

	Combined System 2024 Prelim. Budget	Water System 2024 Prelim. Budget	Wastewater System 2024 Prelim. Budget	Storm System 2024 Prelim. Budget
Divisional Administration & Support	11,911,663	5,844,810	5,322,167	744,686
Woodward Upgrades	1,862,321	893,542	893,542	75,236
Customer Service & Community Outreach	11,957,546	6,652,539	3,418,219	1,886,788
Compliance & Regulations	9,035,998	4,671,485	3,286,984	1,077,529
Water Distribution & Wastewater Collection	25,449,695	17,456,779	4,364,265	3,628,652
Plant Operations	40,003,970	16,504,997	23,435,339	63,634
Plant Maintenance	13,618,557	6,809,278	5,992,165	817,113
Capital Planning & Delivery	5,905,415	2,657,437	2,657,437	590,542
Watershed Management	1,863,619	-	-	1,863,619
Wastewater Abatement Program	1,141,839	-	1,141,839	-
Alectra Utilities Service Contract	6,250,606	3,125,303	3,125,303	-
Low Income Seniors Utility Rebate	500,061	250,029	250,032	-
Sewer Lateral Management Program	300,000	-	300,000	-
Hamilton Harbour Remedial Action Plan	679,084	-	-	679,084
Protective Plumbing Program (3P)	750,016	-	-	750,016
Financial Charges	84,483	11	84,440	32
Capital Recoveries	(10,201,749)	(5,399,554)	(3,796,191)	(1,006,005)
TOTAL EXPENDITURES	121,113,125	59,466,656	50,475,542	11,170,927
% of Total Combined System Budget	100%	49.1%	41.7%	9.2%

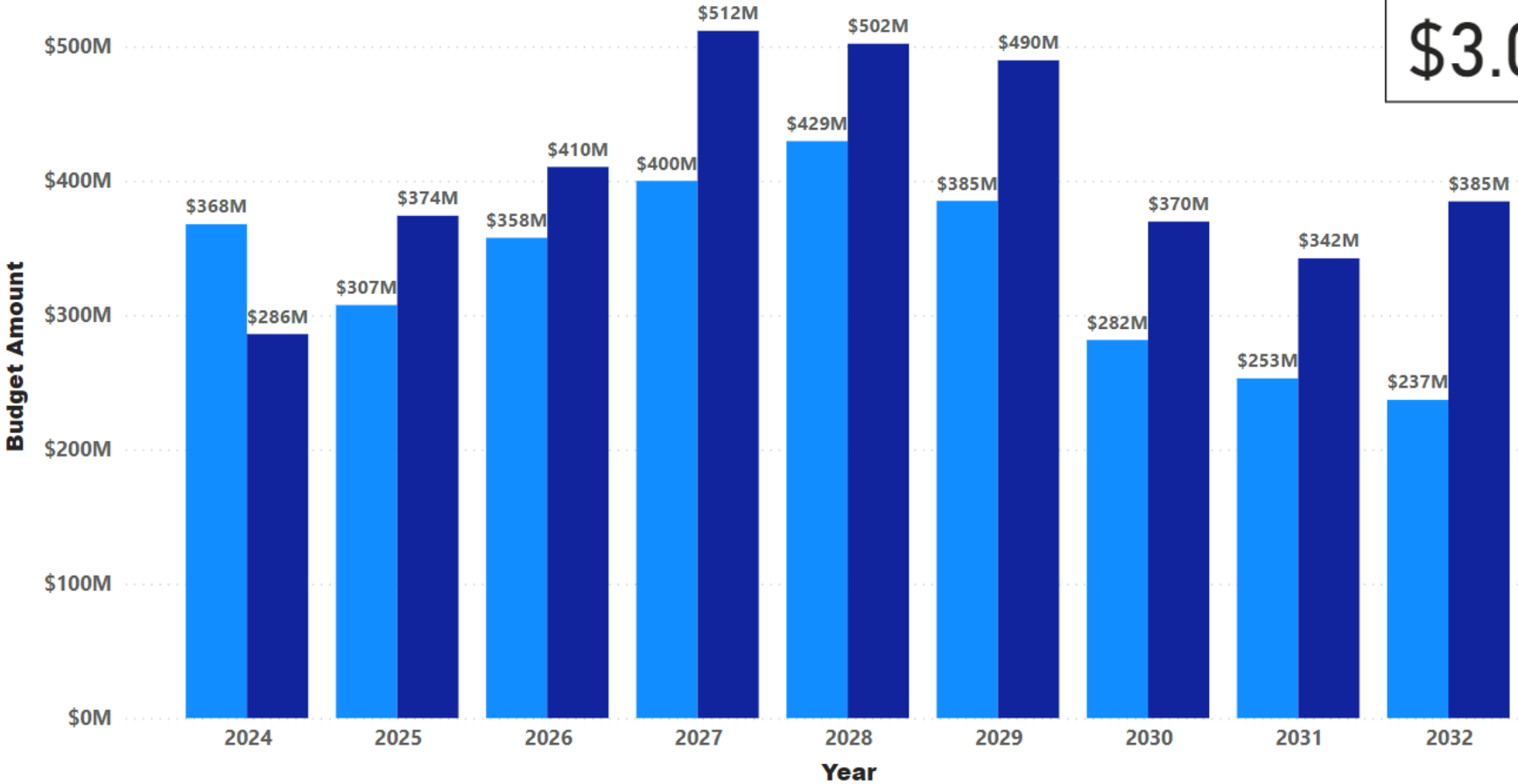


CAPITAL BUDGET

2024 Rate Supported Budget

CAPITAL BUDGET FORECAST – 2023 vs 2024

Budget Amount by Year and Budget Version (9-year comparable window)



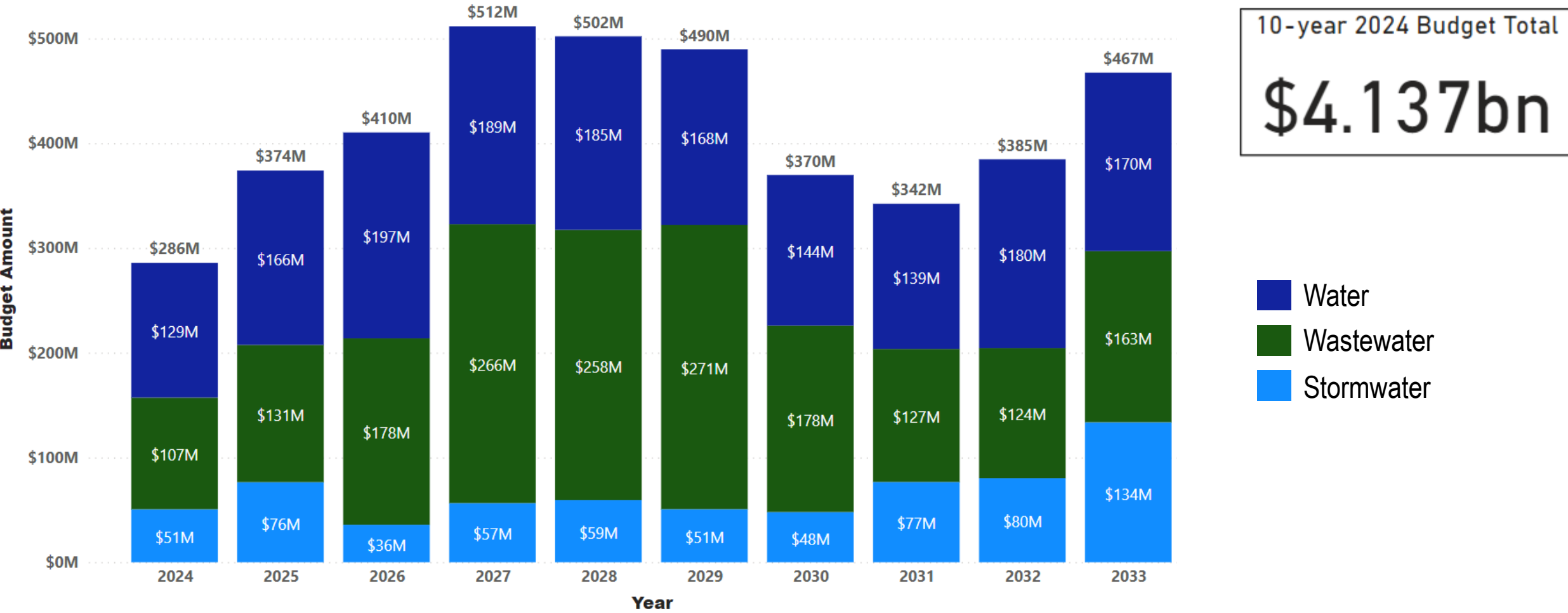
9-year 2023 Budget Total
\$3.019bn

9-year 2024 Budget Total
\$3.670bn

\$651M gross increase in the 2023 – 2032 Gross Capital Program (9 year common window)

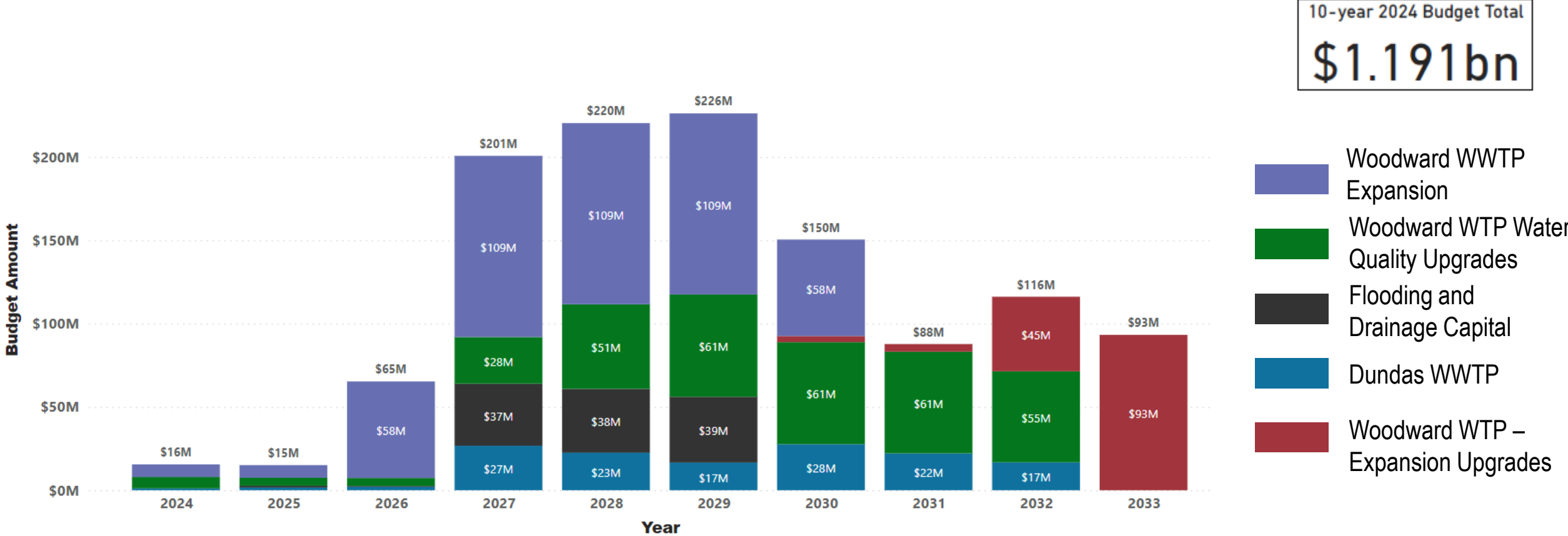
\$863M increase across 10 year forecast

10 YEAR CAPITAL PROGRAM – BY SYSTEM (GROSS)



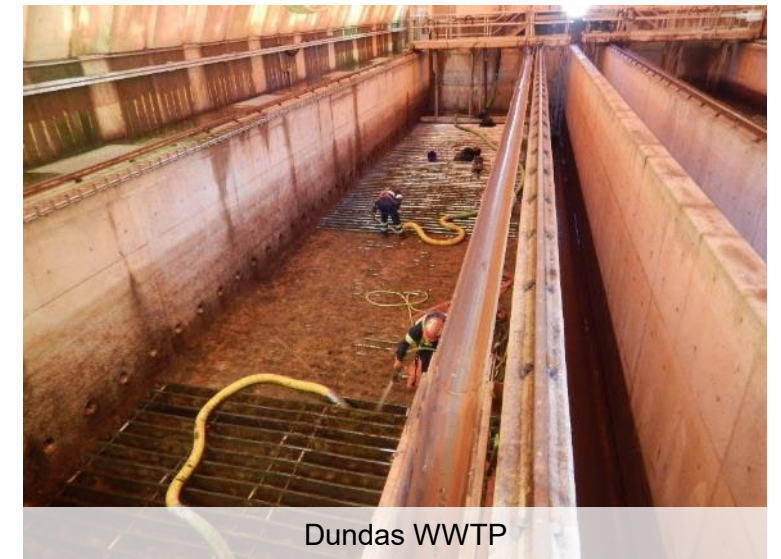
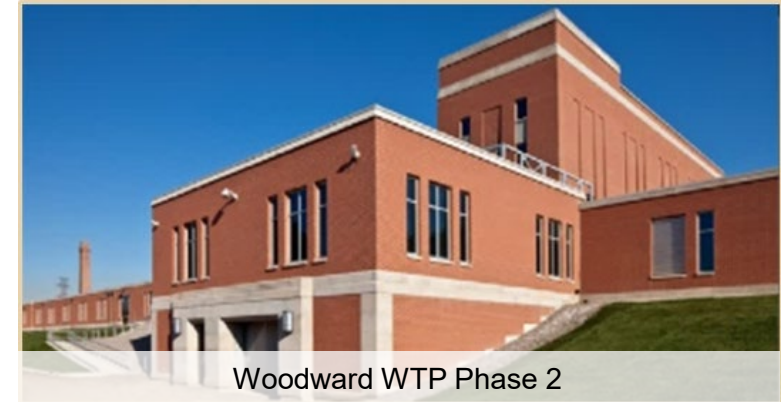
CAPITAL BUDGET – LARGE PROJECT 10 YEAR FORECAST (GROSS)

10-year 2024 Budget Total
\$1.191bn



CAPITAL BUDGET – 10 YEAR FORECAST DRIVERS BY PROJECT (GROSS)

- Woodward WWTP Expansion and Digester Rehabilitation - **\$525M**
(\$171M net rate impact)
- Woodward WTP Phase 2(A) - Water Quality Upgrades - **\$337M**
- Woodward WTP Phase 2(B) – Expansion - **\$210M**
- Rates Share of Road Reconstruction - **\$189M**
- Dundas WWTP Upgrades - **\$137M**
- Infrastructure Renewal - Linear Stormwater/Wastewater - **\$126M**
- Flooding and Drainage Master Plan Capital - **\$116M**
- Infrastructure Renewal - Watermain Lining - **\$89M**
- Water Outstation Upgrades – Asset Management Program - **\$80M**
- Wastewater Outstation Upgrades - Asset Management Program - **\$77M**
- Parkdale Wastewater Pumping Station Upgrades - **\$54M**



2024 Rate Supported Budget
FUTURE BUDGET PRESSURES



August 2023 storm – flooding on Birch Avenue



Chedoke Creek

- Flooding and Drainage Improvement Framework EA outcomes
- Accelerated growth pressures
- Dundas WWTP - HHRAP Objectives
- Water, Wastewater & Stormwater Master Plan Update outcomes
- Actions to address the Climate Emergency
- Global Chlorination Study outcomes
- City of Hamilton Watershed Action Plan outcomes
- Improving Asset Management Program
- Funding partnerships with Provincial & Federal governments

2024 Rate Supported Budget
PROJECT PRIORITIZATION

Capital projects are evaluated and prioritized throughout the budget cycle based on:





FTE BUSINESS CASES

2024 Rate Supported Budget
FTE BUSINESS CASES

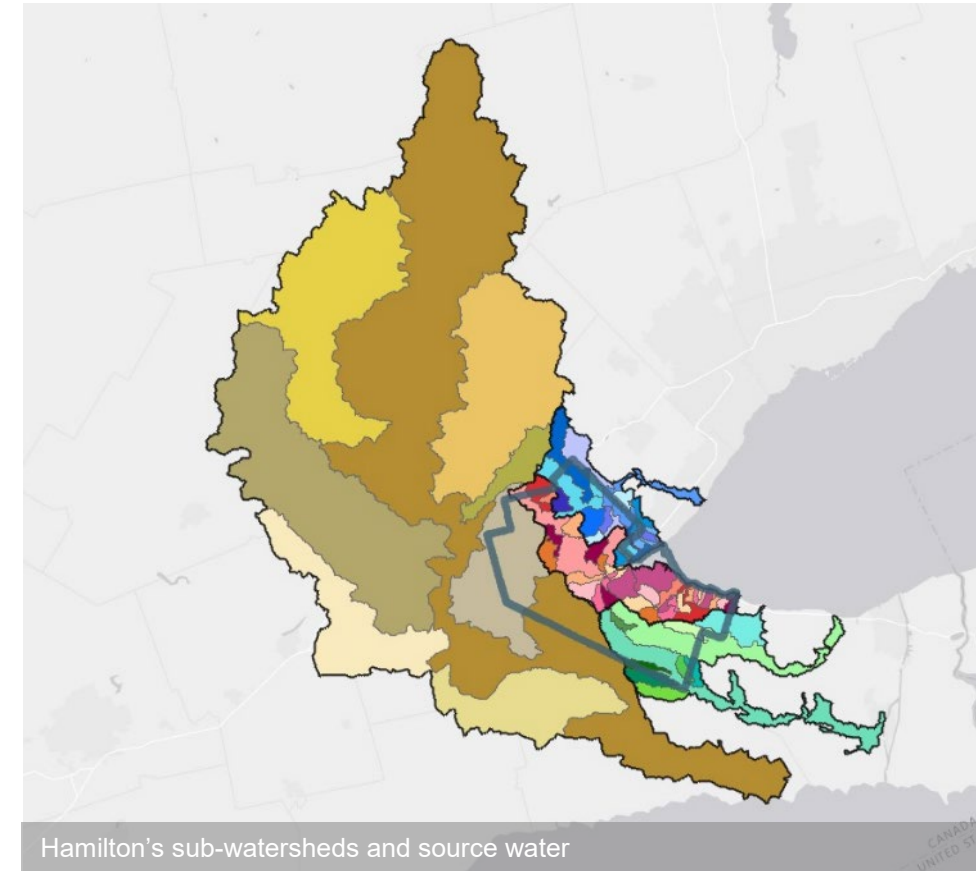
SECTION	Last Year's 2024 Forecast	Actual 2024 Request
Woodward Upgrades	0	0
Watershed Management	2	2
Director's Office	1	0
Compliance & Regulations	4	1
Project Management Office	0	0
Capital Delivery	2	0
Water & Wastewater Systems Planning	1	2
Plant Maintenance & Technical Services	1	0
Plant Operations	0	0
Customer Service & Community Outreach	1	19
Water Distribution & Wastewater Collection	1	0
TOTALS	13	24

- ← PM - Watershed Management (2)
- ← Surface Water Quality Technologist (1)
- ← SPM Hydraulic Modelling (1)
- ← PM Stormwater Planning (1)
- ← In-house Locates Office



Key Watershed Initiatives

- **2 Project Managers (Watershed Management)** – To implement projects, programs, policy development, and community outreach from the **Term of Council Priority - City of Hamilton Watershed Action Plan**
- **Technologist - Surface Water Quality Program Phase 2** – To execute the augmented Surface Water Quality Program, an action stemming from the Chedoke Order
- **Project Manager (Stormwater Systems Planning)** – Complete Environmental Assessments from the Flooding and Drainage Improvement Framework, Master Plan to reduce wastewater discharges to the natural environment and evaluate neighbourhoods for new green infrastructure





Supporting Hamilton's Growth and Development

- **1 Senior Project Manager – Hydraulic Modelling**
 - Constraints with combined sewer capacity in the lower City, growth in certain areas exceeding projections
 - Dedicated hydraulic modelling staff will increase our capacity for accurate and expedited information on water/wastewater system capacity, address backlog
 - Reduce hydraulic modelling consultant assignments by bringing work in-house



Public Works Internal Locates Office



- In 2024 the City is projecting to spend over **\$6M** responding to and contracting out utility locates across the Hamilton Water, Transportation, and Environmental Services Divisions
- Current contracted service has varying/poor response times, with significantly escalating costs
- Bill 93 introduced penalties for delayed locates (**\$8M estimated risk**)
- Significant inefficiencies and redundancies observed by staff



Public Works Internal Locates Office – Business Case

In-House Model (19 FTEs)

- Year 1 Additional Costs:
 - \$2.1M = \$1.2M Operating + \$900K Capital
- Annual Impacts After Year 1:
 - Operating: **(\$3.3M savings)**
 - \$0 net impact to Tax Supported Budget
- Faster delivery of projects, eliminate risk of fines
- Greater degree of control over the process, continuity and consistency between Divisions
- Locates office will be created in Hamilton Water Division to support all Public Works Divisions





Corporate Facilities and Energy Management

- **Project Manager** – focused on meeting the City's climate actions with a focus on water and wastewater facilities – energy efficiency projects, emissions impacts, life cycle analysis, monitoring and reporting



Corporate Services - Procurement

- **Contract Coordinator, Procurement Specialist**
Increased support and risk reduction for managing large capital construction contracts, improve timelines for procurement services



FUTURE FTE RECOMMENDATIONS



Dundas Wastewater Treatment Plant / West Yard



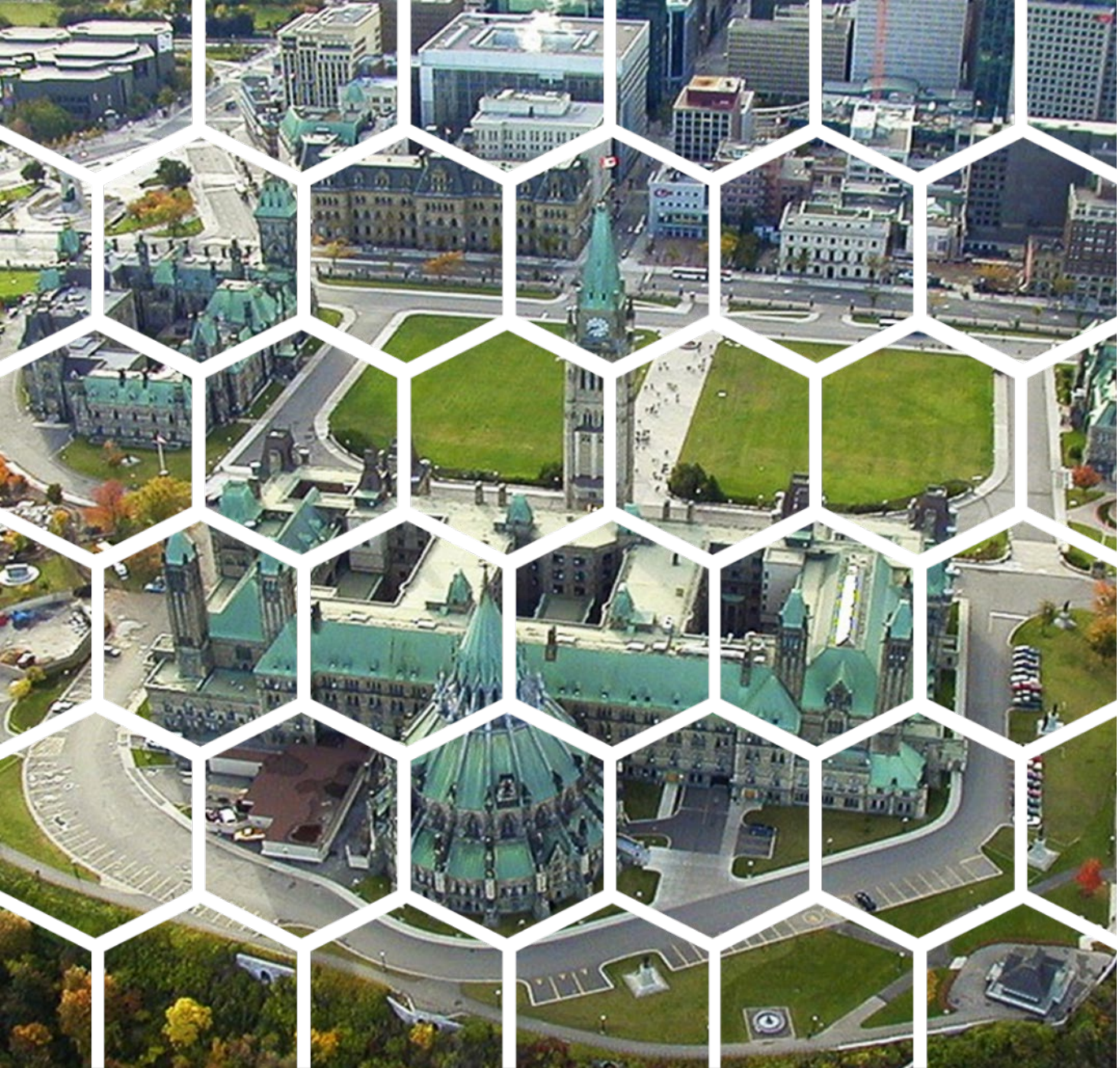
Woodward Water & Wastewater Treatment Plant

Supporting Large Capital Projects Dundas Wastewater Treatment Plant & Woodward Water Treatment Plant Upgrades

- Transformational, generational, multi-year capital projects/programs require dedicated and experienced project teams
- Reduces risk and increases value for rate payers
- Recommendation reports will be presented in 2024
- Capital-funded staffing costs are included in the Recommended 2024 Rate Budget

2024 Rate Supported Budget
2024-2028 FTE FORECAST

SECTION	Last Year's 2024 Forecast	Current 2024 Request	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast
Woodward Upgrades	0	0	0	0	0	0
Watershed Management	2	2	0	1	0	0
Director's Office	1	0	0	0	1	0
Compliance & Regulations	4	1	2	2	2	0
Project Management Office	0	0	0	0	0	0
Capital Delivery	2	0	0	0	1	0
Water & Wastewater Systems Planning	1	2	2	1	0	0
Plant Maintenance & Technical Services	1	0	0	1	1	2
Plant Operations	0	0	0	2	0	2
Customer Service & Community Outreach	1	19	4	0	3	2
Water Distribution & Wastewater Collection	1	0	0	1	0	0
TOTALS	13	24	8	8	8	6



GOVERNMENT ADVOCACY

2024 Rate Supported Budget
GOVERNMENT ADVOCACY



- Robust intergovernmental relations strategy throughout 2023
- Multiple discussions with:
 - Prime Minister's Office & Parliamentary Secretary/Special Advisor on Water
 - Federal Minister of Housing, Infrastructure, and Communities
 - Ontario Minister of Infrastructure
 - Ontario Minister of Environment, Conservation and Parks
 - Infrastructure Canada
- Advocacy at AMO and FCM

THANK YOU