Budget and Capital Plan
Public Hearing

Fiscal Year 2019

June 5, 2018
Springfield City Hall
Joshua Schimmel
Executive Director

Welcome
Welcome and Agenda

• Who we are & What we do
• Water
• Water Distribution System
• Wastewater
• Engineering and Capital Projects
• Information Technology
• Customer Service
• Financial Plan
• The Value of Water
Who We Are

We Proudly Serve 250,000 Customers in the Lower Pioneer Valley

• **Established in 1996** out of Springfield DPW

• **250 Employees** stationed in Westfield, Agawam, Springfield, and Ludlow

• **Stewards** of the largest water and wastewater system in Western Massachusetts
What We Do

Safe, Reliable & Affordable Water and Wastewater Services

- **Protect Public Health** by Providing High Quality and Safe Drinking Water
- **Protect the Environment** by Properly Collecting and Treating Wastewater
- **Serve Our Customers** through Reliable Service, Responsiveness, and Long-term Sustainability and Affordability
- **Promote Economic Development** through System Reliability and Capacity
What We Do

By the Numbers (FY17)

• Treated and Delivered **11 Billion Gallons** of Safe, High Quality Drinking Water

• Treated and Returned **12 Billion Gallons** of Wastewater to the Environment

• Responded to 71,000 Customer Service Calls

<table>
<thead>
<tr>
<th>FY17 Activity</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewer Pipe or Lining Installed</td>
<td>8,326 linear feet (1.6 miles)</td>
</tr>
<tr>
<td>Water Mains Installed/Replaced</td>
<td>6,761 linear feet (1.3 miles)</td>
</tr>
<tr>
<td>New Valves Installed</td>
<td>212</td>
</tr>
<tr>
<td>Water Mains Flushed</td>
<td>60 miles</td>
</tr>
</tbody>
</table>
Essential Services
24 Hours a Day, 7 Days a Week

Cobble Mtn. Reservoir  Water Treatment Plant  Transmission, Storage & Distribution System

Discharge to CT River  WWTP  Collection System

INTEGRITY  VISION  ACCOUNTABILITY
Emerging Issues

Challenges to the System

• Aging Infrastructure
• New Regulations
• New Technologies
• Cybersecurity
• Combined Sewer Overflows
• Climate Change & Resiliency
• Decreased Demand
• Public Awareness of Water Sector Challenges
Addressing Today’s Challenges
And Providing Stewardship for the Future

• Master Planning for Treatment Facilities
• Completion of the $24 Million Main Interceptor Sewer Project
• Secured $100 Million Low-Interest Loan for York Street / CT River Crossing Project
• Continued Strategic CIP & Stabilized Rate Program for Long Term Sustainability
• Technological Investments to Improve Efficiency
Ready for the Unexpected
The Projects that Choose Us
James Laurila
Director of Water Operations
Watershed, Reservoirs, Treatment, Transmission, and Storage
Water Operations
Protecting, Treating, and Storing the Region’s Drinking Water
Planning for the Future
Factors Driving Investment

KEY Regulations

• Compliance with Safe Drinking Water Act
• UCMR4 Unregulated Contaminant Monitoring Rule - EPA efforts to regulate new compounds

Treatment Plant – Aging Process Equipment

• Ongoing need to replace equipment that is beyond its useful life

Treatment Plant – New Process Construction

• Master planning lays out new treatment methods that are needed to comply with evolving regulations
FY19 Water System CapitalProjects
Improving Infrastructure and Protecting Land

Dams, Reservoirs, Watersheds
• Land Acquisition
• Dam Maintenance
• Intake Dam – Rehab study
• Drought Management Plan update

Total Cost = $505,000
FY19 Water System Capital Projects

Treatment Plant and Site Upgrades

Many upgrades to aging treatment plant

• Facility Master Planning
• Emergency treatment plant power
• Chlorine feed pipe replacement
• New Chemical Bulk Storage Room
• Chlorine building – process upgrades
• Bridge Replacements – treatment plant
• Clearwell cover (design)
• In-line hydropower feasibility

Total Cost = $3.4 Million
FY19 Water System Capital Projects
Provin Mountain – Finished Water Storage

Storage Tank Projects
• Tank 1 Isolation
• New Tank mixers
• Tank 2 Roof liner design

Total Cost = $701,000
Daniel DiRienzo
Director of Field Services

Water Distribution System
Water Distribution System
Delivering Clean, Safe Water to Your Tap

Daily Maintenance of Water Distribution System To:
• Ensure Flow Capacity
• Provide Adequate Pressure for Firefighting
• Maintain Drinking Water Quality

Challenging System Size:
• 595 Miles of Pipe in Springfield and Ludlow
• 40% of Mains are Over 75 Years Old
• 19,148 Valves
• 6,226 Fire Hydrants
Water Construction
Fixing, and Getting Ahead of, the Leaks

Water Main Replacements
• Replace 2,000-6,000 feet/year

Hydrant Replacements
• Replacement of 400 century-old hydrants
• Project nearing completion in FY19

Water Main and Service Line Breaks
• Unpredictable in timing, size, and impact
• On-call 24/7 to respond
• Approximately 50 main breaks, 100 service line breaks each year
Meters and Field Customer Service

Counting the Gallons

**Meter Reading and Replacements**
- Drive-by, radio, cellular data collection
- All meters will be read monthly in FY19
- Meter replacement program upgrading to 15-year intervals in FY19

**Field Customer Service**
- Responsible for water service installations, inspections, consumption surveys, customer questions
- Respond to 500 to 700 calls/week
Water Quality
Keeping the Water Flowing

System Flushing
- Cleans water mains of sediment
- Brings fresh water to outlying reaches
- 65 miles cleaned/year

Hydrant Inspections
- 2,900 annual inspections generate prioritized rebuild/repair list

Valve Exercising
- Critical for emergency water shut-downs
- Crews exercise 4,000 valves/year on a 5-year cycle

Backflow Device Inspections
- 2,811 required annual backflow preventer inspections and tests
William Fuqua
Director of Wastewater Operations

Wastewater Collection and Treatment
Wastewater Collection & Treatment
Returning Cleaned Water Back to the Environment
Wastewater Collection & Treatment

Factors Driving New Investment

NPDES Permit
- New finalized permit expected in FY19, first in 17 years
- Sets parameters for treatment and monitoring levels
- Includes new nitrogen limits

Aging Infrastructure, New Realities
- New 20-year O&M contract for treatment plant

CSO Remediation
- Need for cost-effective ways to reduce CSO discharges
Asset Management and Maintenance Program
Cleaning and Assessing the City’s Sewer System

Since 2009
• 1,975,000 feet of mainline sewers cleaned and assessed
• 80% + of all city sewers assessed

Outcomes
• Increase system capacity and reduce CSO discharges
• Reduce operating costs
• Prioritize and target investments
Asset Management and Maintenance Program
Cleaning and Assessing the City’s Sewer System
CT River Crossing & York Street Pump Station
Addressing Multiple Needs in One Project

Resiliency, Redundancy, Renewal, CSOs
• Construction of new York Street pumping station
• Construction of 3 new river crossing pipes
• Improvements to SRWTF influent structure, flood control

Estimated Total Project Cost = $100 M

Challenges
• Varying river conditions
• Numerous environmental restrictions
• Deep excavation

Construction Start – Spring 2019
Robert Stoops
Chief Engineer

Engineering & Capital Projects
Sewer System Repairs and Upgrades
Prioritizing Aging Infrastructure Renewal

Based on Asset Management Program
- Risk of Failure
- System Criticality
- DPW Paving Project Coordination
- Potential Customer, Traffic, Utility Impacts

FY19 Upgrades
- 12,075 linear feet
- $3.96 Million
Sewer System Repairs and Upgrades
FY19 Projects
Water System Repairs and Upgrades
Targeted and Coordinated Renewal Projects

Criteria for Upgrades
• Piping systems with history of breaks
• Pipes in highly corrosive zones
• Old unlined cast iron pipe
• Coordination with City DPW road reconstruction projects

FY19 Upgrades
• 18,080 linear feet
• $7.08 Million
Water System Repairs and Upgrades

FY19 Projects
Green Energy Production
Putting Gravity to Work

Hydro-Power Station Produces Green Benefits

• 33 Megawatt station
• Capacity to power to 25,000 homes
• Generates revenue to offset water production costs
• $3 Million in Gross Revenue in FY18

Needed FY19 Upgrades

• $1,245,000 million to maintain functionality
James Richardson
Director of Information Technology

Information Technology
Information Technology
Enhancing Security and Enabling Mobility

Site Security Improvements
- Partnered with SecureWorks Counter Threat Operation Center
- Intrusion Detection and Prevention Systems

Next Generation Firewall
- Looks inside applications for hidden threats
- Better control of data and site redundancy

Deployed Mobile Device Management
- Enables secure application deployment to mobile devices
Information Technology

FY19 Objectives

Make All Employee Technology Fully Mobile
  • Replace all desktops with updated devices

Benefits
  • Seamless application deployment
  • Reduced cost
  • Longer hardware lifecycle
  • Systems and data never leave protection of data center

✓ Same Desktops
✓ Same Applications
✓ No Hardware Constraints
Information Technology

GIS Mapping

Water Main Break Notification Webpage
Jaimye Bartak
Communications Manager
Community Education & Outreach
Community Education & Outreach

Increasing Awareness of the Value of Water

Ongoing Initiatives in FY19

• Public Tours of Facilities
• World is Our Classroom Program
• Public Events
• Media Outreach

Upcoming Initiatives in FY19

• Website Redesign
• Outreach to Neighborhood Councils
• Enhanced Legislative Outreach
Domenic Pellegrino
Director of Finance

Customer Service
Commission Rules & Regulations
Customer Service

As Important to Us as Water is to You

Responsive, Consistent, and Helpful
- Respond swiftly to questions about bills, water quality, leaks, or service needs
- Provide reassurance and guidance during water or sewer emergencies
- Investigate and resolve any indications of unusual water usage
- Provide programs and applications that enhance the customer experience (Leak Detection Program, Paymentus)

FY17 By the Numbers
- 42,810 water accounts
- 37,278 sewer accounts
- 450,433 bills produced
Commission Rules & Regulations
New Policies for FY19

Guides Responses to Various Customer and System Situations
• Revised annually
• New changes effective July 1, 2018
• Available by contacting info@waterandsewer.org or on the website

Highlights of FY19 Changes
• Discontinuing pool abatements (averaged $20 per abatement)
• New secondary meters only for in-ground irrigation systems
Anthony Basile
Comptroller

The Financial Plan
Required Revenues
The Everyday Costs of Providing Water and Sewer Services

FY19 Estimated Costs - $78,501,101

Grant Revenue
$0
0%

General
$1,620,000
2%

Power Generation
$3,000,000
4%

Regional Water
$9,748,850
12%

Retail Water
$24,839,358
32%

Regional Sewer
$8,619,016
11%

Retail Sewer
$30,673,877
39%
O&M Spending
How is the Money Spent?

Budget - $77,789,281

- Debt Service: $17,504,713, 23%
- Purchased Services (WWTP operations, engineering consultants): $22,053,656...
- Fringe: $9,567,866, 12%
- Other: $1,144,286, 1%
- Supplies & Materials: $2,966,100, 4%
- Payroll: $15,399,360, 20%
- Capital from Revenue (meters, hydrants): $9,153,300...

Total O&M Spending: $77,789,281
O&M Spending
Where Is the Money Going?

Budget - $77,789,281

- Administration: $10,848,446 (14%)
- Wastewater Treatment: $15,918,816 (21%)
- Sewer Collection: $18,083,090 (23%)
- Water Supply: $17,857,996 (23%)
- Water Distribution: $12,520,943 (16%)
- Engineering: $2,559,990 (3%)
Capital Plan
The Costs of Major Infrastructure Upgrades

<table>
<thead>
<tr>
<th>Year</th>
<th>Spending from Revenues</th>
<th>Spending from Bond</th>
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</thead>
<tbody>
<tr>
<td>2019</td>
<td>$8,757,000</td>
<td>$106,455,000</td>
</tr>
<tr>
<td>2020</td>
<td>$8,016,000</td>
<td>$4,530,000</td>
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<tr>
<td>2021</td>
<td>$7,655,000</td>
<td>$2,806,000</td>
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<tr>
<td>3-Year Total</td>
<td>$113,791,000</td>
<td>$24,428,000</td>
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</table>

York Street / CT River Crossing Project
## Capital Improvement Program

### New Project Additions for FY19

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Status</th>
<th>Funding Source</th>
<th>Project ID</th>
<th>Cost Ctr</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drought Management Plan</td>
<td>Planned</td>
<td>Revenue</td>
<td>004-0032</td>
<td>WS</td>
<td>$110,000</td>
</tr>
<tr>
<td>WPF VFDs for Process Water Pumps</td>
<td>Planned</td>
<td>Revenue</td>
<td>005-0059</td>
<td>WS</td>
<td>$100,000</td>
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<tr>
<td>WPF-ACH Bulk Storage Degrn&amp;Const</td>
<td>Planned</td>
<td>Revenue</td>
<td>005-0061</td>
<td>WS</td>
<td>$450,000</td>
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<tr>
<td>WPF Culvert(s) Bridge Replacement</td>
<td>Planned</td>
<td>Bond</td>
<td>005-0063</td>
<td>WS</td>
<td>$1,200,000</td>
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<tr>
<td>WPF Chlorine Storage Room Upgrades</td>
<td>Planned</td>
<td>Revenue</td>
<td>005-0064</td>
<td>WS</td>
<td>$211,000</td>
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<tr>
<td>WPF InLine Hydro Study</td>
<td>Planned</td>
<td>Revenue</td>
<td>005-0065</td>
<td>WS</td>
<td>$100,000</td>
</tr>
<tr>
<td>WPF Clearwell Cover Liner System DESIGN</td>
<td>Planned</td>
<td>Revenue</td>
<td>005-0067</td>
<td>WS</td>
<td>$100,000</td>
</tr>
<tr>
<td>Provin Resv Tank 1 Isolation</td>
<td>Planned</td>
<td>Revenue</td>
<td>080-0016</td>
<td>WS</td>
<td>$331,000</td>
</tr>
<tr>
<td>Provin Res Tanks Mixers Install</td>
<td>Planned</td>
<td>Revenue</td>
<td>080-0017</td>
<td>WS</td>
<td>$120,000</td>
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<tr>
<td>Provin Res Tank 2 Roof Liner System DESIGN</td>
<td>Planned</td>
<td>Revenue</td>
<td>080-0018</td>
<td>WS</td>
<td>$250,000</td>
</tr>
<tr>
<td>Water Services Mapped GIS</td>
<td>Planned</td>
<td>Revenue</td>
<td>06B-0007</td>
<td>WD</td>
<td>$100,000</td>
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<tr>
<td>CT River Xing &amp; York St Pump Station</td>
<td>Planned</td>
<td>SRF</td>
<td>003-0029</td>
<td>WWC</td>
<td>$100,000,000</td>
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<tr>
<td>Public Education Documentary</td>
<td>Planned</td>
<td>Revenue</td>
<td>090-0022</td>
<td>ADM</td>
<td>$200,000</td>
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</table>

### Source of Funding

<table>
<thead>
<tr>
<th>Source of Funding</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>State Revolving Fund</td>
<td>100,000,000</td>
</tr>
<tr>
<td>General Revenue Bond</td>
<td>1,200,000</td>
</tr>
<tr>
<td>Revenue</td>
<td>2,072,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>103,272,000</strong></td>
</tr>
</tbody>
</table>

### Funding by Cost Center

<table>
<thead>
<tr>
<th>Cost Center</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration</td>
<td>200,000</td>
</tr>
<tr>
<td>Power Supply</td>
<td>-</td>
</tr>
<tr>
<td>Water Distribution</td>
<td>100,000</td>
</tr>
<tr>
<td>Water Supply &amp; Transmission</td>
<td>2,972,000</td>
</tr>
<tr>
<td>Wastewater Collections</td>
<td>100,000,000</td>
</tr>
<tr>
<td>Wastewater Treatment</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>103,272,000</strong></td>
</tr>
</tbody>
</table>
## Rate Changes in FY19

### The Bottom Line

<table>
<thead>
<tr>
<th></th>
<th>FY 2018 Eff. July 1</th>
<th>FY 2019 Eff. July 1</th>
<th>% Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Water</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential &amp; Commercial</td>
<td>$3.01</td>
<td>$3.22</td>
<td>7.0%</td>
</tr>
<tr>
<td>Industrial &amp; Municipal</td>
<td>$2.24</td>
<td>$2.40</td>
<td>7.0%</td>
</tr>
<tr>
<td><strong>Sewer</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential &amp; Municipal</td>
<td>$4.93</td>
<td>$5.32</td>
<td>8.0%</td>
</tr>
<tr>
<td>Commercial &amp; Hospital</td>
<td>$5.42</td>
<td>$5.85</td>
<td>8.0%</td>
</tr>
<tr>
<td>Industrial</td>
<td>$5.92</td>
<td>$6.38</td>
<td>7.8%</td>
</tr>
<tr>
<td>Restaurant</td>
<td>$6.41</td>
<td>$6.92</td>
<td>8.0%</td>
</tr>
<tr>
<td><strong>Combined Water and Sewer</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typical Annual Household Bill</td>
<td>$991.30</td>
<td>$1,065.91</td>
<td>7.5%</td>
</tr>
</tbody>
</table>

Note: Rates above are for each 100 cubic feet (or 748 gallons) of metered water.
Joshua Schimmel
Executive Director

The Value of Water
Water Drives Everything
Imagine a Day Without It
National Infrastructure Investment
Water Sector Chronically Under-Prioritized

Source: Water Research Foundation 2016
Water Sector Funding Needs

The State of the Industry

National Water and Sewer Utility Funding Needs

- Water: $1 Trillion
- Wastewater: $2.5 Trillion

Source: ASCE Infrastructure Report

Massachusetts 20 Year Utility Funding Needs

- Clean Water: $8.99B (51%)
- Wastewater: $7.24B (40%)
- Other: $1.58B (9%)

Water Usage Declining
More Conservation, Same Number of Pipes

22% DECREASE PER HOUSEHOLD DAILY WATER USE 1999 TO 2016
Water is Worth It

SWSC Water is Still a Great Value
Rates in Context
Monthly Combined Bills in the Region

2009

<table>
<thead>
<tr>
<th>Location</th>
<th>Bill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holyoke, City of</td>
<td>$116</td>
</tr>
<tr>
<td>Lynn WSC</td>
<td>$89</td>
</tr>
<tr>
<td>Boston WSC</td>
<td>$88</td>
</tr>
<tr>
<td>Brockton, City of</td>
<td>$79</td>
</tr>
<tr>
<td>Worcester, City of</td>
<td>$73</td>
</tr>
<tr>
<td>Chicopee, City of</td>
<td>$65</td>
</tr>
<tr>
<td>Narragansett Bay Commission</td>
<td>$64</td>
</tr>
<tr>
<td>Lawrence, City of</td>
<td>$62</td>
</tr>
<tr>
<td>Fall River, City of</td>
<td>$47</td>
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<tr>
<td>SWSC</td>
<td>$47</td>
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<tr>
<td>Lowell Regional Water Utility</td>
<td>$44</td>
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<tr>
<td>Hartford MDC</td>
<td>$34</td>
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</tbody>
</table>

2018

<table>
<thead>
<tr>
<th>Location</th>
<th>Bill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holyoke, City of</td>
<td>$134</td>
</tr>
<tr>
<td>Boston WSC</td>
<td>$126</td>
</tr>
<tr>
<td>Worcester, City of</td>
<td>$108</td>
</tr>
<tr>
<td>Chicopee, City of</td>
<td>$103</td>
</tr>
<tr>
<td>Lynn WSC</td>
<td>$102</td>
</tr>
<tr>
<td>Brockton, City of</td>
<td>$94</td>
</tr>
<tr>
<td>Narragansett Bay Commission</td>
<td>$88</td>
</tr>
<tr>
<td>Fall River, City of</td>
<td>$88</td>
</tr>
<tr>
<td>Hartford MDC</td>
<td>$83</td>
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<tr>
<td>SWSC</td>
<td>$82</td>
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<tr>
<td>Lowell Regional Water Utility</td>
<td>$66</td>
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<tr>
<td>Lawrence, City of</td>
<td>$65</td>
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</table>
## Comparative Financial Position

Savings Through Sound Management

<table>
<thead>
<tr>
<th>Utility</th>
<th>Median Household Income</th>
<th>Moody’s Rating</th>
<th>S&amp;P Rating</th>
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</thead>
<tbody>
<tr>
<td>Boston WSC</td>
<td>$55,777</td>
<td>Aaa</td>
<td>AAA*</td>
</tr>
<tr>
<td>SWSC</td>
<td>$34,728</td>
<td></td>
<td>AA</td>
</tr>
<tr>
<td>Worcester, City of</td>
<td>$45,472</td>
<td>Aa3</td>
<td>AA-</td>
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<tr>
<td>Narragansett Bay Commission</td>
<td>$45,473</td>
<td></td>
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<td>Chicopee, City of</td>
<td>$47,684</td>
<td>Aa3</td>
<td>AA-*</td>
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<tr>
<td>Brockton, City of</td>
<td>$47,557</td>
<td>A1</td>
<td>A+*</td>
</tr>
<tr>
<td>Lynn WSC</td>
<td>$47,429</td>
<td>A1</td>
<td>A+*</td>
</tr>
<tr>
<td>Holyoke, City of</td>
<td>$48,002</td>
<td>A1</td>
<td>A+*</td>
</tr>
<tr>
<td>Lowell Regional Water Utility</td>
<td>$34,852</td>
<td>A3</td>
<td>A-</td>
</tr>
<tr>
<td>Lawrence, City of</td>
<td>$35,213</td>
<td>A3</td>
<td>A-</td>
</tr>
<tr>
<td>Fall River, City of</td>
<td>$30,630</td>
<td>Ba2</td>
<td>BB</td>
</tr>
</tbody>
</table>

* Moody’s Credit Rating Converted to S&P Credit Rating
Moving Forward

What’s Next?

Commission Meeting/Vote
• Thursday, June 14, 2018, 9 A.M.
• John J. Lyons Administration Building, Bondi’s Island

Questions and Comments Always Welcome
• info@waterandsewer.org
• 413-452-1300

Always Available, 24/7
• Water and Sewer Emergencies:
  Call 413-310-3501
• Waterandsewer.org

Thank you!