2020 RECOMMENDED WATER, WASTEWATER AND STORMWATER RATE SUPPORTED BUDGET

November 25, 2019

Presented by: Andrew Grice, Director Hamilton Water
2020 Rate Budget

Performance Metrics / Statistics
2019 Highlights
Clean Harbour / Biosolids P3 Project
2019 Opportunities & Challenges
Future Outlook
Continuous Improvement
State of the Infrastructure
2020 Operating Budget
2019 WATER FORECAST

81,719 ML TREATED
Which is equal to 30% of Hamilton Harbour

152,214 WATER METERS
2,101 km of WATERMAINS
297 WATERMAIN REPAIRS (YTD)

21 WATER PUMPING STATIONS

24,000 YOUTH WITH OUTREACH ACTIVITIES

20,282 WATER TREATMENT PLANT SAMPLES TESTED

18,535 WATER DISTRIBUTION SAMPLES TESTED

594 SUBSTANDARD WATER SERVICE LINE REPLACEMENTS COMPLETED (YTD)

280,000 EDUCATIONAL PRINT PIECES

13 RESERVOIRS

WELL SYSTEMS
CARLISLE FREETON GREENSVILLE LYNDEN

TOTAL WATER ASSETS - $3.22 BILLION

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TOTAL WATER ASSETS - $3.22 BILLION
2019 WASTEWATER FORECAST

2 WASTEWATER TREATMENT PLANTS

143,041 ML TREATED
WHICH IS EQUAL TO 50% OF HAMILTON HARBOUR

71 PUMPING STATIONS

3 ACTIVE CONSTRUCTION PROJECTS

1,196 km SANITARY SEWER

574 km COMBINED SEWER

42,630 TONNES OF BIOSOLIDS REMOVED

45,981 MANHOLES

9 COMBINED SEWER OVERFLOW

323 BACKWATER VALVES INSTALLED (YTD)

8,607 MWH ELECTRICITY PRODUCED
29% increase as compared to 2018 performance

50,590 WASTEWATER SAMPLES TESTED

21,059 ENVIRONMENTAL SAMPLES TESTED

323

$ 6,082,419 ADDITIONAL SERVICES REVENUE
(64 ACTIVE PERMITS)

2532 DEVELOPMENT APPLICATION REVIEWS (YTD)

143,041 ML TREATED
WHICH IS EQUAL TO 50% OF HAMILTON HARBOUR

4,427 ELECTRICITY PRODUCED
29% increase as compared to 2018 performance

42,630 TONNES OF BIOSOLIDS REMOVED

50,590 WASTEWATER SAMPLES TESTED

323 BACKWATER VALVES INSTALLED (YTD)

4,427 MEGA WATT HOUR

8,607 ELECTRICITY PRODUCED

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(64 ACTIVE PERMITS)

TOTAL WASTEWATER ASSETS - $5.39 BILLION
2019 STORMWATER PROGRAM

STORMWATER STORAGE CAPACITY
1,376,240 m³

ENGINEERED WETLANDS
7

OIL & GRIT SEPARATORS
48

STORMWATER PUMPING STATIONS
2

KILOMETRES OF MUNICIPAL DRAINS
57

WET PONDS
61

ENGINEERED WETLANDS
48

DRY PONDS
59

FLOODING & DRAINAGE MASTER SERVICING STUDY
2019

WATERCOURSES
191

SHORELINE ASSETS*
57

EMERGENCY SPILLS (YTD)
398

STORM SEWER
1,216 km

TOTAL STORMWATER ASSETS ~ $1.46 BILLION
**Woodward WWTP**

- 138,353 ML wastewater treatment (forecast)
- 29 months continuous compliance
- 42,630 tonnes biosolids removed (forecast)
- 8,607 MWH of cogen electricity generated (forecast)
- 1,149,367 m$^3$ of renewable natural gas generated by the bio-gas purification unit (forecast)
- 32 plant by-passes during wet weather events (YTD)

**Dundas WWTP**

- 4,688 ML wastewater treatment (forecast)
- 56 months continuous compliance
- 100 yr. anniversary

**Water Treatment Plant**

- 81,829 ML water treatment (forecast)
- Confirmed AWQIs
  - 0 Confirmed
  - 5 Unconfirmed
- YTD global adjustment - $4.43M cost avoidance
2019 HIGHLIGHTS
OUR PRIORITIES

COMMUNITY ENGAGEMENT & PARTICIPATION
Hamilton has an open, transparent and accessible approach to City government that engages with and empowers all citizens to be involved in their community.

ECONOMIC PROSPERITY & GROWTH
Hamilton has a prosperous and diverse local economy where people have opportunities to grow and develop.

HEALTHY & SAFE COMMUNITIES
Hamilton is a safe and supportive city where people are active, healthy, and have a high quality of life.

CLEAN & GREEN
Hamilton is environmentally sustainable with a healthy balance of natural and urban spaces.

BUILT ENVIRONMENT & INFRASTRUCTURE
Hamilton is supported by state of the art infrastructure, transportation options, buildings and public spaces that create a dynamic City.

CULTURE & DIVERSITY
Hamilton is a thriving, vibrant place for arts, culture, and heritage where diversity and inclusivity are embraced and celebrated.

OUR PEOPLE & PERFORMANCE
Hamiltonians have a high level of trust and confidence in their City government.
Economic Prosperity and Growth
- Partnership with CityLAB
  - Property assessment tool
  - Pumping station virtual tours

Clean and Green
- Outstation security upgrades

Healthy and Safe Communities
- WWTP bypass notification protocol
- Lynden distribution network flushing

Our People & Performance
- Succession planning
- Stormwater program restructure
- #OwnYourThrone – golden quill award
2019 HIGHLIGHTS

Built Environment and Infrastructure

- Beach blvd. ponding study
- Environmental Assessments
  - Ancaster water tower
  - Elfrida water tower and pumping station
  - Waste hauler station
- Disaster Mitigation Adaptation Fund
- Capital projects
  - Freelton tower upgrades
  - Binbrook WWPS capacity upgrades
  - Eastport dr. hauled waste receiving station upgrades
  - Water Treatment Plant – phase 1 upgrades
  - Hamilton mountain storm trunk sewer rehabilitation
2019 HIGHLIGHTS

Citizen Facing Programs

- **Protective plumbing program (backwater valves)**
  - Rostered contractor model continues to be a success
  - 9,638 valves installed since 2009 - $23.5M in grants

- **Sewer lateral management program**
  - Upgrade of aged residential sewer service lines
  - 820 inspections (YTD), spot repairs, replacement or lining
  - Approximately $2.7M invested in 2019

- **Poor pressure program (lead services)**
  - 594 services replaced (YTD)
  - 1,030 size & type inspections (YTD)
  - Approximately $1.9M invested in 2019

- **Corrosion control program**
  - Program launched November 2018
  - No water quality issues observed / reported
  - Early tests results are showing benefits of program
CLEAN HARBOUR PROGRAM
For more information, visit our website at

- [www.hamilton.ca/cleanharbour](http://www.hamilton.ca/cleanharbour)
WOODWARD UPGRADE PROJECT

Contract 1
Main Pump Station
Status: Construction
Contract Value: $87.6M
Completion: Q2 2021

Contract 2
Electrical & Chlorine System
Status: Construction
Contract Value: $61M
Completion: Q2 2021

Contract 3
Tertiary Treatment Upgrade
Status: Construction
Contract Value: $165M
Completion: Q4 2021

60,000 kg/yr
$6,000,000 Average Payment Certificate
11 Trucks/Hr at Peak
250 Labourers at Peak
Randle Reef Project

- Project phase 1 – containment facility
  - Completed – 2018

- Project phase 2 – dredging
  - 92,900 m³ by August 2019

- Next Steps:
  - Dredging continues into 2020
  - Phase 3 – capping and landscaping to be tendered in 2020

- Expected project completion: 2022

- Total project cost ~ $139 M
P3 BIOSOLIDS PROJECT

- PPP Canada financial agreement with Infrastructure Canada
- 2019 Key milestones
  - Installation of drum dryers
  - Building construction complete
- Substantial completion April 30, 2020
2019 Opportunities and Challenges
2019 OPPORTUNITIES AND CHALLENGES

Regulatory Challenges
- MECP inspection process
- Consolidated wastewater ECAs (Woodward & Dundas)
- Watermain disinfection procedure
- Allocation capacity – combined sewer system
- Stormwater source control enforcement
- Tertiary treatment in rural applications

Clean and Green
- Stormwater program funding

Healthy and Safe Communities
- Capital rehabilitation program delays leading to increased maintenance and operating costs
- Backflow prevention by-law
2019 Opportunities and Challenges

Our People & Performance
- Call rationalization – knowledge transfer
- Increased staff workload
  - Operational support for WUP
  - Development applications
  - Development pressures (Airport Employment Growth District, Waterdown)
- Systems
  - Crystal reports (PW impact)
  - Vertical asset management program
  - Water and wastewater modelling
  - IT centralization
  - PW enterprise asset management project

Built Environment and Infrastructure
- Utility encroachment
- Management of contaminated soils – PCB’s
- Climate change / high lake water levels
- Master Plan delays – impacts to EA’s and capital projects
FUTURE OUTLOOK
Organizational

- Storm rate
- By-law updates
  - Sewer use by-law
  - Waterworks by-law

Operations

- Wastewater quality management system (QMS)
- Biosolids P3 30-year operations & maintenance contract
- Automated meter infrastructure (AMI) for ICI facilities
- Fats, oils and grease awareness campaign.
- Non revenue water / leak detection initiatives

Planning & Capital Program

- Capital projects
  - Lynden well
  - Kenilworth & Ben Nevis reservoir upgrades
  - Kenilworth pumping station upgrades – phase 2
  - Airport Employment Growth District servicing upgrades
MAJOR INITIATIVES 2021 TO 2023

Organizational

- Stormwater source control enforcement strategy
- Hydraulic models
  - Water
  - Wastewater
  - Stormwater
  - Groundwater

Operations

- Integration of the WUP capital into operations
- Support LRT construction
- Non revenue water initiatives

Planning & Capital Program

- Woodward WTP phase 2 upgrades
- Dundas wastewater treatment plant upgrades
2020

- Inflow & infiltration studies
- CSO characterization program
- Beach blvd stormwater ponding strategy
- Winona area drainage improvements
- South st east / East st south drainage improvements (Dundas)
- Stormwater pumping stations – stand-by power upgrades

2021 - 2023

- Stormwater source control enforcement strategy
- Watercourse erosion assessment
- Flooding & drainage master plan strategy
- Woodward WTP phase 2 upgrades
  - Blue-green algae
- Woodward upgrade project
  - Increased storage / conveyance capacity and back up power for entire facility
2021-2024 Opportunities and Challenges

Clean and Green
- Low Impact Development (LID) governance and enforcement

Healthy and Safe Communities
- Pending changes to drinking water regulatory limits (e.g., lead)
- Contaminants of emerging concerns
- Climate change – rainfall, elevated lake levels, frozen services, algae blooms

Built Environment and Infrastructure
- Aging infrastructure
- Dedicated stormwater funding stream
- Dundas WWTP upgrades – funding
- Municipal responsibility agreements
Development Applications

- Estimated over 1000 applications in 2019
- Applications increase year over year
- Revised fire flow policy approved in 2019
- Additional FTEs in 2020 budget to support open for business and maintain existing service levels

Accelerated Growth Projects

- Waterdown
- Binbrook
- Airport Employment Growth District (AEGD)

Construction Dewatering and On-site Storage

- Oversight of temporary discharges to sewer to facilitate construction activities
- Approved on site storage must be monitored and inspected to ensure system sustainability
- FTE requests in 2021 to support strategy
CONTINUOUS IMPROVEMENT
CONTINUOUS IMPROVEMENT HIGHLIGHTS

Customer Oriented

- Hydrant upgrades
  - Improved visibility
  - Improved fire fighting capabilities
  - $20K/yr. estimated savings

- Flooding Heat Mapping Interface
  - On demand access to data
  - Optimize emergency response
  - Free up staff resources

Process Oriented

- Project management online tool
  - Support project chartering
  - Visibility for entire team
  - On-demand reporting
  - Collaboration with City IT

- SCADA cyber security enhancements
  - Multi layer defence system
  - Standardization and enhancements to physical security layer (servers)
  - Collaboration with City IT
Process Oriented

- Enzyme Substrate Method for Microbiological Analysis
  - Presence/absence or quantifiable result
  - Accreditation to ISO 17025
  - Licensing by MECP for the analysis of drinking water expected by end of year
  - 18hr vs 24hr incubation period
  - 50% reduction to prep time for procedure
  - Reduction in overtime expected.
  - Interference elimination - AWQIs
## Hamilton Water – Quality and Competitiveness

<table>
<thead>
<tr>
<th>Service</th>
<th>Cost by City Staff ($/event)</th>
<th>Cost by City Contractor ($/event)</th>
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<tbody>
<tr>
<td>Hydrant Replacement</td>
<td>$12,000</td>
<td>$22,000</td>
</tr>
<tr>
<td>Watermain Break</td>
<td>$7,000</td>
<td>$11,000</td>
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<tr>
<td>Valve Installation/Replacement</td>
<td>$8,000</td>
<td>$16,000</td>
</tr>
<tr>
<td>Water Service Line Replacements: Non-Poor Pressure</td>
<td>$11,000</td>
<td>$15,000</td>
</tr>
<tr>
<td>Rod &amp; Barrel Repairs (Water Shut-off)</td>
<td>$912</td>
<td>$3,856</td>
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</table>
STATE OF THE INFRASTRUCTURE
INFRASTRUCTURE REINVESTMENT RATE COMPARISON

- Municipalities Target Range (CIRC)
- Average Past Reinvestment Rate (with Grants)
- Average Future Reinvestment Rate (with Grants)

**ASSET CATEGORY**
- Water (Horizontal)
- Water (Vertical)
- Wastewater (Horizontal)
- Wastewater (Vertical)
- Stormwater (Horizontal)
- Stormwater (Vertical)
9% of the distribution network is transmission watermain (450mm and larger)
STATE OF VERTICAL INFRASTRUCTURE

Main st w/Whitney Ave. water pumping station (1968)
Replacement value - $4.9M

Parkdale Ave. wastewater pump station (1955)
Rehabilitation value - $6.08M
GENERAL SYSTEM FAILURES

Pinewarbler Dr

Dunning court siphon

Mountain Brow / Arbour Rd storm pond

Upper James St

WW lateral – Dundas (East St/South St)

Stoney Creek watercourse outlet
2020 Operating Budget

Hamilton Water
Proposed Rate Increase

4.00%

- 2020 requested O&M budget of $86.2M reflects a decrease of $9.5M or 9.9% over the 2019 budget
- Operating expenditures have been reduced to align with historical actuals
- Allows for a corresponding increase in capital contributions to be spent on improving infrastructure while not increasing reliance on debt
- 2019 approved budget ratios comparison
  - 44% capital expenses
  - 40% operating expenses
OPERATING IMPACTS FROM CAPITAL

- Waterdown tower
- Corrosion control program
- Stormwater pump stations
- Stormwater pond – dev. assumptions
- Eastport wastehauler station
- Hardware lifecycle (SCADA)
- Capital rehabilitation strategy
- General growth of the system
  - Hydrants
  - Valves
  - Sewers
  - Watermains
  - Electricity costs
  - Chemical costs
OPERATING IMPACTS FROM CAPITAL

Water valves preventative maintenance

2011

+ 2,000 valves
= additional 38 work days per year

Grafton stormwater pumping station

Centennial stormwater pumping station
Pressures / Risks Not In 2020 Budget

- Stormwater management
  - Contaminated pond soils
  - Gaps in existing program

- Climate change
  - Flooding
  - Frozen water services
  - High lake water levels

- Unidentified projects
  - Development pressures
  - Asset management program
<table>
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<tr>
<th>SECTION</th>
<th>Last Years 2020 Request</th>
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<tbody>
<tr>
<td>Woodward Upgrades – Office</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Woodward Upgrades - Operations</td>
<td>7</td>
<td>4</td>
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<tr>
<td>Directors Office</td>
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<td>Compliance &amp; Regulations</td>
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<td>Project Management Office</td>
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<td>Capital Delivery</td>
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<td>Operations</td>
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<tr>
<td>Plant Operations</td>
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<tr>
<td>Customer Service &amp; Community Outreach</td>
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<tr>
<td>Distribution &amp; Collections</td>
<td>1</td>
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<tr>
<td><strong>TOTALS</strong></td>
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**Maintenance Operators**

**WD Supervisor (Temp. to Perm.)**
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<td><strong>3/1</strong></td>
<td><strong>3</strong></td>
<td><strong>3/1</strong></td>
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30 (23 Sectional & 7 WUP)
(4) Maintenance Operators, Plant Operations
  - Maintain and operate the wastewater treatment controls
  - Work with contractors to integrate treatment processes during construction
  - Operators required for new wastewater tertiary treatment process

(1) PM Stormwater, Systems Planning
  - Review of development applications
  - Support engineering studies and system growth activities
  - Modelling support

(1) Data Modeller Technologist, Systems Planning
  - Computer modeling and related analysis.
  - City water/wastewater/storm model steward

(1) WD Supervisor, Water Distribution & Wastewater Collections
  - Leads a team of operators to maintain and construct water infrastructure
  - Coordinates leak detection, and water turn ons / offs
  - Responsible for regulatory lead testing and lead service line replacement programs
Original 2016 WUP request
• 2 FTE in 2018
• 9 FTE in 2020

2017 WUP Request & 2019 WUP Request
Advanced FTE requests as temporary positions to assist in the delivery of the project
• 3 FTE in 2017
• 1 FTE in 2019
• 7 FTE in 2020

2020 WUP Request
• 4 FTE in 2020
• 3 FTE in 2021

Total request: 11 FTEs
1 SCADA Technologist
1 Data Clerk
5 Maintenance Operators
2 Millwrights
2 Instrumentation Technicians

Total request: 11 FTEs
1 SCADA Technologist
1 Process Supervisor
1 Process Technologist
1 Maintenance Operator

3 FTE approved during 2017 budget & 1 FTE approved during 2019 budget

Total request: 7 FTEs (+ 4 FTEs approved in 2017 & 2019 = 11 FTEs)
2020 Water, Wastewater and Stormwater Budget

November 25, 2019

Presented by: Brian McMullen, Director Financial Planning Administration and Policy
2020 RATE BUDGET
Snap Shot

Operating
• $232.6 M Total Program Expenditures
• $229.6 M Rate Revenue
• $3.0 M Non-Rate Revenue

Capital
• $326.0 M Rate Capital Program
  • 67% Wastewater
  • 21% Water
  • 12% Storm
• $2.49 B capital investment forecast (2020 to 2029)
• $0.15 B increase from last year’s 10-year forecast

Recommended Combined Rate Increase 4.0% vs 4.5%
Approved-in-Principle
2020 RATE BUDGET
## 2020 RATE BUDGET - What your dollars buy you

<table>
<thead>
<tr>
<th>Service</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>120 km Sewermain Inspection</td>
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<tr>
<td>12 km Sewermain Lining</td>
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<tr>
<td>7,000 Water Valve Inspections</td>
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<tr>
<td>13,400 Hydrant Inspections</td>
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<tr>
<td>5,000 Hydrants to be Painted</td>
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<td>130 Anti-stagnation Valve Inspections</td>
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<tr>
<td>4,300 Preventative Maintenance Work Orders</td>
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<tr>
<td>8,600 MWh Cogen Electricity Production</td>
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<td>800 Sewer Lateral Inspections</td>
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<tr>
<td>115 Sewer Lateral Linings</td>
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<tr>
<td>1,000,000 m³ Biogas Resource Recovery</td>
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<tr>
<td>7 km Watermain Inspection</td>
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<tr>
<td>6 km Watermain Lining</td>
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<tr>
<td>12 Substantially Completed Water / Wastewater Projects</td>
<td></td>
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<tr>
<td>2,100 Inlet/Outfall Inspections</td>
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<tr>
<td>Leak Detection / District Metering</td>
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</tbody>
</table>
# 2020 RATE OPERATING BUDGET (000’s)
## By the Numbers

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>($ millions)</td>
<td>$</td>
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<tr>
<td><strong>Expenditures</strong></td>
<td></td>
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<tr>
<td>Program Expenditures</td>
<td>$ 95.7</td>
<td>$ 86.2</td>
<td>($ 9.5) (9.9%)</td>
</tr>
<tr>
<td>Capital/Debt / Reserve Financing</td>
<td>$ 126.6</td>
<td>$ 146.4</td>
<td>$ 19.8 15.6%</td>
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<tr>
<td><strong>Total Expenditures</strong></td>
<td>$ 222.3</td>
<td>$ 232.6</td>
<td>$ 10.3 4.7%</td>
</tr>
<tr>
<td><strong>Revenues</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate Revenue</td>
<td>$ 219.3</td>
<td>$ 229.6</td>
<td>$ 10.3 4.7%</td>
</tr>
<tr>
<td>Non-Rate Revenue</td>
<td>$ 3.0</td>
<td>$ 3.0</td>
<td>----</td>
</tr>
<tr>
<td><strong>Total Revenue</strong></td>
<td>$ 222.3</td>
<td>$ 232.6</td>
<td>$ 10.3 4.7%</td>
</tr>
<tr>
<td>Average Residential Water / Wastewater / Storm Bill</td>
<td>$ 722.90</td>
<td>$ 751.80</td>
<td>$ 28.90 4.00%</td>
</tr>
</tbody>
</table>
2020 CAPITAL BUDGET
Sources of Funding

$ 86.8 M Grants, Subsidies & Other Revenues
$ 76.6 M Development Charges
$118.7 M from Operating
$ 23.9 M Reserves
$  3.1 M Work-in-progress (WIP)
$ 16.9 M Debt

= $326.0 M Gross Capital Funding
2020 METERED ACCOUNTS & REVENUE BY SECTOR

Where the $ comes from

**Metered Accounts by Sector**

- **Residential**: 93%
- **ICI & MR**: 7%

**Revenue by Sector**

- **Residential**: 48%
- **ICI & Multi Residential**: 52%
RATE INFORMATION AT A GLANCE
10 Year Rate Increase Trend
By the numbers

Water & Wastewater/Storm Rate Changes
2011 to 2020

% Change

Average 4.37%

Average 2.58%

Not Adjusted for Inflation

Adjusted for Inflation
2020 RESIDENTIAL AVERAGE BILL

$722.90
2019 Residential Bill

$28.90
Recommended Change ($)

4.00%
Recommended Change (%)

$751.80
2020 Residential Bill

Impact of Recommended 2020 Water and Wastewater/Storm Rate Increases on a Typical Residential Bill: 4.00%

Based on annual water consumption of 200m³
CONSUMPTION TRENDS AT A GLANCE
RESIDENTIAL WATER CONSUMPTION

2012: + 9,500 accounts
2018: over 8% decrease in consumption
4 YEAR WATER CONSUMPTION FORECAST ($M^3$)

- **Residential**: 2020 → 2023  
  - SLIGHT GROWTH

- **ICI/ Multi Res**: 2020 → 2023  
  - SLIGHT GROWTH

- **Halton Region**: 2020 → 2023  
  - CONSISTENT

- **Haldimand County**: 2020 → 2023  
  - SLIGHT GROWTH

(Caledonia & Cayuga Water Only)
ICI & MR CONSUMPTION FORECAST

Consumption remains very consistent at just under 30M m$^3$
HOW DOES HAMILTON COMPARE?

2018 Water/WW as a % of Household Income

Source: BMA Management Consulting Inc. – Municipal Study 2018
### HOW DOES HAMILTON COMPARE?

<table>
<thead>
<tr>
<th>Comparator</th>
<th>Water Bill 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kitchener</td>
<td>$1,451</td>
</tr>
<tr>
<td>Norfolk</td>
<td>$1,167</td>
</tr>
<tr>
<td>Cambridge</td>
<td>$1,132</td>
</tr>
<tr>
<td>West-Lincoln</td>
<td>$1,111</td>
</tr>
<tr>
<td>London</td>
<td>$1,086</td>
</tr>
<tr>
<td>Haldimand</td>
<td>$1,032</td>
</tr>
<tr>
<td>Waterloo</td>
<td>$1,004</td>
</tr>
<tr>
<td>Guelph</td>
<td>$980</td>
</tr>
<tr>
<td>Brantford</td>
<td>$923</td>
</tr>
<tr>
<td>St. Catharines</td>
<td>$920</td>
</tr>
<tr>
<td>Durham</td>
<td>$893</td>
</tr>
<tr>
<td>Halton</td>
<td>$873</td>
</tr>
<tr>
<td>Toronto</td>
<td>$791</td>
</tr>
<tr>
<td>Hamilton</td>
<td>$722</td>
</tr>
<tr>
<td>Peel</td>
<td>$594</td>
</tr>
</tbody>
</table>

**Survey Average:** $979

- Hamilton provides **three** services for less than some municipalities which offer **two**

Note: Comparators where Stormwater funded by property tax.
CAPITAL INVESTMENT AT A GLANCE
LONG TERM CAPITAL PROGRAM

At a Glance

2020
$326.0M
- Wastewater: $218.6M (67%)
- Water: $67.5M (21%)
- Storm: $39.9M (12%)

2020-2023
$1.02B
- Wastewater: $555M (55%)
- Water: $359M (35%)
- Storm: $102M (10%)

2020-2029
$2.49B
- Wastewater: $1.223B (49%)
- Water: $0.991B (40%)
- Storm: $0.279B (11%)
10 YEAR CAPITAL PROGRAM
How much we plan to spend

Total 10 Year Capital- $2.49 Billion
Water / Wastewater / Storm

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate Supported</th>
<th>DC Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>249.4</td>
<td>76.6</td>
</tr>
<tr>
<td>2021</td>
<td>303.4</td>
<td>95.9</td>
</tr>
<tr>
<td>2022</td>
<td>228.2</td>
<td>56.2</td>
</tr>
<tr>
<td>2023</td>
<td>172.6</td>
<td>158.0</td>
</tr>
<tr>
<td>2024</td>
<td>172.0</td>
<td>135.6</td>
</tr>
<tr>
<td>2025</td>
<td>168.3</td>
<td>152.4</td>
</tr>
<tr>
<td>2026</td>
<td>208.0</td>
<td>166.5</td>
</tr>
<tr>
<td>2027</td>
<td>293.6</td>
<td>128.1</td>
</tr>
<tr>
<td>2028</td>
<td>302.6</td>
<td>122.1</td>
</tr>
<tr>
<td>2029</td>
<td>290.9</td>
<td>97.6</td>
</tr>
</tbody>
</table>

Total 10 Year Capital- $2.49 Billion

WWTP Upgrade
WWTP Expansion

Rate Supported
DC Supported

$Millions

2020 2021 2022 2023 2024 2025 2026 2027 2028 2029
- 50 100 150 200 250 300 350

Hamilton

CORPORATE SERVICES
FINANCIAL PLANNING, ADMINISTRATION AND POLICY

20
10 YEAR CAPITAL STRATEGY
How will we pay for it

Contribution to capital increasing from $146M in 2020 to $252M in 2029
Largely due to increase in capital construction
DEBT FUNDING AT A GLANCE
10 YEAR CAPITAL STRATEGY
What does our debt look like?

Water / Wastewater / Storm Outstanding Debt

<table>
<thead>
<tr>
<th>Year</th>
<th>Funded from Rates</th>
<th>Funded from DC's</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>177</td>
<td>85</td>
</tr>
<tr>
<td>2021</td>
<td>237</td>
<td>176</td>
</tr>
<tr>
<td>2022</td>
<td>291</td>
<td>235</td>
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<tr>
<td>2023</td>
<td>297</td>
<td>259</td>
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<tr>
<td>2024</td>
<td>280</td>
<td>261</td>
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<tr>
<td>2025</td>
<td>266</td>
<td>286</td>
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<tr>
<td>2026</td>
<td>240</td>
<td>396</td>
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<tr>
<td>2027</td>
<td>216</td>
<td>494</td>
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<tr>
<td>2028</td>
<td>191</td>
<td>564</td>
</tr>
<tr>
<td>2029</td>
<td>165</td>
<td>539</td>
</tr>
</tbody>
</table>

$ Millions
10 YEAR CAPITAL STRATEGY

How much does our debt cost?

Projected Debt Charges
Water / Wastewater / Storm

$Millions

<table>
<thead>
<tr>
<th>Year</th>
<th>Rates</th>
<th>DC's</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>3.8</td>
<td>19.7</td>
<td>23.5</td>
</tr>
<tr>
<td>2021</td>
<td>10.9</td>
<td>25.3</td>
<td>36.2</td>
</tr>
<tr>
<td>2022</td>
<td>17.4</td>
<td>32.2</td>
<td>49.6</td>
</tr>
<tr>
<td>2023</td>
<td>21.4</td>
<td>36.9</td>
<td>58.3</td>
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<tr>
<td>2024</td>
<td>23.1</td>
<td>38.5</td>
<td>61.6</td>
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<td>2025</td>
<td>25.0</td>
<td>39.1</td>
<td>64.1</td>
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<tr>
<td>2026</td>
<td>31.5</td>
<td>39.4</td>
<td>70.9</td>
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<tr>
<td>2027</td>
<td>41.1</td>
<td>37.8</td>
<td>78.9</td>
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<tr>
<td>2028</td>
<td>49.5</td>
<td>35.3</td>
<td>84.8</td>
</tr>
<tr>
<td>2029</td>
<td>53.3</td>
<td>35.2</td>
<td>88.5</td>
</tr>
</tbody>
</table>
10 YEAR CAPITAL STRATEGY
How much reserves will we use?

Water/Wastewater/Storm Reserve Forecast
Excludes Provincial Subsidy and Meter Replacement Reserve

$000's

Year
2019 2020 2021 2022 2023 2024

- Water
- Storm Sewers
- Wastewater
THANK YOU