

FY2016
Annual
Report

SPRINGFIELD
WATER
AND
SEWER
COMMISSION

SPRINGFIELD, MASSACHUSETTS



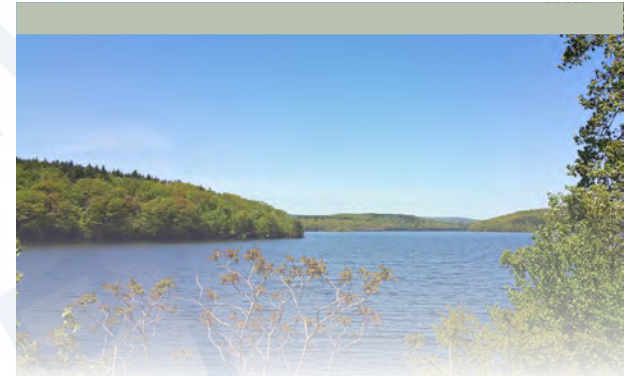


Cobble Mountain Reservoir

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Board of Commissioners (from left to right): William Leonard, Daniel Rodriguez, and Vanessa Otero.



Mission Statement

Our mission is to provide an adequate, uninterrupted, high-quality supply of water to our customers, to collect and treat wastewater, and return clean water to the environment.

While fulfilling our mission, we strive to:

- Conserve and protect our reliable, high-quality water supply for present and future generations
- Meet or surpass public health standards, environmental standards, and support fire protection
- Operate, maintain, improve, and manage our water and wastewater infrastructure in a cost-efficient manner
- Manage finances to support Commission needs and maintain reasonable water and wastewater rates
- Maintain an adequate, safe, and professional workforce
- Understand and respond to customers' expectations for service

The Springfield Water and Sewer Commission is pleased to present its Fiscal Year 2016 (FY 16) Annual Report. This report describes the water and wastewater systems, presents statistical data on work that has been completed during the fiscal year, and provides updates on Commission accomplishments, capital improvement projects, and daily operations.

The Commission continued to provide water and wastewater services to 250,000 regional residents in its day-to-day operations. Dependable water and waste-water services are at the foundation of public health, fire protection, economic development, and the high quality of life in our region. We are committed to providing these services to the City of Springfield and surrounding communities in a responsible, efficient, and sustainable manner.

In FY 16, the Commission began a comprehensive facilities planning process which encompasses assets from Cobble Mountain Reservoir to the Provin Mountain Water Storage Facility including dams, the raw water conveyance system, West Parish Filters Water Treatment Plant, and the transmission mains that carry finished water from the treatment plant to Provin Mountain. The first phase of this process consisted of assessing the condition, hydraulic capacity, structural integrity, redundancy, and reliability of these assets. Improvements based on these findings will be implemented over the next three years. The second phase, which is ongoing, consists of assessing the aforementioned assets in the context of meeting and exceeding water quality and regulatory criteria as well as operational optimization. Improvements based on Phase 2 findings will be implemented in the next three to 10 years.

The South Transmission Main Replacement Project was completed in August 2016 at a cost of \$24 million. The South Transmission Main carries finished water to the distribution system that delivers water to Springfield and surrounding communities, and is vital to providing dependable and uninterrupted water service to the region. The Project consisted of replacing the six-mile pipeline from Provin

Mountain to the Route 5 rotary at the South End Bridge as well as the installation of 11 valves, 13 air valve chambers, and 12 drainage areas through multiple wetlands. The new pipeline is expected to supply water reliably for the next 80 to 100 years.

The Commission continued to invest in infrastructure in the City of Springfield, replacing or rehabilitating water and sewer main pipe at multiple locations using the principles of asset management. In FY 16, the Commission substantially completed a project to rehabilitate 8,345 feet and replace 334 feet of sewer main pipe, and replace 80 feet of water main pipe. The total project cost was \$1.6 million. The Commission also kicked off a project to construct additional infrastructure improvements including replacement of 3,700 feet of sewer main pipe and 7,400 feet of water main pipe, and rehabilitation of 6,300 feet of sewer main pipe. This project is expected to be complete in FY 17 at an estimated cost of \$7.1 million.

The Commission continued construction of its Main Interceptor Rehabilitation and Combined Sewer Outfall Improvements Project in FY 16. The Main Intercepting Sewer (MIS) is one of the most critical pipes in the wastewater collection system, carrying flows for more than 60% of the City of Springfield. Inspection of the MIS indicated that the pipe required rehabilitation in order to continue to provide service. The project consists of rehabilitating 3,200 feet of 60- and 66-inch diameter sewer pipe and associated manholes, and work to rehabilitate and repair three Combined Sewer Outfall structures. Construction is expected to be complete in FY 17. The total project cost is estimated at \$23.4 million.

Work to design a new river crossing and pump station to convey wastewater to the Springfield Regional Wastewater Treatment Facility also continued in FY 16. This multiyear project will help to satisfy regulatory requirements with regard to CSO control, and will provide necessary system redundancy and improvements. Construction is expected to begin in 2018 at an estimated cost of \$82 million.

The Commission continued to support economic development in the City of Springfield by reviewing development and redevelopment projects for several public, industrial, and commercial sites with regard to their water and sewer services. This year, the Commission continued to work closely with MGM Springfield and their project participants to review plans for replacements, upgrades, and discontinuances, and to perform water and sewer work inspections. Other economic development projects reviewed by the Commission include the CRRC MA Rail Car Facility, Falvey Linen, the Dr. Seuss Museum, and Pope Francis High School.

In FY 16, the Commission responded to 48 water main breaks, inspected 2,639 hydrants, operated 2,978 valves, flushed 79 miles of water main pipe, installed 5,417 water meters, performed more than 50,000 water quality tests, responded to 595 sewer backups, jetted 199 miles of sewer main pipe, performed 2,924 mark-outs for water and sewer services, answered more than 15,000 customer inquiries, and the Ludlow Reservoir hosted 27,820 visitors. West Parish Filters produced 10.5 billion gallons of drinking water and the Wastewater Treatment Facility cleaned 12.3 billion gallons of wastewater. Power generated at the Cobble Mountain Hydro-Power Plant generated gross revenues of \$1.7 million, thereby offsetting costs and benefitting ratepayers.

The Commission is committed to meeting our responsibility to reliably serve our consumers, renew our infrastructure, comply with environmental laws and regulations, and conserve and protect our water resources for future generations, all while maintaining the lowest possible rates.

Sincerely,



Daniel Rodriguez
Chairman

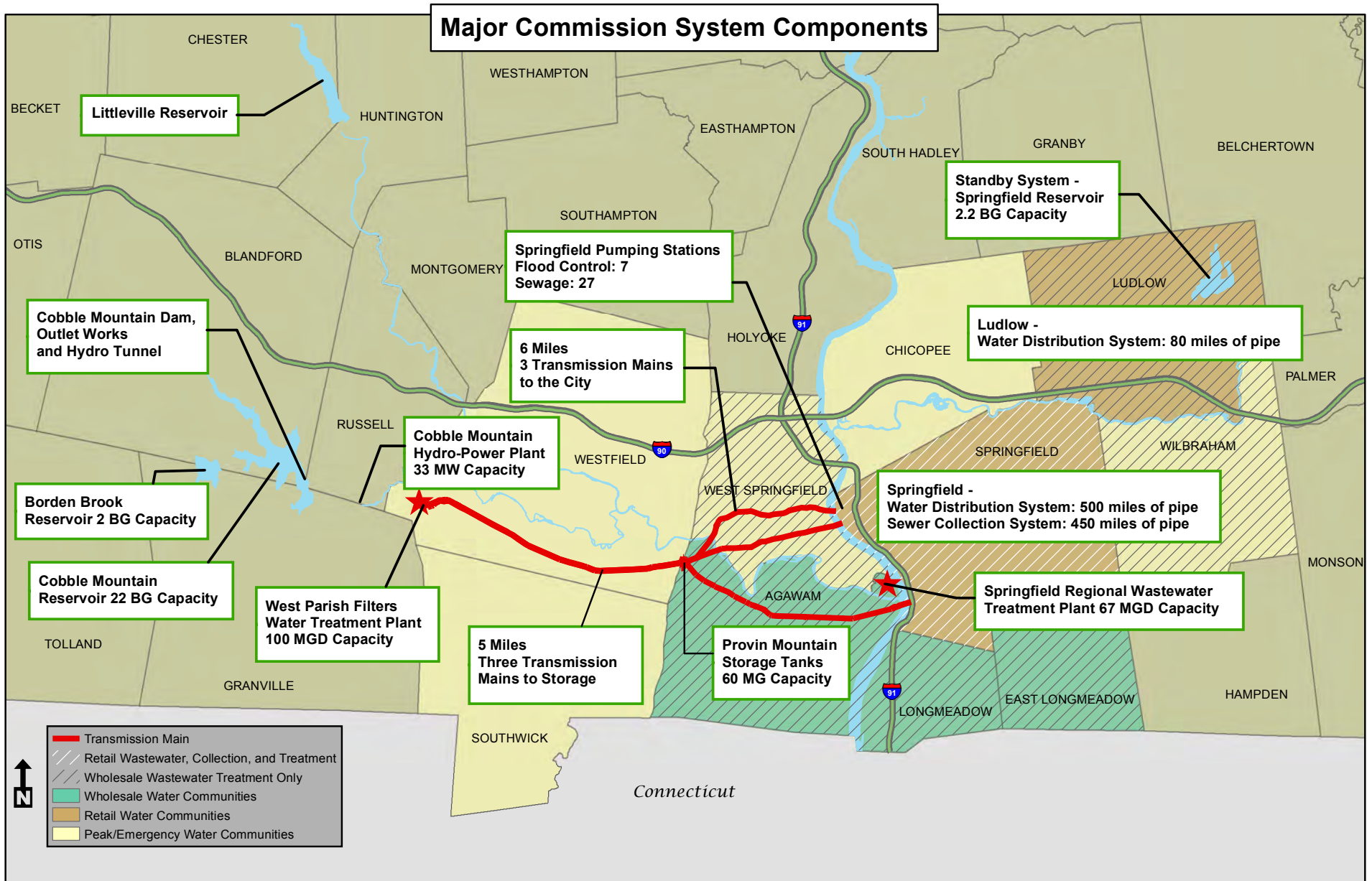


Vanessa Otero
Commissioner



William Leonard
Commissioner

System Map



The Commission Celebrates 20 Years



This year marks the Springfield Water and Sewer Commission's 20th anniversary. The Commission was established in July 1996, in accordance with Massachusetts General Laws Chapter 40N, by a vote of the Springfield City Council. In March 1997, employees of the former Springfield Water Department and Wastewater Division of the Springfield Department of Public Works were transferred to the newly formed Commission. Since then, the Commission has been responsible for providing clean drinking water and wastewater services to 250,000 residents of the region.

The 20th anniversary seems the appropriate time to reflect on all that has been accomplished over the last two decades. Countless projects have been performed and changes made to maintain and improve the Commission's infrastructure and operations, all with the goal of providing high-quality services to the residents of Springfield and the surrounding communities for years to come.



Grand Conceptor Award for 2010 Surge Tank Replacement Project

Here are just a few of the many notable projects and programs of the last 20 years:

- Installed automatic radio-read meters (AMR) in homes and businesses to more efficiently collect water consumption data for billing purposes (2002-2005).
- Implemented and updated information technology infrastructure including a Geographic Information System (GIS) to map Commission assets (2008); a Computerized Maintenance Management System (CMMS) to track maintenance activities (2008; updated in 2013); and a new Supervisory Control and Data Acquisition System (SCADA) to operate West Parish Filters Water Treatment Plant (2015).
- Rebuilt Borden Brook Dam (1998).
- Completed improvements to Provin Mountain Water Storage Tanks (2006, 2012).
- Completed Cobble Mountain Reservoir Diversion Gate Replacement Project (2007).
- A 207-foot tall steel Surge Tank at Cobble Mountain Reservoir was replaced (2010) and received the Massachusetts Engineering Grand Conceptor Award from the American Council of Engineering Companies (ACEC).
- Constructed the Worcester Street Pump Station to improve water flow to Indian Orchard and Ludlow (2001).
- Established an ongoing unidirectional flushing program to maintain the water distribution system (2005), and completed flushing the entirety of the distribution systems in Springfield and Ludlow (2010).
- Rehabilitated two 36-inch Water Transmission Mains that cross under the Connecticut River (2012).
- Completed the South Transmission Main Replacement Project which consisted of replacing a six-mile water pipeline from Provin Mountain Storage Tanks to the Route 5 rotary in Agawam (2016).
- Entered into a 20-year service agreement with Suez for operation of the Springfield Regional Wastewater Treatment Facility (2000).
- Developed an Asset Management and Maintenance Program for the wastewater collection system (2009). The program consists of systematic cleaning, mapping, and assessment of the system. Based on the assessed condition of the assets, a prioritized list of infrastructure improvements is created. Infrastructure improvement projects based on the list are executed annually.
- Completed Combined Sewer Overflow (CSO) Projects on the Mill River for \$5.7 million (2004) and Chicopee River for \$36.4 million (2009). Completed the Phase I Connecticut River CSO Projects for \$26.5 million (2011). Substantially completed the Washburn CSO Project for \$20 million (2014). Since 2000, the Commission has spent more than \$100 million to reduce CSOs.
- Received approval from the EPA and MassDEP for an Integrated Wastewater Plan (IWP), which balances regulatory requirements with responsible and sustainable investment in the Commission's wastewater infrastructure (2015). The Commission was the first in the nation to submit and receive approval for a plan of this kind.
- Partnered with the World Is Our Classroom and Springfield Public Schools to provide, "A Day at Cobble Mountain," drinking water education program at West Parish Filters Water Treatment Plant (2009). More than 7,800 Springfield seventh-graders have participated in the program since its start.

Awards and Achievements

Northeast Region Award of Merit for Dams

In September, the Commission was awarded the Northeast Region Award of Merit from the Association of State Dam Safety Officials (ASDSO) for the Commission's established and ongoing safety, security, and comprehensive dam operations and maintenance (O&M) programs.

According to the ASDSO, the Regional Award of Merit is, "...given to individuals, companies, organizations, municipalities, or other entities working in the dam safety field that have made outstanding contributions to dam safety on a regional level." The ASDSO recognized the

Commission for establishing capital and O&M budgets to support the dam safety, security, and maintenance programs; initiating a 10-year capital plan to support its dams; performing inspections of all dams regularly and in exceedance of regulatory requirements; and increasing security at its dams.

At the award ceremony, the ASDSO noted that the Commission's safety, security and maintenance programs can be used as a model for other dam owners.



Northeast Regional Award of Merit for Dams

Comprehensive Annual Finance Report Award

As a public entity, the Commission is required to complete financial reports in accordance with MA General Laws Chapter 40N. Beginning in fiscal year 2013, the Commission opted to also complete and submit a Comprehensive Annual Financial Report (CAFR) which contains additional financial information, covers a longer time period, and goes

beyond what is required by law. For the third consecutive year, the Commission was nationally recognized for its CAFR with a Certificate of Achievement for Excellence in Financial Reporting award from the Government Finance Officers Association, the highest form of recognition in governmental financing and accounting.



Certificate of Achievement for Excellence in Financial Reporting

Education and Community

World is Our Classroom

Since September 2009, more than 7,800 Springfield seventh-graders have participated in “A Day at Cobble Mountain.” During their day at the Cobble Mountain Reservoir and the West Parish Filters Water Treatment Plant, students learn about the watershed ecosystem, the interconnection between organisms, and the principles of safe and effective water management. They come away from the program with an enhanced understanding of science and technology, and an appreciation of the importance of a clean environment.

The program, in its eighth year, is administered by the Springfield Water and Sewer Commission in collaboration with *The World Is Our Classroom Inc. (WIOC)*, a local non-profit educational organization.

Middle school students also learn how ecosystems can be managed by humans positively and productively. Students and the instructors spend a large portion of the



Students look for crawfish and other animals in a mountain stream

day at a mountain stream, where they identify and observe crawfish, mayfly nymph, salamander and other species. These exercises address such topics as the classification of organisms, the structure and function of cell systems, evolution and biodiversity, and changes in ecosystems over time.

The Cobble Mountain program supports the Springfield Public Schools middle school science curriculum and has been designed to meet the standards of the Massachusetts Science and Technology/Engineering Science framework. More broadly, the program creates increased interest in careers in science and water management, especially among girls and minorities who have been underrepresented in those fields.

The Cobble Mountain program is the extension of WIOC’s flagship program “A Day at Bondi’s Island” located at the Springfield Regional Wastewater Treatment Facility. The program includes the collaboration of Springfield Public Schools, Springfield College, Springfield Water and Sewer Commission, and SUEZ Water Environmental Services, Inc. During five hours on-site, fifth-grade students tour the facility and learn about physical, earth, and life sciences, as well as the technology and engineering design process. During the last 15 years, World Is Our Classroom and its partners have brought more than 30,000 Springfield fifth-graders through the day-long program.

Community Events

In FY 16, the Commission participated in several local community events by providing a water bottle filling station, which distributes Springfield’s own tap water, and refillable water bottles. The events were organized by neighborhood

councils, city departments, and other non-profit community organizations in Springfield. All events were free and open to the public. Events included themes such as public health, education, safety, and community. In the future, the Commission will continue to serve the local community through participation in these events.



The Commission’s water station set-up at multiple community events



Information Technology

Technology plays a centralized role in the Commission's day-to-day operations. The Information Technology (IT) Group supports Commission operations and staff by troubleshooting hardware and software issues, by continually upgrading computers, servers, and networking equipment, and by supporting various technology initiatives.

In FY 16, the Commission contracted with a professional services firm to complete a comprehensive IT assessment which included a review of systems, security, capability, and staffing resources as well as recommendations for improvements. The comprehensive assessment will be used in both the short- and long-term as a planning tool to further advance the IT function within the Commission.

Last year, the installation of a new SCADA (Supervisory Control and Data Acquisition) system at West Parish Filters Water Treatment Plant was completed. SCADA is an industrial computer system which consists of both hardware and software components that optimize the human and machine interface and enables operators to control treatment processes, monitor operations, collect data, and produce reports. In a cooperative effort by



The new SCADA Station at Provin Mountain Storage Tanks

Engineering, Operations, IT, and an engineering consultant, the SCADA system was expanded to include Provin Mountain Storage Tanks and the Worcester Street Water Pumping Station in FY 16. In preparation of this expansion, the IT group constructed a new server room and installed a new server rack at Provin Mountain Storage Tanks to house the new SCADA equipment for that site.

A SCADA system optimizes the human and machine interface and enables operators to control treatment processes, monitor operations, collect data, and produce reports.

In FY 16, Solarwinds IT infrastructure management software was deployed to assist IT staff in monitoring the health of network connections, services, and devices. This software will allow staff to troubleshoot issues more quickly and proactively, thereby providing more reliable technology services to Commission employees and customers. The IT group also replaced more than 40 security cameras at various locations to update and modernize the Commission-wide security system.



The new server rack at Provin Mountain Storage Tanks

The Commission Supports Economic Development

The Commission's Engineering and Technical Services Group reviews new development and redevelopment projects submitted for connection to the water and sewer systems. In order to protect the integrity of the water and sewer systems, projects must comply with the Commission's Rules and Regulations. These projects range from large-scale development to small, single-family homes. In FY 16, engineering staff performed water and sewer service reviews for 82 commercial and 69 residential development and/or redevelopment projects. The following are some major projects reviewed.

MGM Springfield - There are several water and sewer mains in the MGM project area. The Commission worked closely with MGM and its representatives to determine what water and sewer improvements would be needed, and continues to work closely with MGM and its representatives by reviewing plans for replacements, upgrades, and discontinuances, and by performing inspections to ensure that work is being conducted in accordance with the Commission's Rules and Regulations. In addition, Commission staff performed reviews for temporary water and sewer services for four construction trailers, as well as fire suppression, water, and sewer services for casino buildings. The Commission also reviewed MGM's roadway improvement plans to ensure protection of the water and sewer infrastructure adjacent to the casino project area. In the future, the Commission will replace or relocate several fire hydrants in the area as part of this plan.

CRRC MA Rail Car Facility - The Commission reviewed plans for water, sewer, and fire suppression services for the CRRC MA Corporation MBTA rail car manufacturing facility set to open in East Springfield.

Falvey Linen - The Commission reviewed new and repurposed water, sewer, and fire suppression services for a large commercial laundromat set to open in Springfield.

Dr. Seuss Museum - Springfield Museums is planning to open The Amazing World of Dr. Seuss Museum in 2017 in the former Connecticut Valley Historical Museum site. The Commission reviewed a new fire suppression service and updates to the existing sewer service.

Pope Francis High School - The Commission reviewed plans for new water, sewer, and fire suppression services for the new Pope Francis High School being constructed at the site of the former Cathedral High School on Surrey Road in Springfield.

The Commission's Engineering and Technical Services Group also handles all underground utility markouts. Before any excavation for new construction occurs, the Commission must mark out where the water and sewer infrastructure is located in order to protect the structures from damage.

FY 16 Underground Utility Markouts			
Year	Month	Routine	Emergency
2015	July	255	40
	August	259	41
	September	257	42
	October	253	36
	November	198	43
	December	74	39
2016	January	53	62
	February	36	93
	March	251	54
	April	222	27
	May	215	37
	June	286	51

Commission staff worked on the following projects for the City of Springfield and the Springfield Redevelopment Authority:

Blunt Park Senior Center - The Commission reviewed plans for new water and sewer services to this newly opened day facility for senior citizens, as well as a new water main that was installed in the park.

South End Community Center - The new South End Community Center was constructed on Marble Street in Springfield. The Commission reviewed plans for new water and sewer services for the site.

Gunnery Sergeant Sullivan Park - The Commission reviewed planned improvements to the park including the installation of a new irrigation system as well as improvements within the Commission's easement.

Commission staff continued to review proposed MassDOT roadway and intersection improvement projects for potential impact to the Commission's water and sewer infrastructure. These projects generally take three to five years from design to construction. In FY 16, the Commission worked with MassDOT on review of the Six Corners Roadway Improvement Project and the Roosevelt Avenue/Island Pond Road Roadway Improvement Project.

Engineering and Capital Projects

Facilities Plan

In FY 16, the Commission began a comprehensive facilities planning process which encompasses assets from Cobble Mountain Reservoir to the Provin Mountain Water Storage Facility including dams, the raw water conveyance system, West Parish Filters Water Treatment Plant, and the transmission mains that carry finished water from the treatment plant to the Provin Mountain Water Storage Facility. The planning process has two phases. The first phase, which was initiated in FY 16, consisted of assessing the condition, hydraulic capacity, structural integrity, redundancy, and reliability of the aforementioned assets. Improvements based on Phase 1 findings will be implemented in the next three years. The second phase, which is expected to be complete in FY 18, consists of assessing the aforementioned assets in the context of meeting and exceeding water quality and regulatory criteria as well as operational optimization. Improvements based on Phase 2 findings will be implemented in the next three to 10 years. The total cost for both planning phases is estimated at \$1.2 million.

Dams and Reservoirs

The Commission continued its comprehensive Dams Operations & Maintenance (O&M) program in FY 16. Vegetation control and tree cutting were performed on slopes and dam spillways. Commission staff conducted bi-annual inspections of all dams throughout the year to ensure they are in compliance with Massachusetts Department of Conservation and Recreation (MADCR) standards. Required Phase I Dam Inspections were conducted in October 2016. The Commission is planning to implement toe drain improvements at Cherry Valley Dam in Ludlow and Dam #3 in Westfield in the next two years.



Cobble Mountain Dam Spillway

The Commission is also in the design stages of a project to rehabilitate the Intake Dam, which is downstream from the Cobble Mountain Hydro-Power Plant. Mechanical improvements and restoration of the auxiliary spillway will be addressed first, followed by structural repairs that will be coordinated with projects at the Cobble Mountain Hydro-Power Plant and West Parish Filters Water Treatment Plant. The Intake Dam rehab work will be performed within the next three to 10 years.

In September of 2016, the Commission's Dams O&M program was recognized by the Association of State Dam Safety Officials with the Northeast Region Award of Merit. The program was recognized due to the Commission's capital planning to support and maintain the dams, dam inspections that are completed more frequently than what is required by regulations, and increased dam security.

Cobble Mountain Hydro-Power Plant

Water flowing from the Cobble Mountain Reservoir into West Parish Filters Water Treatment Plant is used to generate green electric power at the Cobble Mountain Hydro-Power Plant. Generated power is transmitted to the ISO New England electricity market. Total output for FY 16 was approximately 20,400 Megawatts. Gross revenue from power generation totaled \$1.7 million. The Plant is operated and maintained by Holyoke Gas & Electric Department (HG&E) under a 10-year contract. In FY 16, many upgrades were planned and/or implemented. A replacement lifting beam for the power tunnel isolating gate (Broome Gate) was procured. Installation work including rehab and repainting of the gate is planned for FY 18/19. Two large power service breakers were replaced, providing added reliability and safety to the operators. FAA lights atop the surge tank were also replaced. A final design of new transmission poles between the power station and the substation was completed in FY 16 with installation planned for FY 17. Costs for these projects totaled approximately \$234,000.



Cobble Sub-Station

The Commission is currently designing upgraded station controls and electric systems. Design is expected to be complete in FY 18 with construction to occur in FY 18/19.

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Engineering and Capital Projects

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West Parish Filters Water Treatment Plant

After successful replacement of the fiberglass reinforced plastic (FRP) backwash troughs at rapid sand filters 1, 4, and 6 in FY 16, the Commission has procured new FRP troughs for the remaining three rapid sand filters (Filters 2, 3, and 5). The troughs are expected to be replaced in January 2017. The project cost to replace the remaining three backwash troughs is \$280,000.



New Polymer Metering Pumps

A project to replace chemical metering pumps began in FY 16 with the replacement of all polymer feed pumps. The project will continue in FY 17 with the replacement of the chemical feed pumps used to add corrosion control agents as well as the installation of new coagulant pumps. The total project cost is estimated at \$200,000.

Provin Mountain Water Storage Facility

Last year, the installation of a new SCADA (Supervisory Control and Data Acquisition) system at West Parish Filters Water Treatment Plant was completed. SCADA is an industrial computer system that enables operators to control treatment processes, monitor operations, collect data and produce reports. In FY 16, the new SCADA system was expanded into Provin Mountain Water Storage Facility, enabling staff to reliably monitor and document real-time data such as tank capacity, flow into and out of the facility, and treatment parameters such as chlorine residuals, temperature, and pH. The expansion was substantially completed at a cost of approximately \$130,000.

The Commission has also expanded the use of SCADA into the Worcester Street Water Pumping Station and will continue to expand the system to other remote facilities as part of the SCADA Master Plan.

South Transmission Main Replacement Project

The Commission has three main transmission pipelines that carry water from the Provin Mountain Storage Tanks to the distribution system that delivers water to Springfield and Ludlow as well as Agawam, Longmeadow, and East Longmeadow. The Commission began a project to replace the southernmost of these pipelines in FY 15. The project consisted of replacing approximately six miles of 54-inch and 48-inch diameter pipeline from Provin Mountain to the Route 5 rotary in Agawam in addition to the installation of 11 valves, 13 air valve chambers, 12 drainage culverts, and improvements through multiple wetlands.

In August of 2016, construction was completed and the new pipeline was brought into service. The new South Transmission Main is expected to supply water reliably for the next 80 to 100 years. The total project cost was approximately \$24 million.



Aerial view of newly installed South Transmission Main along Route 57 in Agawam

Main Interceptor Rehabilitation and Combined Sewer Outfall Improvements Project

The Main Intercepting Sewer (MIS) is one of the most critical pipes within the wastewater collection system, carrying flows for more than 60% of the City of Springfield. Average flows in the MIS exceed 20 million gallons per day. Inspection of the MIS as part of the Wastewater Collection System's Asset Management and Maintenance Program indicated that the pipe required immediate rehabilitation in order to continue to provide service. Combined Sewer Outfalls (CSOs) at Worthington, Phelps, and Longhill Streets were also identified as needing repair.



Cleaning MIS access structure prior to rehabilitation

In general, the Main Interceptor Rehabilitation and CSO Improvements Project consists of rehabilitating 3,200 feet of 60- and 66-inch diameter sewer pipe and associated manholes, and work to rehabilitate and repair three CSO structures along the Connecticut River.

Construction began at the end of FY 15 and is expected to be complete in FY 17. The majority of construction is along the Mill River Corridor which extends from the intersection of Mill Street and Main Street to the intersection of Rifle Street and Chester Street.

The approximate total project cost is estimated at \$23.4 million.

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Infrastructure Improvements

In 2009, the Commission initiated the Wastewater Collection System's Asset Management and Maintenance Program to assess, map, and clean the wastewater collection system. Since the start of the program, the Commission has been able to assess the majority of the wastewater collection system and generate a Prioritized Infrastructure Improvements list, ranking assets by their condition along with risk and consequence of failure. The Commission contracted with Stantec (formerly Fay, Spofford & Thorndike) to initiate the design and construction of

Infrastructure Improvements 2016 Project

In FY 16, the Commission began performing infrastructure improvements at additional locations throughout the City. Work includes replacing approximately 3,700 feet of sewer main and approximately 7,400 feet of water main, trenchless rehabilitation of approximately 6,300 feet of sewer main, and replacement or rehabilitation of approximately 50 manholes.

Improvements are ongoing at the following locations:

- Alden St. from Northumberland St. to #672 Alden St.
- Arcadia Blvd. from Roosevelt Ave. to #332 Arcadia Blvd.
- Chestnut St. from Prospect St. to #551 Chestnut St.
- East Columbus Ave. from the I-91 Exit 5 Ramp to Mill St.
- Eastern Ave. from Granville St. to Monroe St.
- Fremont St. at Main St.
- Hancock St. from Clark St. to Hawthorne St.
- Island Pond Rd. from Roosevelt Ave. to #404 Island Pond Rd.
- Monroe St. from Eastern Ave. to Colton St.
- Mulberry St. from School St. to #81 Mulberry St.
- Northumberland St. from Alden St. to #16 Northumberland St.
- Overlook Dr. from Island Pond Rd. to #17 Overlook Dr.
- Pendleton Ave. from Hancock St. to Eastern Ave.
- Prospect St. at Prospect Ter.
- Quincy St. from Stebbins St. to Eastern Ave.
- Roosevelt Ave. from Carnavon Cir. to #664 Roosevelt Ave.

infrastructure improvement projects stemming from the list. In FY 2016, the Commission initiated and completed several improvements to the wastewater collection system. In some instances, improvements were made to the water distribution system in conjunction with the wastewater system upgrades when warranted by the age and condition of the water main pipe. This combination of work resulted in construction efficiency cost savings for the Commission and renewal of aging infrastructure.

- Roosevelt Ave. from State St. to Wilbraham Rd.
- Tyler St. from Hancock St. to Colton St.
- Union St. from Oak St. to Orleans St.
- Union St. from Hancock St. to Eastern Ave.
- Walnut St. at Hancock St.
- West Columbus Ave. at the I-91 Exit 3 Ramp
- Wilcox St. from East Columbus to Main St.

This project is expected to be complete in FY 17 at a cost of approximately \$7.1 million



Infrastructure Improvements 2015 Project

In FY 15, the Commission began performing infrastructure improvements at various locations throughout the City of Springfield. Projects included trenchless rehabilitation of approximately 8,345 feet of sewer main, rehabilitation or replacement of 44 manholes and 29 service laterals, and replacement of approximately 334 feet of sewer main and approximately 80 feet of water main.

Improvements were made at the following locations:

- Walnut St. from Hickory St. to Allen St.
- Eastern Ave. from Monroe St. to Wilbraham Rd.
- Union St. from Hancock St. to Colton St.
- Quincy St. from #162 Quincy St. to Eastern Ave.
- Quincy St. from Oak St. to Stebbins St.
- Tyler St. from Hancock St. to 252 Tyler St.
- Pendleton Ave. from 148 Pendleton Ave. to Eastern Ave.
- Alden St. from Hancock St. to Eastern Ave.
- Walnut St. from Hancock St. to Brigham St.
- Hancock St. from Walnut St. to Florence St.
- Stockbridge St. at Main St.
- Dwight St. from Worthington St. to Taylor St.

This project was completed in FY 16 at a cost of \$1.6 million.

SWSC Inspector checks for leaks on a 30-inch water main installed at the intersection of Quincy St. and Hancock St.

Watershed Protection

Watershed Overview

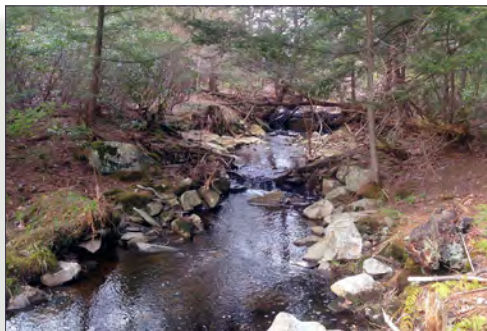
The Little River Watershed is the source of our drinking water. The watershed encompasses more than 31,000 acres (48.5 square miles) and includes land in Becket, Blandford, Granville, Otis, Russell, Tolland, and Westfield. The Commission owns two large waterbodies in the Little River watershed: Borden Brook Reservoir and Cobble Mountain Reservoir. Borden Brook Reservoir, along with the many small ponds, wetlands, and streams, feed Cobble Mountain Reservoir. From Cobble Mountain Reservoir, the water flows to the Intake Reservoir and then to West Parish Filters Water Treatment Plant for treatment.

The Little River Watershed is a high-quality water supply source. The rural upland landscape offers a pristine water supply that is isolated from the effects of urban growth. The rural landscape makes it possible to protect watershed land abutting the reservoirs, providing additional protection for the water supply.

Commission staff continues to collect water quality samples from the 10 watershed feeder streams that flow into Borden Brook Reservoir and Cobble Mountain Reservoir. These water samples are tested regularly in the Commission's laboratory. The results show that the Little River water supply is very clean and demonstrates that watershed protection is critical to a clean water supply.

Watershed Land

Currently, 47% of the land in the Little River Watershed is owned by the Commission and therefore protected from development. An additional 8% is protected by government and non-government land conservation organizations, and 15% is protected by temporary development restrictions through the Chapter 61 land protection incentive program.



Henry Brook

The Chapter 61 land protection incentive program is offered to rural land owners as a means to protect land from development. The program encourages sound management practices and forest stewardship, and is renewable every 10 years. The program offers property tax incentives for owners to protect their land as either forest land, agricultural/horticultural land, or recreational land. Over 3,500 acres (11%) of privately held

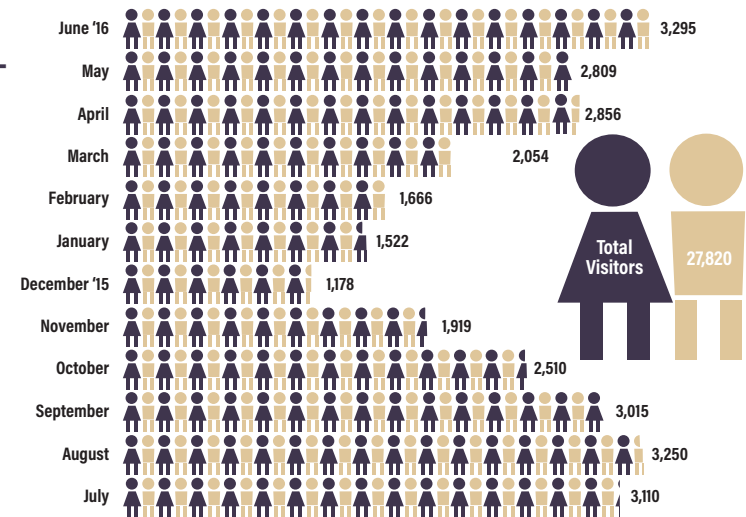
land in the watershed is temporarily protected from development through Chapter 61. Going forward, the Commission will continue to encourage private land owners to enroll in the Chapter 61 land protection incentive program. The Commission continues to partner with the Commonwealth of Massachusetts to protect land in the Little River watershed. Over the years, the Commission has helped protect approximately 1,600 acres of land through conservation restrictions and restrictive covenants that limit land uses in order to protect the water supply. The Commission is currently working on protecting an additional 181 acres on Henry Brook in Blandford, MA near the recently acquired Bliss Conservation Area.

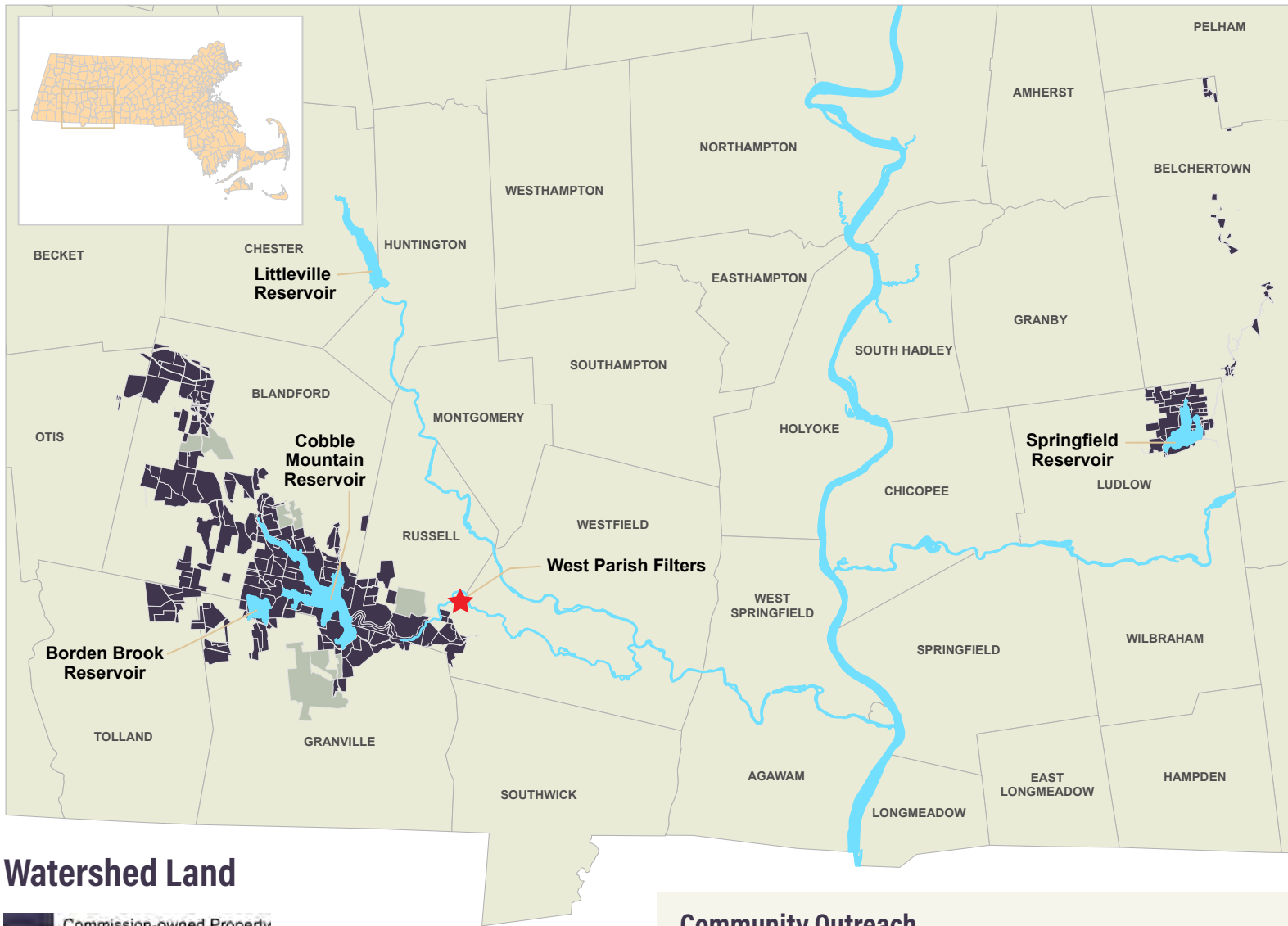
Watershed Operations and Maintenance

The Commission continued to maintain watershed land in FY 16 by performing maintenance and repairs to dams, grounds, and roadways. This year, Commission staff worked with the Blandford DPW to re-grade and improve the drainage ditches along the western most portion of South Otis Road, including the replacement of an existing culvert. In addition, trees and stumps were cleared near the Gate 30 access road in Blandford, and buildings were demolished and removed from the former Barnes Farm in Granville, land now protected for water supply purposes. In addition, improvements were made to the Connector Road between Gates 14 and 15 by Commission staff.

Backup Water Supply - Springfield (Ludlow) Reservoir

The Reservoir is maintained as a backup water supply and is open to public access. In FY 16, the Reservoir hosted 27,820 visitors.





The Little River Watershed is situated in a pristine rural landscape and is the source of our drinking water.

Watershed Land

- Commission-owned Property
- Protected Land

Community Outreach

Community outreach is critical to effective watershed management. The Commission regularly coordinates with abutters regarding access and land management activities, as well as with municipal officials in watershed towns regarding important maintenance activities such as public road maintenance and storm drainage improvements.

Water Treatment

The Water Treatment Process

The Commission's primary water source is the Little River in western Massachusetts, with water storage at Borden Brook and Cobble Mountain reservoirs. Back-up supplies are available through the Littleville Reservoir and the Springfield (Ludlow) Reservoir. The water supply is filtered at the West Parish Filters Water Treatment Plant, either through the 40-million-gallon-per-day (mgd) slow sand filters or the 60-mgd dual-media rapid filtration plant.

At the plant, water is filtered and treated to protect public health. The filtration process removes particles and impurities from the water. Then pH is adjusted and corrosion inhibitors are added to protect against lead and copper in home plumbing. Finally, chlorine is added for disinfection purposes, and the water flows through the distribution system for delivery to our customers.

Since 2012, the Commission has periodically performed treatment trials to optimize removal of organic matter in order to reduce disinfection by-products (DBPs) formation. These treatment trials have assisted in continued compliance with the Stage 2 Disinfection By-products (DBP) Rule. The most recent trial, which began in the fall of 2016 in half of the rapid sand filters, has shown positive results thus far. A full plant trial is currently underway.

In FY 16, the Commission completed Phase 1 of the Facilities Plan, which consisted of assessing the condition, hydraulic capacity, structural integrity, redundancy, and reliability of its assets from the Cobble Mountain Reservoir, through the West Parish Filters Water Treatment Plant, and to the Provin Mountain Finished Water Storage Tanks. Improvements based on Phase 1 findings will be implemented within the next three years. The second phase, which is expected to be complete in FY 18, consists of assessing assets in

the context of meeting and exceeding water quality and regulatory criteria as well as operational optimization. This includes a comprehensive water quality study involving water quality experts from around the country. Improvements based on Phase 2 findings will be implemented in the next three to 10 years.



View of the City of Springfield from the top of Provin Mountain Storage Tanks in Agawam

Laboratory and Regulatory

The Commission's State Certified Drinking Water Laboratory conducted approximately 50,000 water quality tests in FY 16. Water quality tests are performed daily on water entering and leaving each treatment process at the plant and throughout the Commission's distribution system. In addition, the laboratory performs bacteria testing on



Water is filtered before being tested for organics

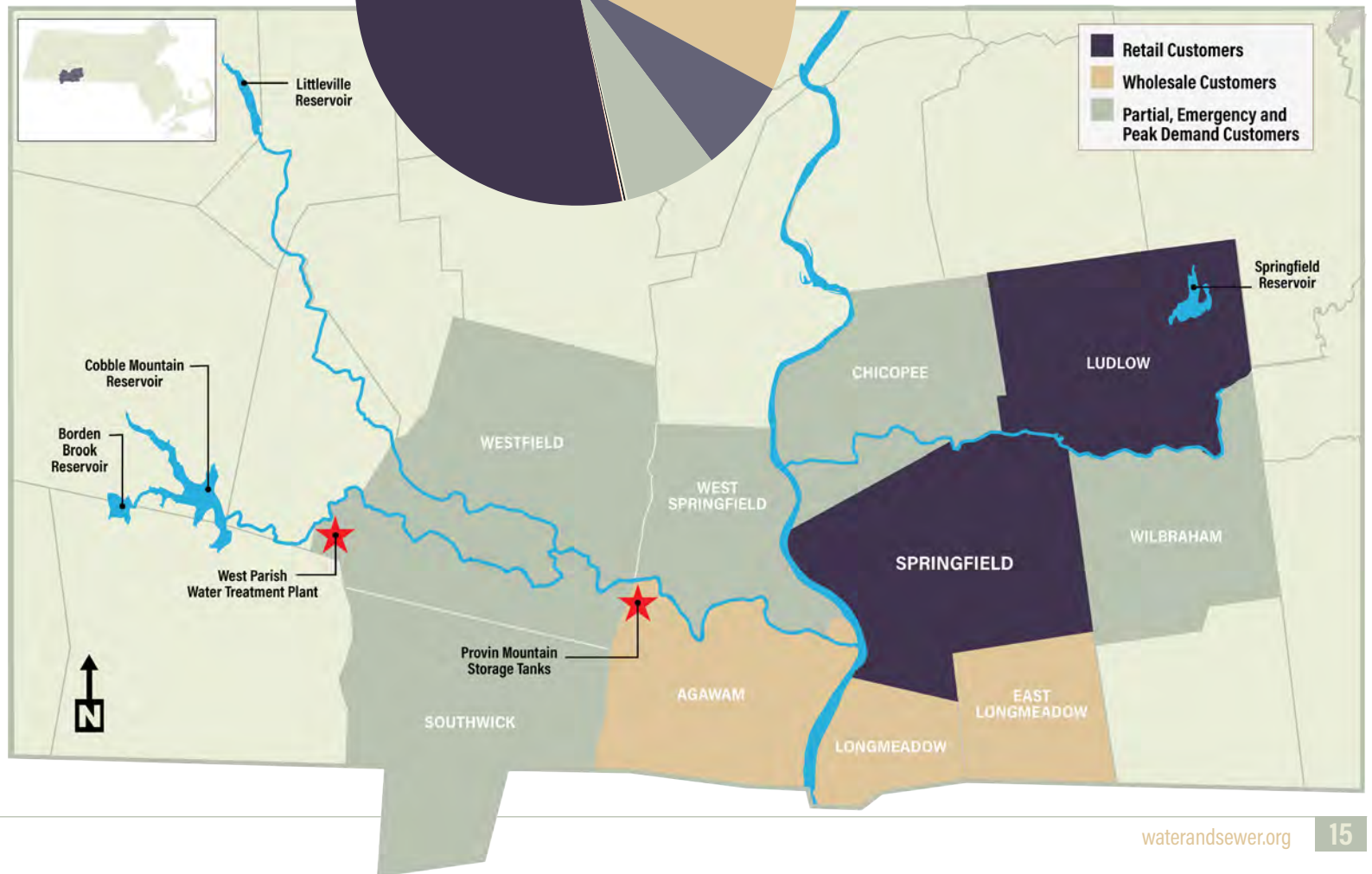
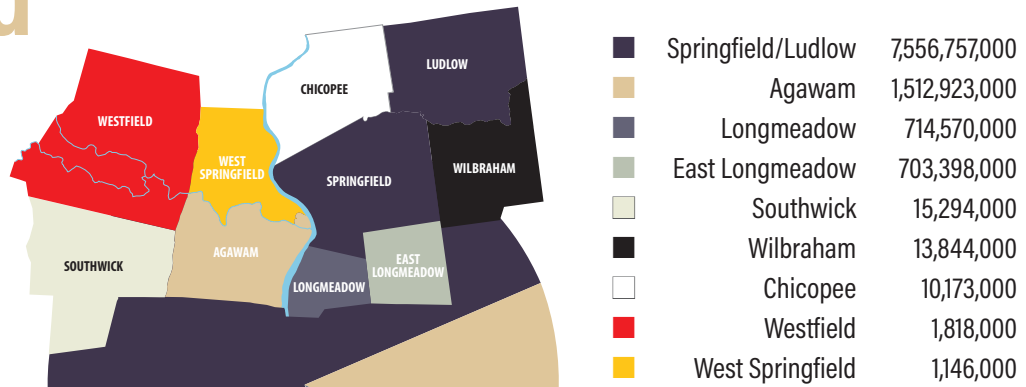
new water mains, water main extensions and replacement water main projects. The Commission is committed to protecting public health and to complying with all state and federal health standards for tap water. In 2016 these included the Total Coliform Rule, the Stage 2 Disinfectants/Disinfection By-product

Rule, and the Consumer Confidence Reporting Rule. The Commission received a Notice of Non-Compliance from MassDEP for a failure to monitor from two of 10 slow sand filters over a six-day period in December of 2015. In January of 2016, online turbidity meters in all slow sand filters began reporting turbidity to the SCADA system. The Commission has remained in Compliance since that time. The Commission also received a Notice of Non-Compliance regarding its Lead and Copper Rule (LCR) Sampling Plan for LCR samples collected in 2015. In 2016, a voluntary round of Lead and Copper monitoring was completed which confirmed that the Commission was under the Action Level for Lead and Copper. The next round of tap water sampling for the Lead and Copper Rule will occur in 2018. The laboratory continued a second round of sampling for the Long-Term Enhanced Surface Water Rule 2, which looks for a microscopic parasite called *Cryptosporidium*. During this round, which began in 2015, no *Cryptosporidium* have been found; the testing will conclude in 2017.

Water Supply and Consumption

The Commission provides retail water to the residents of Springfield and Ludlow, wholesale water to the communities of Agawam, East Longmeadow, and Longmeadow, and partial or peak service to Southwick, Westfield, and West Springfield. The Commission can also provide water on an emergency basis to Chicopee and Wilbraham.

Water Consumed in FY 16
10,529,923,000
 Total Gallons



Water Distribution System

The Commission operates and maintains the water distribution system in Springfield and Ludlow. Maintenance of distribution system infrastructure is crucial so that Commission staff may effectively isolate areas to make repairs, to ensure that hydrants will provide water reliably for fire protection, and for the health and reliability of the system as a whole.

Water Quality

The Commission's Water Quality Group (WQG) is

responsible for performing maintenance on valves and hydrants, and for the Commission's Unidirectional Flushing (UDF) Program. UDF is the process of cleaning a pipe by strategically flowing water through water mains in order to remove sediments from the pipe. This cleaning process increases water flow, improves water quality and reduces chlorine demand in the distribution system.

Key Statistics FY 16	
Retail Water Accounts	42,754
Miles of Water Pipe	595
Valves	19,148
Fire Hydrants	6,226
Gallons of Water Supplied	10.5 billion

Water Quality Statistics		
Year	FY 16	Total (since program began)
Hydrants Inspected	2,639	30,951
Hydrants Rebuilt/Repaired	779	5,841
Hydrants Painted	296	10,124
Valves Exercised	2,978	35,853
Pipe Flushed (miles)	79.4	838

Cross Connection Control

A cross connection is formed at any point where a drinking water line connects to equipment, a system containing chemicals, or water of questionable quality, and backflow may occur into the drinking water line. The Commission began a Cross Connection Control Program in 1998 in accordance with Department of Environmental Protection

guidelines in order to prevent unintended materials from entering the drinking water supply. The program requires industrial, institutional and commercial properties to have their internal plumbing surveyed for cross connection hazards as well as the installation of backflow devices where appropriate.

Cross Connection Devices	Added in 2016	Total in System
Double Check Assembly Devices	12	984
Reduced Pressure Devices	68	1,912

Water Construction

The Water Distribution System is maintained by the Water Construction Group. This group is available 24 hours a day, seven days a week to respond to and repair water main and service pipe breaks. They also replace water main pipe, perform valve and hydrant repairs and replacements, and control the Commission's Pavement Management Program.

Water Distribution System Updates	
New Hydrants	4
Replacement Hydrants	176
New Valves Installed	142
Valves Replaced	22
Water Service Repairs/Replacements	107

Water Main Breaks in FY 16			
2015		2016	
Month	# of Breaks	Month	# of Breaks
July	1	January	7
August	2	February	7
September	4	March	1
October	5	April	3
November	7	May	4
December	4	June	3
TOTAL			48

Water Main Pipe Installed in FY 16		
Location	Fort Pleasant Avenue	10.8
	Main Street	11.1
	Kenilworth Street	15.3
	Clyde Street	26.0
	White Street	27.6
	Jardine Street	29.5
	Sanderson Street	38.5
	Chestnut Street	42.0
	Lyman Street	51.1
	Boston Road	87.0
	Hancock Street	103.8
	Maple Street	136.4
	Howard Street	180.9
	Mill Street	187.8
	MGM Way	269.5
	Rifle Street	340.3
	Bliss Street	354.4
	Silvia Street	421.9
Monsanto Avenue	563.3	
Naismith Street	1,163.1	
Bondi's Island, Agawam	1,977.9	
Worthington Street	2,526.7	
Installs under 10' (not included above)	1,14.1	
Total	8,679.0	

Meters and Field Services

The Meter and Field Services group works closely with the Water Construction Group and is responsible for obtaining meter readings by collecting radio frequency data, performing meter change-outs as part of the Commission's ongoing meter maintenance program, performing water consumption surveys for residential customers, and responding to customer inquiries regarding their water service. On average, the groups fields about 700 calls per week.

Residential Water Consumption Surveys Performed	481
Primary Meters Installed/Replaced	5,107
Secondary Meters Installed/Replaced	310

Wastewater Collection System

The Commission is responsible for the operations, maintenance, and regulatory compliance of the wastewater collection system in the City of Springfield. Commission staff are available 24 hours a day, seven days a week to respond to sewer emergencies. In addition to emergency response, dedicated staff perform maintenance activities as well as upgrades and repairs to the sewer system and sewer services.

The Commission is also supported by its contract operator, SUEZ Water Environmental Services, Inc., which maintains and operates sewage and flood control pumping stations, intercepting sewers, and combined sewer overflow regulator structures.

Wastewater from Springfield and surrounding communities is conveyed to the Springfield Regional Wastewater Treatment Facility (SRWTF) located along Route 5 in Agawam.

Maintenance

The Commission provides reliable sanitary sewer service to its customers through a combination of maintenance initiatives. The most prevalent of these is the Wastewater Collection System Asset Management and Maintenance Program, which consists of cleaning, mapping, and assessing the condition of sewer pipes and assets within the system.

Cleaning - A high-pressure cleaning process is used to remove grit, fats, oils and grease, and other debris from within pipes and manholes, thereby optimizing system performance and minimizing Sanitary Sewer Overflows (SSOs) and Combined Sewer Overflows (CSOs).

Mapping - The mapping process consists of collecting GPS information on the pipes and manholes in the system and updating the Commission's Geographic Information System (GIS) accordingly. Accurate GIS mapping allows for increased efficiency of operations, maintenance, and planning functions.

Assessing - Information on the condition of pipes and assets is gathered through Closed Circuit Television (CCTV) inspections using robotic cameras, visual inspections, High Definition Television (HDTV), Sonar, and Laser profiling. This information is used to develop a prioritized list of pipes and assets that are in need of improvements as well as to refine the Annual Capital Improvement Plan and Maintenance Plan for the upcoming years.

Key Statistics FY 16	
Retail Sewer Accounts	37,230
Miles of Separated Sewer Pipe	314
Miles of Combined Sewer Pipe	145
Total Miles of Sewer Pipe	459
Combined Sewer Outfalls	23
Manholes	11,194
Pumping Stations	33

Since the program's inception, the Commission has cleaned and assessed more than 2 million feet (378 miles) of pipe in the sewer collection system. Approximately 300,000 feet of sewer pipe is cleaned, mapped, and assessed annually.

Regulatory Compliance

Pursuant to U.S. Environmental Protection Agency (USEPA) mandates, the Commission continued to advance its Capacity, Management, Operation, and Maintenance (CMOM) Program for the collection system. Reportable sanitary sewer overflows decreased from 122 in FY 08 to 15 in FY 16, an 88% decrease since the program's inception. The reduction is primarily attributed to the Wastewater Collection System Asset Management and Maintenance Program. Commission staff used the improved GIS and Asset Management programs to better track and trend problem areas which has resulted in a more effective maintenance operation.

FY 16 Collection System Statistics	
Sewer Mains Jetted by the Commission	963,578 feet
Sewer Mains Jetted by Contractors	90,514 feet
Service Connections Rodded	242
Sewer Back-up Complaints Responded To	595
Sanitary System Repairs	77
House Connection Repairs	87
Standing Mains Cleared	67
Manholes Washed and Cleaned	2,915
Cave-ins Repaired	122
Siphons Checked	252
Siphons Cleared	0

Fats, Oils and Grease (FOG) - Cease the Grease Springfield

Fats, Oils and Grease (FOG) is a leading cause of sewer backups into homes and businesses. Sewer backups occur when FOG is improperly disposed of down a sink, drain or toilet. FOG coats the inside of sewer pipes and builds up over time, eventually causing a blockage and sewer backup.

The Commission is in the sixth year of its informational outreach initiative to educate home owners, tenants, food service establishments, restaurants and the community about the proper disposal of FOG and the hazards of sewer backups.



continues on page 18

Wastewater Collection System

(continued from previous page)

The goal of *Cease the Grease Springfield* is to reduce the amount of sewer backups caused by FOG clogs. The Commission has also incorporated information on the dangers of flushing disposable wipes into its Cease the Grease Springfield educational program. In the future, the program will continue its educational outreach efforts.

Integrated Wastewater Plan

In FY 16, the Commission continued to advance projects identified in its comprehensive Integrated Wastewater Plan (IWP). The IWP balances regulatory requirements with responsible and sustainable investment in the Commission's wastewater infrastructure. Critical components of the plan include a detailed CSO alternatives analysis, a long-term Capital Improvement Plan for wastewater and water functions, and a financial capability assessment and affordability analysis that provides guidelines for implementation scheduling.

Work performed in FY 16 to support this plan included the ongoing Main Interceptor Rehabilitation and Combined Sewer Outfall Improvement Project, the initiation of a basis of design for the Connecticut River Crossing and York Street Pump Station Project, and the ongoing Collection System Asset Management and Maintenance Program.

Combined Sewer Overflows

Like many older sewer systems, some of Springfield's wastewater collection system is composed of combined sewers. Combined sewers collect and transport sanitary sewage and stormwater together in one pipe. During heavy rains, the combined sewers can fill up beyond capacity. Discharge points are built into the system so that excess flow empties into bodies of water rather than backing up into basements and spilling onto roadways. These discharge points are known as combined sewer overflows (CSOs). In 1994, the USEPA mandated that the overflow resulting from CSOs be reduced, and has since intensely regulated communities with CSOs.

Since 1998, the Commission has worked with the USEPA toward reduction, and where feasible, removal of CSOs. To date, the Commission has invested more than \$100 million in its CSO program to satisfy unfunded, federally mandated projects required through multiple USEPA Administrative Orders.

By incorporating the CSO Program into the comprehensive Integrated Wastewater Plan, the Commission will be able to better balance wastewater infrastructure needs with the dynamic nature of regulatory change. The IWP has a 40-year implementation schedule that provides for a more sustainable and financially feasible implementation.

Major Projects

Main Interceptor Rehabilitation and Combined Sewer Outfall Improvements Project

The Main Intercepting Sewer (MIS) is one of the most critical pipes in the wastewater collection system, carrying flows for more than 60% of the City of Springfield. Inspection of the MIS indicated that the pipe required immediate rehabilitation in order to continue to provide service. The project consists of rehabilitating 3,200 feet of 60- and 66-inch diameter sewer pipe and associated manholes, and work to rehabilitate and repair three Combined Sewer Outfall structures. Construction is ongoing and is expected to be complete in FY 17. The total project cost is estimated at \$23.4 million.



Liner for Main Intercepting Sewer before installation

Connecticut River Crossing and York Street Pump Station Project

In FY 16, the Commission continued with the design of a new river crossing and pump station to convey wastewater to the Springfield Regional Wastewater Treatment Facility. This multi-year project, estimated at \$82 million, will help to satisfy regulatory requirements with regard to CSO control, and will provide necessary system redundancy and improvements. Construction is expected to begin in 2018.

Wastewater Treatment

The Springfield Regional Wastewater Treatment Facility (SRWTF) treats wastewater from households, businesses, and industries within Springfield as well as the surrounding communities of Agawam, East Longmeadow, Longmeadow, Ludlow, Wilbraham, West Springfield, and part of Chicopee. After treatment, the cleaned water is discharged to the Connecticut River. The SRWTF is one of the largest wastewater treatment facilities in New England and is designed to provide secondary treatment for up to 67 million gallons of wastewater per day; in FY 16, a daily average of 36.7 million gallons (mgd) of wastewater was treated and discharged to the Connecticut River.

SUEZ Water Environmental Services, Inc.

During 2016 the SRWTF continued treatment of wastewater in compliance with all requirements of applicable regulatory permits.

SUEZ Water Environmental Services, Inc., completed the 16th year of a 20-year service agreement to operate the SRWTF and associated sewage and flood control pumping stations. The company continued its support of the Commission's capital improvement plan by overseeing upgrades to the Washburn Street Pump Station. It also managed the construction contract for replacement of key electrical components at the wastewater treatment plant.

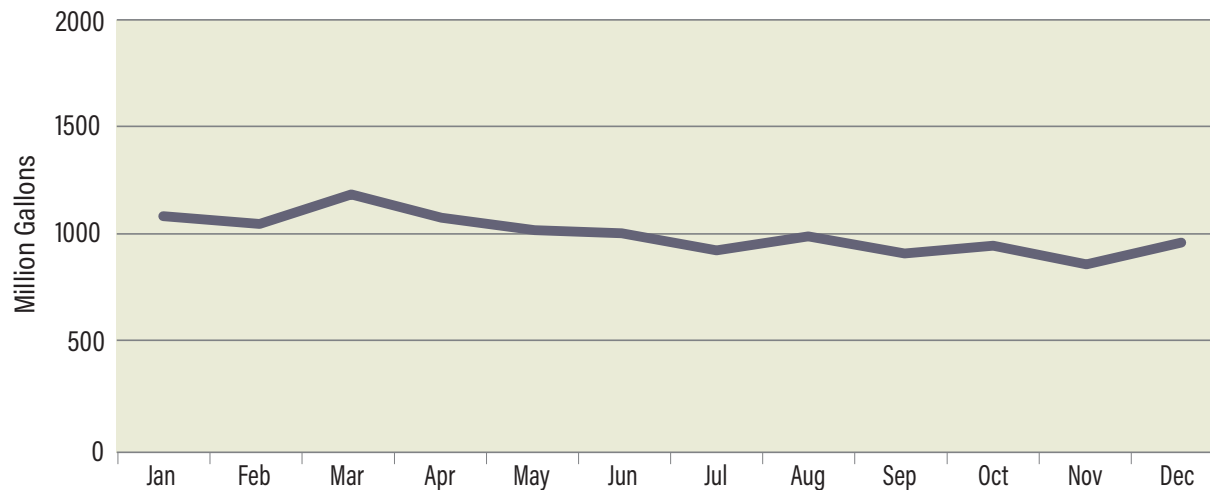


Springfield Regional Wastewater Treatment Plant

Industrial Pretreatment Program

The Industrial Pretreatment Program (IPP) establishes and enforces limits of industrial discharges to protect the collection system and treatment plant from harmful pollutants. The IPP conducts routine audits and inspections at industries to monitor compliance with the pretreatment standards.

2016 Total Monthly Wastewater Volume Treated



IPP Stats for Calendar Year 2016	
Significant Industrial Users	52
Industrial Water Discharge Permits	56
Inspections Completed	280
Wastewater Samples Collected	211
Registered Sewer Users - Wet	213
Registered Sewer Users - Dry	370

Audited Financial Statement

Fiscal Year 2016 – Audited Financial Statement
by Melanson Heath

Independent Auditor's Report

To the Commissioners, Springfield Water and Sewer Commission,
Springfield, Massachusetts

Report on the Financial Statements

We have audited the accompanying financial statements of the business-type activities and aggregate remaining fund information of the Springfield Water and Sewer Commission, as of and for the year ended June 30, 2016 and the related notes to the financial statements, which collectively comprise Springfield Water and Sewer Commission's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

The Springfield Water and Sewer Commission's management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in Government Auditing Standards, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the business-type activities and aggregate remaining fund information of the Springfield Water and Sewer Commission, as of June 30, 2016, and the respective changes in financial position and cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that Management's Discussion and Analysis and Schedules of OPEB Funding Progress, Schedule of Proportionate Share of Net Pension Liability, and Schedule of Pension Contributions be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with evidence sufficient to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Springfield Water and Sewer Commission's basic financial statements. The supplementary information appearing on page 40 is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates

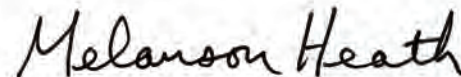
directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated in all material respects in relation to the financial statements as a whole.

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Springfield Water and Sewer Commission's basic financial statements. The introductory and statistical sections are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information has not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on it.

Other Reporting Required by Government Auditing Standards

In accordance with Government Auditing Standards, we have also issued our report dated December 8, 2016 on our consideration of the Commission's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with Government Auditing Standards in considering Commission's internal control over financial reporting and compliance.

December 8, 2016



Management Discussion and Analysis

As management of the Springfield Water and Sewer Commission, we offer readers this narrative overview and analysis of the financial activities of the Springfield Water and Sewer Commission for the fiscal year ended June 30, 2016.

A. Overview of the Financial Statements

The basic financial statements include:

- The Statement of Net Position
- The Statement of Revenues, Expenses and Changes in Fund Net Position
- The Statement of Cash Flows
- Statement of fiduciary net position
- Statement of changes in fiduciary net position
- Notes to the financial statements

This report also contains other supplementary information in addition to the basic financial statements themselves.

The statement of net position is designed to indicate our financial position as of a specific point in time. At June 30, 2016, it shows our net worth of \$126,344,667, which is comprised of \$124,851,184 invested in capital assets, \$37,694,132 restricted for other purposes, namely restricted cash and inventory, and \$(36,200,649) unrestricted.

The statement of revenues, expenses and changes in fund net position summarizes our operating results. As discussed in more detail below, our change in fund net position for the year ended June 30, 2016 was a change of \$6,168,295.

The statement of cash flows provides information about the cash receipts and cash payments during the accounting period. It also provides information about the investing and financing activities for the same period.

The statement of fiduciary net position and statement of changes in fiduciary net position account for resources held for the benefit of parties outside the Commission. In fiscal year 2016, the Commission established an other post-employment benefits trust fund and contributed \$432,253 to the fund.

The notes provide additional information that is essential to a full understanding of the data provided in the financial statements.

In addition to the basic financial statements and accompanying notes, this report also presents certain required supplementary information which is required to be disclosed by accounting principles generally accepted in the United States of America.

B. Summary of Net Position			
	Year	2016	2015
	Current Assets	\$ 106,746,813	\$ 111,035,248
	Non current Assets	2,948,216	3,057,577
	Capital Assets	<u>297,552,240</u>	<u>271,839,662</u>
	Total Assets	407,247,269	385,932,487
	Deferred Outflows	<u>84,918,426</u>	<u>69,118,436</u>
	Total Assets and Deferred Outflows	492,165,695	455,050,923
	Current Liabilities	36,521,963	16,550,112
	Non current Liabilities	<u>238,558,430</u>	<u>237,674,191</u>
	Total Liabilities	275,080,393	254,224,303
	Deferred Inflows	<u>90,740,635</u>	<u>80,751,595</u>
	Total Liabilities and Deferred Inflows	365,821,028	334,975,898
	Net Investment in Capital Assets	124,851,184	113,624,261
	Restricted - Other Purposes	37,694,132	36,368,236
	Unrestricted	<u>(36,200,649)</u>	<u>(29,816,125)</u>
	Total Net Position	<u>\$ 126,344,667</u>	<u>\$ 120,176,372</u>
	Operating Revenues	\$ 69,046,482	\$ 67,421,360
	Operating Expenses	<u>(57,973,738)</u>	<u>(54,893,356)</u>
	Operating Income	11,072,744	12,528,004
	Non-operating Revenues (Expenses)	(4,143,687)	(2,998,803)
	Special Items	<u>(328,509)</u>	<u>(2,687,059)</u>
	Increase in Net Position before Transfers	6,600,548	6,842,142
	Transfer out	<u>(432,253)</u>	<u>-</u>
	Increase in Net Position after Transfers	6,168,295	6,842,142
	Beginning Net Position	<u>120,176,372</u>	<u>113,334,230</u>
	Ending Net Position	<u>\$ 126,344,667</u>	<u>\$ 120,176,372</u>

C. Financial Highlights

The Commission ended the year with operating income of approximately \$11.1 million. The following paragraphs give an overview of the year's activities.

It has been the practice of the Commission to establish its rates and charges for water and wastewater services at levels sufficient to produce revenues adequate to defray all operation and maintenance expenses, debt service and reserve deposits projected by the Commission's Consulting Engineers and to maintain net revenues available for debt service in excess of the coverage requirements mandated by the General Bond Resolution. Until fiscal year 2010, the Commission had historically adjusted its rates and charges for water and wastewater services on a basis which stabilized rates and charges over a multi-year period. Beginning in fiscal year 2011, the Commission has adopted single-year rate schedules to more closely match revenues to expenditures.

In fiscal year 2016, there was again an increase in collection efforts and an increase in rates, and in most cases, overall usage was more than anticipated. As a result, wastewater charges revenue and fees were approximately \$740,000 more than budget. Wholesale water charges and fees were also more than budget by approximately \$1.8 million. Power generation revenues were less than estimates by approximately \$(830,000). These and other factors resulted in total operating revenue of approximately \$69 million in fiscal year 2016, approximately \$1.9 million more than budget, and \$1.6 million more than the prior year.

Operating expenses were less than budget by approximately \$1.1 million, primarily as a result of vacant positions and less overtime needed than anticipated. In addition, there was conservative budgeting for general operational expenses and decrease in workers compensation claims.

In fiscal year 2011, we implemented FASC 980, Accounting for the Effects of Certain Types of Regulation, which essentially adjusts for differences between how revenue / rates are budgeted and how they are accounted for on a Generally Accepted Accounting Principles (GAAP) basis. In the Commission's case, revenue intended to fund capital asset acquisitions is set aside, (deferred) and is recognized equal to the annual depreciation expense on those assets; depreciation expense on assets funded in other ways (such as through bonds) is removed from the income statement because those costs are not factored into the budget process; conversely, because principal debt repayment costs are funded through the budget, those costs are reflected in the income statement as a reduction to net position. The net effect of these adjustments are reported under the line "Excess revenues to fund deferrals" on the statement of revenues, expenses and changes in fund net position, which was a decrease of \$(328,509) for fiscal year 2016.

As a result of the key elements described above the activities for the year resulted in a change in net position of \$6,168,295.

D. Budgetary Highlights

The original budget was increased by \$432,253 which represents a transfer to the other post-employment trust fund. This transfer was funded by surplus.

E. Capital Asset and Debt Administration

Capital assets

Total investment in capital assets at year-end amounted to \$297,552,240 (net of accumulated depreciation), an increase of approximately \$25.7 million from the prior year. This investment in capital assets includes land, buildings and improvements, machinery and equipment, and infrastructure.

Major capital asset events during the current fiscal year included the following:

- Depreciation expense of \$(8.4 million).
- \$9.8 million in South Transmission Main project.
- \$9.9 million in Main Interceptor project.
- \$207,000 in hydrant projects.
- \$1.2 million in meter replacements.
- \$885,000 in York Street and river design projects.
- \$2.2 million in sewer main rehabilitation projects.
- Water main projects of \$450,000.
- \$780,000 in transmission system rehabilitations.
- \$4.8 million in collection system assessment and rehabilitation.
- New vehicles and equipment purchased of \$1.4 million.
- Computer software and equipment purchases of \$307,000.
- Various general building improvements of \$85,000.
- Various other projects of \$2.1 million.

Additional information on the Commission's capital assets can be found on page 30.

Long-term debt

Long-term debt. At the end of the current fiscal year, total bonded debt outstanding was \$170,821,830, all of which was backed by dedicated revenues of the Commission.

Additional information on the Commission's long-term debt can be found on page 32.

Statement of Net Position

Springfield Water and Sewer Commission

June 30, 2016

Assets: Current	
Cash	\$ 43,901,664
Restricted cash	36,067,752
Accounts receivable, net of allowance for uncollectibles	9,003,920
Intergovernmental receivable	16,872,240
Inventory, net of allowance	<u>901,237</u>
Total current assets	106,746,813
Assets: Non current	
Intergovernmental receivable, net of current portion	1,430,853
Inventory held by others	1,022,136
Health insurance deposit	495,227
Capital assets, net of accumulated depreciation	241,436,917
Land and construction in progress	<u>56,115,323</u>
Total non current assets	300,500,456
Deferred Outflows of Resources	
Non-pension related deferred outflows of resources	78,570,262
Pension related deferred outflows of resources	<u>6,348,164</u>
Total Assets and Deferred Outflows of Resources	492,165,695
Liabilities: Current	
Accounts payable	5,087,036
Accrued payroll and withholdings	260,455
Notes payable	19,621,815
Accrued interest payable	1,827,270
Current portion of loans payable	9,463,435
Current portion of capital lease payable	158,328
Current portion of accrued compensated absences	<u>103,624</u>
Total current liabilities	36,521,963

(continues at right)

(continued)

Liabilities: Non current	
Loans payable, net of current portion	161,358,395
Accrued compensated absences, net of current portion	1,214,927
Net OPEB obligation	3,425,773
Net pension liability	72,326,184
Other accrued liabilities	<u>233,151</u>
Total non current liabilities	238,558,430
Deferred Inflows of Resources	<u>90,740,635</u>
Total Liabilities and Deferred Inflows of Resources	365,821,028
Net Position	
Net investment in capital assets	124,851,184
Restricted:	
Reserve for inventory	1,923,373
Reserve for debt covenants and scholarships	35,770,759
Unrestricted	<u>(36,200,649)</u>
Total Net Position	<u>126,344,667</u>

The accompanying notes are an integral part of these financial statements.

Requests for Information

This financial report is designed to provide a general overview of the Springfield Water and Sewer Commission's finances for all those with an interest in the government's finances. Questions concerning any of the information provided in this report or requests for additional financial information should be addressed to:



Communications Manager
Springfield Water and Sewer Commission
 P.O. Box 995
 Springfield, MA 01101-0995

Statement of Revenues, Expenses and Changes in Fund Net Position

Springfield Water and Sewer Commission
for the year ended June 30, 2016

Operating Revenues	
Water and sewer usage	68,826,361
Other	<u>220,121</u>
Total Operating Revenues	69,046,482
Operating Expenses	
Salaries and wages	13,210,801
Employee benefits	10,705,918
Operations	23,210,770
Intergovernmental	557,125
Capital outlay	1,285,389
Depreciation and amortization	8,623,900
Other	<u>379,835</u>
Total Operating Expenses	57,973,738
Operating Income	11,072,744
Non-operating Revenues (Expenses)	
Interest income	15,564
Interest expense	(5,035,560)
Grant reimbursement revenue	792,512
Other	<u>83,797</u>
Total Non-operating Revenues (Expenses), Net	(4,143,687)
Excess revenues before deferral adjustments	6,929,057
Excess revenues used to fund deferrals	<u>(328,509)</u>
Change in Net Position before Transfers	6,600,548
Transfer out	<u>(432,253)</u>
Change in Net Position after Transfers	6,168,295
Net Position at Beginning of Year	<u>120,176,372</u>
Net Position at End of Year	<u>\$ 126,344,667</u>

The accompanying notes are an integral part of these financial statements.

Statement of Cash Flows

Springfield Water and Sewer Commission
for the year ended June 30, 2016

Cash Flows From Operating Activities	
Receipts from customers and users	\$ 68,211,171
Payments to vendors	(36,060,529)
Payments to employees	<u>(9,793,366)</u>
Net Cash Provided By Operating Activities	22,357,276
Cash Flows From Noncapital Financing Activities	
Intergovernmental reimbursements	263,861
Transfer to OPEB trust fund	<u>(432,253)</u>
Net Cash (Used For) Noncapital Financing Activities	(168,392)
Cash Flows From Capital and Related Financing Activities	
Acquisition and construction of capital assets	(34,137,412)
Proceeds from intergovernmental loans and grants	19,606,829
Principal payments on bonds and loans	(8,368,227)
Principal payments on capital leases	(277,714)
Payments of interest	<u>(4,993,156)</u>
Net Cash (Used For) Capital and Related Financing Activities	(28,169,680)
Cash Flows From Investing Activities	
Receipt of investment income	<u>15,564</u>
Net Change in Cash and Short-Term Investments	(5,965,232)
Cash and Short Term Investments, Beginning of Year	<u>85,934,648</u>
Cash and Short Term Investments, End of Year	<u>\$ 79,969,416</u>
Reconciliation of Operating Income to Net Cash Provided by (Used For) Operating Activities	
Operating income	\$ 11,072,744
Adjustments to reconcile operating income to net cash provided by (used for) operating activities:	
Depreciation and amortization	8,623,900
Changes in assets and liabilities:	
Accounts receivable	(835,311)
Inventory	(184,994)
Deferred outflows	(6,246,817)
Accounts payable and accrued payroll	267,223
Accrued compensated absences	(33,620)
Net OPEB obligation	826,210
Net pension liability	8,888,903
Other accrued liabilities	<u>(20,962)</u>
Net Cash Provided By Operating Activities	<u>\$ 22,357,276</u>

The accompanying notes are an integral part of these financial statements.

Statement of Fiduciary Net Position Other Post-Employment Trust Fund

Springfield Water and Sewer Commission

for the year ended June 30, 2016

Assets		
Current:	Cash	\$ 817
	Investments	445,812
	Total Assets	446,629
Net Position		
	Total net position held in trust	446,629
	Total Net Position	<u>\$ 446,629</u>

Statement of Changes in Fiduciary Net Position Other Post-Employment Trust Fund

Springfield Water and Sewer Commission

for the year ended June 30, 2016

Additions		
	Interest	\$ 14,376
	Total Additions	14,376
	Transfer in	432,253
	Change in Net Position after Transfers	446,629
	Net Position at Beginning of Year	-
	Net Position at End of Year	<u>\$ 446,629</u>

Notes to Financial Statements

1. Summary of Significant Accounting Policies

The accounting policies of the Springfield Water and Sewer Commission (the Commission) conform to generally accepted accounting principles (GAAP) as applicable to governmental units. *The following is a summary of the more significant policies:*

A. Business Entity

The Commission has the responsibility to provide water and wastewater services on a fair and equitable basis to the City of Springfield (the City) and to provide wholesale water and regional wastewater services to other participating communities.

B. Regulation and Basis of Accounting

The Springfield Water and Sewer Commission (the Commission) was created in July 1996 under Massachusetts General Laws Chapter 40N; however, the Commission did not become a separate accounting entity until July 1997. Under Massachusetts General Laws Chapter 40N, the Board of Commissioners, appointed by the Mayor of the City of Springfield, establishes policies for accounting and other matters. The Board regulates the rates that the Commission can charge its customers for water and sewer usage. The rates charged to customers are based on the cash required for the Commission's operations, debt service and reserve contributions.

To comply with the external financial reporting requirements of the Board, the accompanying financial statements are presented on a basis that is consistent with generally accepted accounting principles (GAAP) for proprietary (enterprise) funds.

To accommodate the rate-making process, the Commission follows the accounting standards set forth in Governmental Accounting Standards Board Statement No. 62 ("GASB 62"), *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*. GASB 62 allows certain board approved (a) revenues provided for future allowable costs to be deferred until the costs are actually incurred (deferred inflows) and (b) costs incurred to be capitalized if future recovery is reasonably assured (deferred outflows).

Proprietary funds distinguish operating revenues and expenses from nonoperating items. Operating revenues and expenses generally result from providing services and producing and delivering goods in connection with a proprietary fund's principal ongoing operations. The principal operating revenues of the enterprise fund are charges to customers for sales and services. Operating expenses for enterprise funds include the cost of sales and services, administrative expenses and depreciation on capital assets.

All revenues and expenses not meeting this definition are reported as nonoperating revenues and expenses.

The *other post-employment trust fund* is used to accumulate resources for health and life insurance benefits for retired employees.

C. Cash and Short-term Investments

Cash balances are invested to the extent available, and interest earnings are recognized in each fund.

For purposes of the statement of cash flows, the Commission considers investments with original maturities of three months or less to be cash equivalents. These are reflected in the following accounts reported on the statement of net position: cash and restricted cash.

D. Investments

Investments for the other post-employment benefits trust fund consist of mutual funds. Investments are carried at market value.

E. Inventory for Consumption

Gasoline and diesel fuel purchased and unused at year end is stated at cost, and materials inventory is stated on the first-in/first-out basis

F. Inventory Held by Others

Under the terms of a privatization agreement with United Water Environmental Services, Inc., the Commission transferred custody of certain inventory to United Water. The value stated was a negotiated value, which will be replaced by United Water at the expiration of the privatization contract in October 2020.

G. Capital Assets

Capital assets, which include property, plant, equipment, and infrastructure assets are defined by the Commission as assets with an initial individual cost of more than \$5,000 (for land, vehicles and equipment), \$10,000 (for buildings and improvements) and \$20,000 (for infrastructure) and an estimated useful life in excess of two years. Such assets are recorded at historical cost or estimated historical cost if purchased or constructed. Donated capital assets are recorded at estimated fair market value at the date of donation.

The costs of normal maintenance and repairs that do not add to the value of the asset or materially extend assets lives are not capitalized.

Major outlays for capital assets and improvements are capitalized as projects are constructed. Interest incurred during the construction phase of capital assets would be included as part of the capitalized value of the assets constructed.

Capital assets are depreciated using the straight-line method over the following estimated useful lives:

Assets	Years
Building Improvements	20 - 50
Water / Sewer Infrastructure	50 - 100
Vehicles	5 - 15
Office and Computer Equipment	5 - 10

H. Compensated Absences

It is the Commission's policy to permit employees to accumulate earned but unused vacation and sick pay benefits. All vested sick and vacation pay is accrued when incurred. Sick pay benefits are payable upon death or retirement, with certain limits, for all employees employed over six months.

I. Net Position

Net position represents the difference between assets/ deferred outflows and liabilities/ deferred inflows. Net investment in capital assets, consists of capital assets, net of accumulated depreciation, reduced by the outstanding balances of any borrowing used for the acquisition, construction or improvement of those assets. Net position is reported as restricted when there are limitations imposed on their use either through the enabling legislation adopted by the Commission or through external restrictions imposed by creditors, grantors, or laws or regulations of other governments. The remaining net position is reported as unrestricted.

J. Use of Estimates

The preparation of basic financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures for contingent assets and liabilities at the date of the basic financial statements, and the reported amounts of the revenues and expenditures/expenses during the fiscal year. Actual results could vary from estimates that were used.

2. Stewardship, Compliance and Accountability

Budgetary Information

At the June meeting of the Commission, the Commissioners review and approve an operating and capital budget for the proposed expenditures of the fiscal year commencing the following July 1. The original budget may be amended during the fiscal year at Commission meetings as required by changing conditions.

At year end, appropriation balances lapse, except for certain unexpended capital items which will be honored during the subsequent year.

A budget and actual comparison of operating expenditures is presented as a supplementary schedule.

3. Cash and Short-term Investments

Custodial credit risk, as defined under GASB Statement No. 40, is the risk that in the event of a bank failure, the Commission's deposits may not be returned to it. As of June 30, 2016, none of the Commission's bank balance of \$81,135,130 was exposed to custodial credit risk as uninsured, uncollateralized, and/or collateral held by the pledging bank's trust department not in the Commission's name.

Massachusetts General Law Chapter 44, Section 55 limits deposits "in a bank or trust company or banking company to an amount not exceeding sixty per cent of the capital and surplus of such bank or trust company or banking company, unless satisfactory security is given to it by such bank or trust company or banking company for such excess." The Commission's deposits are within this limitation.

4. Restricted Cash

The Commission issues debt under a General Bond Resolution which requires cash reserves to be maintained. These reserves are reported as restricted cash.

The reserves include an Operating Reserve Fund (equal to 1/6 of the Commission's annual operating budget), a Renewal/Replacement Fund (\$1 million), a Debt Service Fund (equal to principal and interest, payable on an accrual basis at June 30), and a Debt Service Reserve Fund (equal to the highest principal and interest due in any subsequent year). In addition, the Bond Resolution establishes several other reserves which may be activated in future years.

The restricted cash balance reported in the financial statements is comprised of the following at June 30, 2016:

Reserve Funds	
Operating Reserve Fund	\$ 7,822,312
Renewal/Replacement Fund	1,000,000
Debt Service Fund	14,071,895
Debt Service Reserve Fund	12,794,683
Other Funds	
Project Accounts	296,993
Scholarship Trust Fund	81,869
Total	\$ 36,067,752

5. Investments

A. Credit Risk

Generally, credit risk is the risk that an issuer of an investment will not fulfill its obligation to the holder of the investment. For short-term investments that were purchased using surplus revenues, Massachusetts General Law, Chapter 44, Section 55, limits the Commission's investments to the top rating issued by at least one nationally recognized statistical rating organization (NRSROs).

All of the Commission's investments are in mutual funds, which are exempt from credit risk.

B. Custodial Credit Risk

The custodial credit risk for investments is the risk that, in the event of the failure of the counterparty (e.g., broker-dealer) to a transaction, a government will not be able to recover the value of its investment or collateral securities that are in the possession of another party. The Commission does not have a policy for custodial credit risk.

The Commission's investments are subject to custodial credit risk exposure because the related securities are uninsured, unregistered, and/or held by the Commission's brokerage firm, which is also the Counterparty to these securities. The Commission manages this custodial credit risk with SIPC and excess SIPC.

C. Concentration of Credit Risk

The Commission places no limit on the amount that may be invested in any one issuer. There are no investments in any one issuer other mutual funds.

D. Interest Rate Risk

Interest rate risk is the risk that changes in market interest rates will adversely affect the fair value of an investment. Generally, the longer the maturity of an investment, the greater the sensitivity of its fair value to changes in market interest rates. The Commission does not have a formal investment policy that limits investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates.

All of the Commission's investments are in mutual funds, which are exempt from interest rate risk.

E. Foreign Currency Risk

Foreign currency risk is the risk that changes in foreign exchange rates will adversely affect the fair value of an investment. The Commission does not have a policy for foreign currency risk.

F. Fair Value

The Commission categorizes its fair value measurements within the fair value hierarchy established by Governmental Accounting Standards Board Statement No. 72 Fair Value Measurement and Application (GASB 72). The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

As of June 30, 2016 all of the Commission's investments in mutual funds are considered Level 1.

6. Accounts Receivable

Accounts receivable consist of the following at June 30, 2016:

Customer Accounts	
Billed water, sewer and wastewater regional	\$ 4,249,281
Less: allowances	<u>(576,305)</u>
Total billed	3,672,976
Unbilled water (including power generation and sewer)	5,504,504
Adjustment to wastewater regional and sewer pump station for actual usage through June 30, 2016	<u>(173,560)</u>
Total customer accounts	<u>\$ 9,003,920</u>

7. Intergovernmental Receivables

The balance in this account represents the following:

	Current	Non Current
Massachusetts Clean Water Trust loan funds not yet requested (or expended on project costs) as of June 30, 2016. These funds are expected to be drawn down as project costs are incurred in fiscal year 2017.	\$ 16,237,879	\$ -
Amount due from the Pioneer Valley Planning Commission for grant expenditures incurred in fiscal year 2016.	525,000	-
Amount due from Town of Wilbraham under an agreement signed in June 2007, whereby the Town agrees to reimburse the Commission a portion of the costs/debt incurred to enable the Town to enter the sewage disposal system. Future amounts to be paid by the Town are anticipated to coincide with certain debt issued by the Commission, which mature in fiscal years 2026 through 2038.	<u>109,361</u>	<u>1,430,853</u>
Total Balance June 30, 2016	<u>\$ 16,872,240</u>	<u>\$ 1,430,853</u>

8. Inventory for Consumption

This inventory balance at June 30, 2016 consists of the following:

Consumables	
Fuel inventory (gasoline and diesel)	\$ 47,455
Materials inventory (parts and supplies)	987,967
Less adjustment for obsolete and slow moving materials inventory	<u>(134,185)</u>
Total	<u>\$ 901,237</u>

9. Health Insurance Deposit

The Commission participates in the Hampshire County Group Insurance Trust (the Trust) to provide health insurance coverage to its employees. When the Commission joined the Trust, they were required to place on deposit the equivalent of three months (estimated) claims expense. This deposit reserve affords the Commission voting rights in the Trust and would only be used to fund the residual claims in the event the Commission withdraws from the Trust.

10. Capital Assets

Capital asset activity for the year ended June 30, 2016 was as follows (in thousands):

	Beginning Balance	Increases	Decreases	Convert to Capital Assets	Ending Balance
Capital assets, being depreciated					
Furniture and fixtures	\$ 8,070	\$ -	\$(10)	\$ 1,539	\$ 9,599
Vehicles and equipment	9,562	-	(465)	547	9,644
Buildings and improvements	8,754	-	-	135	8,889
Infrastructure	<u>328,610</u>	<u>-</u>	<u>-</u>	<u>35,959</u>	<u>364,569</u>
Total capital assets, being depreciated	354,996	-	(475)	38,180	392,701
Less accumulated depreciation for					
Furniture and fixtures	(4,529)	(734)	10	-	(5,253)
Vehicles and equipment	(7,104)	(939)	465	-	(7,578)
Buildings and improvements	(1,807)	(305)	-	-	(2,112)
Infrastructure	<u>(129,874)</u>	<u>(6,447)</u>	<u>-</u>	<u>-</u>	<u>(136,321)</u>
Total accumulated depreciation	(143,314)	(8,425)	475	-	(151,264)
Total capital assets, being depreciated, Net	211,682	(8,425)	-	38,180	241,437
Capital assets, not being depreciated					
Land	5,421	-	-	230	5,651
Construction in progress	<u>54,737</u>	<u>34,137</u>	<u>-</u>	<u>(38,410)</u>	<u>50,464</u>
Total capital assets, not being depreciated	60,158	34,137	-	(38,180)	56,115
Capital assets, Net	\$ 271,840	\$ 25,712	\$ -	\$ -	\$ 297,552

11. Deferred Outflows and Inflows

To accommodate the rate-making process, the Commission follows the accounting standards set forth in Financial Accounting Standards Codification Section 980 (FASC 980), *Accounting for the Effects of Certain Types of Regulation*. FASC 980 allows certain board approved (a) revenues provided for future allowable costs to be deferred until the costs are actually incurred (deferred credits) and (b) costs incurred to be capitalized if future recovery is reasonably assured (deferred charges).

Deferred Outflows

Deferred outflows of resources represent the consumption of net position by the Commission that is applicable to future reporting periods. Deferred outflows of resources have a positive effect on net position, similar to assets.

The following is a summary of deferred outflow of resources balances as of June 30, 2016:

Non-pension related	
Unamortized refunding of debt	\$ 842,634
Deferred charges	<u>77,727,628</u>
Total Non-Pension Related	78,570,262
Pension related	
Difference between expected and actual experience	883,480
Changes of assumptions	3,837,008
Net difference between projected and actual pension plan investment earnings	1,539,077
Changes in proportion and differences between contributions and proportionate share of contributions	<u>88,599</u>
Total Pension Related	6,348,164
Total Deferred Outflows	\$ 84,918,426

Deferred charges consist of costs incurred to privatize and upgrade the wastewater regional plant facility, accrued sick, vacation and other compensated absences, accrued workers compensation costs, net OPEB obligation, and net pension liability. The privatization costs will be funded through adjustments to regional wastewater member town assessments over the life of the privatization contract, which ends in fiscal year 2021. Other costs will be recovered through future rates or matched against credits related to the specific costs in the future.

Deferred Inflows

Deferred inflows of resources are the acquisition of net position by the Springfield Water and Sewer Commission that are applicable to future reporting periods. Deferred inflows of resources have a negative effect on net position, similar to liabilities.

Deferred inflows consists of the balance of deferred credits.

Amounts raised through rates specifically earmarked for capital improvements and debt repayment are recorded as deferred credits and will be reversed through the statement of revenues, expenses and changes in fund net position over the depreciable life of the asset and related debt repayment.

The application of FASC 980 results in certain revenues and expenses being removed from the statement of revenues, expenses and changes in fund net position and reflected in the statement of net position as deferred outflows or deferred inflows. The revenues and expenses that have been removed from the statement of revenues, expenses and changes in fund net position and added to the statement of net position appear in the line "Excess revenues used to fund deferrals" on the statement of revenues, expenses and changes in fund net position. The detail of changes to and components of these amounts are as follows:

	06/30/15	Increase (Decrease)	06/30/16
Deferred Charges			
Accrued workers compensation	\$266,771	\$ (33,620)	\$ 233,151
Accrued compensated absences	1,339,513	(20,962)	1,318,551
Net OPEB obligation	2,599,563	826,210	3,425,773
Net pension liability	63,437,281	8,888,903	72,326,184
Privatization costs	<u>523,728</u>	<u>(99,759)</u>	<u>423,969</u>
Total Deferred Charges	<u>\$ 68,166,856</u>	<u>\$ 9,560,772</u>	<u>\$ 77,727,628</u>
Deferred Credits			
Capital improvements, net of depreciation	\$ 32,828,457	\$ 1,947,231	\$34,775,688
Principal debt payments	47,427,911	8,041,809	55,469,720
Group insurance deposit	<u>495,227</u>	<u>-</u>	<u>495,227</u>
Total Deferred Credits	<u>\$ 80,751,595</u>	<u>\$ 9,989,040</u>	<u>\$ 90,740,635</u>
Net change for year		(428,268)	
Less privatization costs included in amortization expense		<u>99,759</u>	
Excess revenues used to fund deferrals		<u>\$ (328,509)</u>	

12. Notes Payable

During fiscal year 2016 the Commission drew \$19,621,815 against an interim loan agreement with the Massachusetts Clean Water Trust (MCWT) for the main interceptor project. The interim loan carries an interest rate of .09% and is scheduled to be converted to a permanent loan in early 2017. The original loan amount of \$23,476,251, has been adjusted twice and as of September 2016 the total loan award is \$23,475,000, of which \$526,813 will be forgiven (converted to a grant) by MCWT.

13. Capital Lease Obligations

The Commission is the lessee of certain equipment under capital leases expiring in fiscal year 2017. Future minimum lease payments under the capital leases consisted of the following as of June 30, 2016:

	2017	<u>\$ 160,270</u>
Total minimum lease payments		160,270
Less amounts representing interest		<u>(1,942)</u>
Present Value of Minimum Lease Payments		<u>\$ 158,328</u>

14. Long-term Debt

A. Revenue Bonds

Certain debt issued after separating from the City has been issued as Revenue Bonds. Under the terms of these loans, all operating revenues of the Commission are deposited in a dedicated operating reserve account and from which prescribed reserves are established

(see restricted cash footnote). In addition, all bond proceeds have been deposited in separate project accounts that are under the lender's controls. These project accounts may be accessed only to fund project-related costs.

A summary of the long-term debt outstanding as of June 30, 2016:

	Serial Maturities Through	Interest Rate(s) %	Loan Balance Outstanding 6/30/16	Bond Premium Amortization	Total Balance 6/30/16
Sewer (MCWT 94-24 / 95-07 / 98-133)	08/01/20	1.00 – 2.75	1,997,836	–	1,997,836
Sewer (United Water)	10/01/20	Various	399,872	–	399,872
Revenue bonds (refunding)	11/01/21	4.0 – 5.0	4,560,000	–	4,560,000
Sewer CSO (MCWT CW-01-39)	08/01/22	1.00 – 2.75	1,444,874	–	1,444,874
Revenue bonds	07/15/26	4.25 – 5.0	885,000	–	885,000
Revenue bonds	07/15/26	3.0 – 5.0	14,845,000	2,615,491	17,460,491
Revenue bonds	10/15/28	4.0 – 5.75	10,455,000	28,225	10,483,225
Sewer CSO (MCWT CW-08-36)	07/15/30	2.00	7,660,454	–	7,660,454
Revenue bonds	11/15/30	3.0 – 5.0	20,475,000	1,636,793	22,111,793
Sewer CSO (MCWT CW-08-36-A)	07/15/32	2.00	5,376,405	–	5,376,405
Sewer CSO (MCWT CW-10-06)	07/15/32	2.00	1,503,175	–	1,503,175
Sewer CSO (MCWT CW-11-01)	07/15/32	2.00	5,607,387	–	5,607,387
Sewer CSO (MCWT CW-11-22)	01/15/33	2.00	1,374,264	–	1,374,264
Revenue bonds	07/15/34	3.0 – 5.0	24,765,000	1,398,400	26,163,400
Sewer CSO (MCWT CW-12-03)	01/15/35	2.00	18,865,253	–	18,865,253
Sewer CSO (MCWT CW-13-16)	01/15/35	2.00	21,645,275	–	21,645,275
Sewer CSO (MCWT CW-06-27)	07/15/37	2.00	23,283,126	–	23,283,126
Total Long-Term Debt			\$ 165,142,921	\$ 5,678,909	\$ 170,821,830

B. Future Debt Service

The annual payments to retire all general obligation long-term debt outstanding (including bond premium amortization) as of June 30, 2016 are as follows:

	Principal	Interest	Total
2017	\$ 9,463,435	\$ 5,254,197	\$ 14,717,632
2018	9,698,336	5,000,988	14,699,324
2019	9,919,833	4,708,471	14,628,304
2020	10,183,450	4,389,736	14,573,186
2021	10,373,376	3,998,340	14,371,716
2022 - 2026	48,329,726	14,725,182	63,054,908
2027 - 2031	43,478,134	6,964,009	50,442,143
Thereafter	<u>29,375,540</u>	<u>1,939,809</u>	<u>3 1,315,349</u>
Total	<u>\$ 170,821,830</u>	<u>\$ 46,980,732</u>	<u>\$ 217,802,562</u>

C. Long-term Debt Activity

2016 summary of activity in long-term obligations:

	Balance 07/01/15	Increase	Decrease	Balance 06/30/16	Less Current Portion	Equals Long -Term Portion
Long-Term Debt (in thousands)						
Loans Payable	\$ 179,270	\$ -	\$ (8,448)	\$ 170,822	\$ (9,464)	\$ 161,358
Other						
Capital lease payable	436	-	(278)	158	(158)	-
Accrued compensated absences	1,339	189	(209)	1,319	(104)	1,215
Net OPEB obligation	2,600	826	-	3,426	-	3,426
Net pension liability	63,438	8,888	-	72,326	-	72,326
Accrued workers compensation	<u>267</u>	<u>-</u>	<u>(34)</u>	<u>233</u>	<u>-</u>	<u>233</u>
Total	<u>\$ 247,350</u>	<u>\$ 9,903</u>	<u>\$ (8,969)</u>	<u>\$ 248,284</u>	<u>\$ (9,726)</u>	<u>\$ 238,558</u>

D. Bond Covenants

The Commission's General Bond Resolution contains various restrictive covenants including, among other things, restrictions on incurring both short-term and long term debt in certain circumstances and restrictions on selling, mortgaging, leasing or otherwise disposing of any part of the system. The Bond Resolution requires the Commission to establish water and sewer rates at least sufficient to pay current expenses, pay principal and interest of indebtedness, create and maintain reserves required by bond resolutions, and pay the cost of all necessary repairs, replacements, and renewals of the system. They also require certain accounts to be established and maintained (Note 4), the balances of which are restricted to various operating, debt service, capital expenditure, and renewal and replacement purposes. The Commission has pledged all cash accounts and revenues as collateral for the debt.

In addition the Commission is required to comply with certain bond covenants which require that "net revenues" as defined in the General Resolution, for each fiscal year shall equal at least 125% of the Debt Service Requirement.

The Commission was in compliance with all bond covenants for the year ended June 30, 2016.

E. Advance Refunding

On October 24, 2014 the Commission issued refunding revenue bonds in the amount of \$15,245,000 (interest rate ranging from 3% - 5%), to advance refund \$5,180,000 of 2003 bonds with an interest rate of 4% and \$11,605,000 of 2006 bonds with an interest rate of 5%. The 2003 and 2006 bonds mature on July 1, 2023 and July 15, 2026 and are redeemable July 1, 2013 and July 15, 2016, respectively. The refunding bonds were issued at 119% and, after paying issuance costs of \$167,437, the net proceeds were \$17,996,683. The net proceeds were used to purchase U.S. government securities and those securities were deposited in an irrevocable trust with an escrow agent to provide debt service payments until the 2003 and 2006 bonds are called on November 24, 2014 and July 15, 2016, respectively. The advance refunding met the requirements of an in-substance debt defeasance and the refunded bonds were removed from the Commission's financial statements.

As a result of the advance refunding, the Commission reduced its total debt service cash flow requirements by \$2,408,285 which resulted in an economic gain (difference between the present value of the debt service payments on the old and new debt) of \$2,193,000.

Defeased debt still outstanding at June 30, 2016 is \$11,605,000.

15. Restricted Net Position

The balance in restricted net position of \$37,694,132 represents the restricted cash balance for required reserves and scholarships of \$35,770,759 and the total value of inventory of \$1,923,373.

16. Commitments and Contingencies

Grants – Amounts received or receivable from grantor agencies are subject to audit and adjustment by grantor agencies, principally the federal government. Any disallowed claims, including amounts already collected, may constitute a liability of the applicable funds. The amount of expenditures which may be disallowed by the grantor cannot be determined at this time, although the Commission expects such amounts, if any, to be immaterial.

Outstanding Legal Issue – There is a pending legal issue in which the Commission is involved. The amount of the claim is material to the Commission's financial statements; however, the outcome cannot be determined at this time. As a result, no liability has been recorded in the Commission's financial statements.

Sewer Overflow – In September of 2014 the Commission was issued Administrative Order Docket No. 14-007 (AO) by the United States Environmental Protection Agency (USEPA). The AO details acceptance of the Commission's comprehensive Integrated Wastewater Plan (IWP) that addresses all wastewater infrastructure as it relates to operation and maintenance, sustainable renewal, and regulatory compliance. The AO specifically required the submittal of a work plan for the Phase 2 York Street Pump Station and River Crossing CSO Project by December 31, 2014 which was completed and submitted on time. The AO further requires completion of the project by December 31, 2020. The Commission has contracted with engineers and has begun the design of this project and anticipates project completion pursuant to the December 31, 2020 requirement. The Commission is also required to and intends to provide a work plan for the Phase 3 Locust Transfer Structure and Flow Optimization of the Mill River CSO Project by December 31, 2019. Additionally, the Commission has initiated other projects identified in the IWP but not identified in the AO. These projects include annual system renewal projects as well as the Main Intercepting Sewer Rehabilitation and CSO Outfall Improvements Project. Both projects address needs based on prioritization of risk and other key factors utilizing the Commission's asset management system.

Workers Compensation Liability – The financial statements include an estimate of future benefit costs/settlements for employees currently receiving workers compensation benefits.

Self-Insurance – The Commission participates in the Hampshire County Group Insurance Trust to provide health insurance coverage to its employees. The Trust is funded by member assessments, which are calculated in a manner similar to commercial insurance premiums. As of June 30, 2016 the Trust contracted with an insurance carrier for excess liability coverage which takes effect when an individual claim exceeds \$250,000.

If the Trust were to experience a cash deficit, each member would be required to contribute additional funds. At June 30, 2016, according to the Trust's unaudited financial statements, after accruing an estimated liability for incurred but unreported claims of approximately \$3.7 million, the Trust was in a surplus position of approximately \$20.5 million.

17. Post Employment Health Care and Life Insurance Benefits

GASB Statement 45, Accounting and Financial Reporting by Employers for Post-Employment Benefits Other Than Pensions, requires governments to account for other post-employment benefits (OPEB), primarily healthcare, on an accrual basis rather than on a pay-as-you-go basis. The effect is the recognition of an actuarially required contribution as an expense on the statement of activities when a future retiree earns their post-employment benefits, rather than when they use their post-employment benefit. To the extent that an entity does not fund their actuarially required contribution, a post-employment benefit liability is recognized on the statement of net position over time.

A. Plan Description

In addition to providing the pension benefits described in Note 18, the Commission provides post-employment healthcare benefits for retired employees through the City of Springfield's plan administered through the Group Insurance Commission (GIC). The GIC is a quasi-independent state agency that administers an agent multi-employer defined benefit OPEB plan. As of December 31, 2015, the actuarial valuation date, approximately 172 retirees and 234 active employees meet the eligibility requirements. The plan does not issue a separate financial report.

B. Benefits Provided

The Commission provides medical and prescription drug coverage to retirees and their covered dependents. All active employees who retire from the Commission and meet the eligibility criteria will receive these benefits.

C. Funding Policy

Retirees contribute 25% of the cost of the health plan, as determined by the Commission. The Commission contributes the remainder of the health plan costs on a pay-as-you-go basis.

D. Annual OPEB Costs and Net OPEB Obligation

The Commission's fiscal 2016 annual OPEB expense is calculated based on the annual required contribution of the employer (ARC), an amount actuarially determined in accordance with the parameters of GASB Statement No. 45. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover the normal cost per year and amortize the unfunded actuarial liability over a period of thirty years. The following table shows the components of the Commission's annual OPEB cost for the year ending June 30, 2016, the amount actually contributed to the plan, and the change in the Commission's net OPEB obligation based on an actuarial valuation as of December 31, 2015 (in thousands):

Annual Required Contribution (ARC)	\$ 1,639
Interest on net OPEB obligation	123
Adjustment to ARC	<u>(98)</u>
Annual OPEB cost	1,664
Contributions made	<u>(838)</u>
Increase in net OPEB obligation	826
Beginning of year net OPEB obligation	<u>2,600</u>
End of year net OPEB obligation	<u>\$ 3,426</u>

The Commission's annual OPEB cost, the percentage of annual OPEB cost contributed to the plan, and the net OPEB obligation were as follows:

Fiscal Year Ended	Annual OPEB Cost	% of OPEB Cost Contributed	Net OPEB Obligation
2016	\$1,664	50%	\$3,426
2015	\$1,593	16%	\$2,600
2014	\$1,494	16%	\$1,261

E. Funding Status and Funding Progress

The funded status of the plan as of December 31, 2015, the date of the most recent actuarial valuation was as follows (in thousands):

Actuarial accrued liability (AAL)	\$ 17,343
Actuarial value of plan assets	(429)
Unfunded actuarial accrued liability (UAAL)	<u>\$ 16,914</u>
Funded ratio (actuarial value of plan assets/AAL)	<u>2.54%</u>
Covered payroll (active plan members)	N/A
UAAL as a percentage of covered payroll	N/A

Actuarial valuations of an ongoing plan involve estimates of the value of reported amount and assumptions about the probability of occurrence of events far into the future. Examples included assumptions about future employment, mortality, and the healthcare cost trend. Amounts determined regarding the funded status of the plan and the annual required contributions of the employer are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The schedule of OPEB funding progress, presented as required supplementary information following the notes to the financial statements, presents multiyear trend information that shows whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

In August 2015, the Commission voted to establish an OPEB trust fund under Massachusetts General Law Chapter 32B, Section 20. The balance in the trust fund is \$446,629 as of June 30, 2016.

F. Actuarial Methods and Assumptions

Projections of benefits for financial reporting purposes are based on the plan as understood by the Commission and the plan members and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the Commission and plan members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

In the December 31, 2015 actuarial valuation the projected unit credit cost method was used. The actuarial assumptions included a 4.75% investment rate of return and an initial annual healthcare cost trend rate of 6%, which decreases to a 5% long-term rate for all healthcare benefits after ten years. The amortization costs for the initial UAAL is a level percentage of payroll for a period of 30 years, on a closed basis. This has been calculated assuming the amortization payment increases at a rate of 4%.

18. Springfield Contributory Retirement System

The Commission follows the provisions of GASB Statement No. 68, Accounting and Financial Reporting for Pensions – *an amendment of GASB Statement No. 27*, with respect to the employees' retirement funds.

A. Plan Description

Substantially all full time employees participate in the City of Springfield Contributory Retirement System (the System), a cost-sharing, multiple-employer, defined benefit pension plan administered by the City of Springfield Retirement Board. The pension plan provides pension benefits, deferred allowances, and death and disability benefits. Chapter 32 of the Massachusetts General Laws establishes the authority of the System, contribution percentages and benefits paid. The System Retirement Board does not have the authority to amend benefit provisions. The System issues a publicly available financial report which can be obtained through the City of Springfield Retirement System, 70 Tapley Street, Springfield MA 01104.

Participant Retirement Benefits

The System provides for retirement allowance benefits up to a maximum of 80% of a member's highest three-year average annual rate of regular compensation for those hired prior to April 2, 2012 and the highest five-year average annual rate of regular compensation for those first becoming members of the Massachusetts System on or after that date. However, per Chapter 176 of the Acts of 2011, for members who retire on or after April 2, 2012, if in the 5 years of creditable service immediately preceding retirement, the difference in the annual rate of regular compensation between any 2 consecutive years exceeds 100 percent, the normal yearly amount of the retirement allowance shall be based on the average annual rate of regular compensation received by the member during the period of 5 consecutive years preceding retirement. Benefit payments are based upon a member's age, length of creditable service, level of compensation and group classification.

A retirement allowance may be received at any age, upon attaining 20 years of service. The plan also provides for retirement at age 55 if the participant was a member prior to January 1, 1978, with no minimum vesting requirements. If the participant was a member on or after January 1, 1978 and a member of Groups 1 or 2, then a retirement allowance may be received if the participant (1) has at least 10 years of creditable service, (2) is age 55, (3) voluntarily left City employment on or after that date, and (4) left accumulated annuity deductions in the fund. Members of Group 4, have no minimum vesting requirements, however, must be at least age 55. Groups 2 and 4 require that participants perform the duties of the Group position for at least 12 months immediately prior to retirement.

A participant who became a member on or after April 2, 2012 is eligible for a retirement allowance upon 10 years creditable service and reaching ages 60 or 55 for Groups 1 and 2, respectively. Participants in Group 4 must be at least age 55. Groups 2 and 4 require that participants perform the duties of the Group position for at least 12 months immediately prior to retirement.

A retirement allowance consists of two parts: an annuity and a pension. A member's accumulated total deductions and a portion of the interest they generate constitute the annuity. The difference between the total retirement allowance and the annuity is the pension. The average retirement benefit is approximately 80-85% pension and 15-20% annuity.

Participant Contributions

Participants contribute a set percentage of their gross regular compensation annually. Employee contribution percentages are specified in Chapter 32 of the Massachusetts General Laws. The employee's individual contribution percentage is determined by their date of entry into the system. In addition, all employees hired on or after January 1, 1979 contribute an additional 2% on all gross regular compensation over the rate of \$30,000 per year. The percentages are as follows:

Before 01/01/75	5%
01/01/75 - 12/31/83	7%
01/01/84 - 06/30/96	8%
Beginning 07/01/96	9%

For those members entering a Massachusetts System on or after April 2, 2012 in Group 1, the contribution rate will be reduced to 6% when at least 30 years of creditable service has been attained.

Participant Refunds

Employees who resign from service and who are not eligible to receive a retirement allowance are entitled to request a refund of their accumulated total deductions. Members voluntarily withdrawing with at least 10 years of service or involuntarily withdrawing, receive 100% of the regular interest that has accrued on those accumulated total deductions. Members voluntarily withdrawing with less than 10 years of service get credited interest each year at a rate of 3%.

Employer Contributions

Employers are required to contribute at actuarially determined rates as accepted by the Public Employee Retirement Administration Commission (PERAC).

The Commission's contribution to the System for the year ended June 30, 2016 was \$4,143,409, which was equal to its annual required contribution.

B. Summary of Significant Accounting Policies

For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the System and additions to/deductions from System's

fiduciary net position have been determined on the same basis as they are reported by System. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with benefit terms. Investments are reported at fair value.

C. Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

At June 30, 2016, the Commission reported a liability of \$72,326,184 for its proportionate share of the net pension liability. The net pension liability was measured as of December 31, 2015, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of January 1, 2016. The Commission's proportion of the net pension liability was based on a projection of the Commission's long-term share of contributions to the pension plan relative to the projected contributions of all participating employers, actuarially determined. At June 30, 2016, the Commission's proportion was 8.685 percent, which was an increase of 0.015 from its proportion measured as of June 30, 2015.

For the year ended June 30, 2016, the Commission recognized pension expense of \$6,764,398. In addition, the Commission reported deferred outflows of resources related to pensions from the following sources (in thousands):

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows (in thousands):

Year ended June 30	
2017	\$ 1,460
2018	1,460
2019	1,461
2020	1,435
2021	<u>532</u>
Total	<u>\$ 6,348</u>

	Deferred Outflows of Resources
Differences between expected and actual experience	\$ 884
Changes of assumptions	3,837
Net difference between projected and actual earnings on pension plan investments	1,539
Changes in proportion and differences between contributions share of contributions and proportionate	<u>88</u>
Total	<u>\$ 6,348</u>

Changes of assumptions

Investment rate of return was reduced from 7.75% in 2014 to 7.65% in 2016 to more closely mirror a new 30 year study. This had the effect of increasing the total actuarial liability by \$24.2 million.

The ultimate rates for salary increases were between 4.25 – 4.75%, which is higher than the estimate of 4.0% used in the 2014 valuation. This had the effect of increasing the total actuarial liability by \$6 million.

While the mortality tables did not change, the Scale was changed from AA to BB, along with other modifications to how the tables were used, to better reflect a general improvement in mortality. This had the effect of increasing the total pension liability by \$23.8 million.

The provisions of Chapter 176 changed MGL Chapter 32 in several ways, including increasing normal retirement age from 65 to 67 and increasing the number of years for determining average compensation from 3 to 5 years. Since these changes affect members hired after April 1, 2012, the impact is more long-term, although in 2016 the effect was to reduce the total pension liability by \$2.6 million.

D. Actuarial Assumptions

The total pension liability in the January 1, 2016 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	Not explicitly assumed
Salary increases	4.25 – 4.75% per year
Investment rate of return	7.65%

Pre-retirement mortality rates reflect the RP-2000 employees table projected generationally with Scale BB and a base year of 2009 (gender distinct). Post-retirement mortality rates reflect the RP-2000 healthy annuitant table projected generationally with scale BB and the base year of 2009 (gender distinct). For disabled retirees, the rates reflect the RP-2000 health annuitant table projected generationally with scale BB and a base year of 2012 (gender distinct).

The actuarial assumptions used in the January 1, 2016 valuation were based on the results of the most recent actuarial experience study, which was for the period ending December 31, 2015.

The long-term expected rate of return on pension plan investments was selected from a best estimate range determined using the building block approach. Under this method, an expected future real return range (expected returns, net of pension plan investment expense and inflation) is calculated separately for each asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return net of investment expenses by the target asset allocation percentage and by adding expected inflation. The target allocation and best estimates of arithmetic real rates of return for each major class are summarized in the table on the following page.

Asset Class	Target Asset Allocation	Long-term Expected Real Rate of Return
Large Cap Equities	14.50%	7.50%
Small/Mid Cap Equities	3.50%	7.75%
International Equities (Unhedged)	16.00%	8.00%
Emerging International Equities	6.00%	9.50%
High-Yield Bonds	1.50%	6.00%
Bank Loans	1.50%	6.00%
EMD (External)	1.00%	6.00%
EMD (Local Currency)	2.00%	6.50%
TIPS	3.00%	4.00%
Long Treasuries	10.00%	3.50%
Private Equity	10.00%	9.50%
Private Debt	4.00%	8.00%
Real Estate (Core)	10.00%	6.50%
Hedge Funds	9.00%	6.50%
Timber/Natural Resources	4.00%	7.01%
Portfolio Completion	4.00%	6.18%
Total	100.00%	

E. Discount Rate

The discount rate used to measure the total pension liability was 7.65%. The projection of cash flows used to determine the discount rate assumed that the plan member contributions will be made at the current contribution rate and that employer contributions will be made at contractually required rates, actuarially determined. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments to current active and inactive plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

F. Sensitivity of the proportionate share of the net pension liability to changes in the discount rate

The following presents the Commission's proportionate share of the net pension liability calculated using the discount rate of 7.65 percent, as well as what the Commission's proportionate share of the net pension liability would be if it were calculated using a

discount rate that is 1 percentage-point lower (6.65%) or 1 percentage-point higher (8.65%) than the current rate (in thousands):

Fiscal Year Ended	1% Decrease (6.65%)	Current Discount Rate (7.65%)	1% Increase (8.65%)
June 30, 2016	\$ 82,767	\$ 72,326	\$ 63,461

G. Pension plan fiduciary net position

Detailed information about the pension plan's fiduciary net position is available in the separately issued System financial report.

19. Transactions with City of Springfield

Other than the retirement system contribution noted above, the Commission's fiscal year 2016 transactions with the City consist of payments for Police Department services of \$1,062,780, for retiree health insurance of \$264,500, and other City department services and fees totaling \$750.

20. Wastewater Regional Operations Management

In August 2000, the Commission entered into an agreement with United Water, Springfield LLC (now United Water Environmental Services, Inc.) to operate the Commission's wastewater regional operations effective October 1, 2000 and for a term of 20 years.

The pertinent conditions of the agreement are as follows:

- All assets remain the property of the Commission.
- Equipment/inventory used over the 20-year term is to be replaced/ reimbursed by United Water.
- The Commission continues to control the customer billing process.
- The Commission agreed to incur a maximum of \$10.3 million for the initial capital improvements to the facility. These improvements became the property of the Commission upon acceptance of the work performed.
- United Water bills the Commission monthly for the cost of providing service and an administrative fee. The monthly cost as of June 2016 was approximately \$904,000.
- In September 2000, United Water reimbursed the Commission for approximately \$1.9 million of costs incurred in the privatization process. The Commission is repaying this amount through the monthly billing process.
- Under the contract, United Water must provide a guaranteed letter of credit to the Commission as security for operating performance and capital asset management. The letter of credit is adjusted annually to maintain a value equal to 150% of the contract value, which changes based on a number of factors. At June 30, 2016, the letter of credit was approximately \$20.5 million.

Required Supplementary Information (Unaudited)

Springfield Water and Sewer Commission for the year ended June 30, 2016

Other Post-Employment Benefits

Schedule of OPEB Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) – Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b-a)/c]
12/31/15	\$ 428,560	\$17,343,126	\$16,914,566	2.53%	N/A	N/A
12/31/13	\$ -	\$15,836,718	\$15,836,718	0.0%	N/A	N/A

Springfield Contributory Retirement System

Schedule of Proportionate Share of the Net Pension Liability

Fiscal Year	Proportion of the Net Pension Liability	Proportionate Share of the Net Pension Liability	Covered Payroll	Proportionate Share of the Net Pension Liability as a Percentage of Covered Payroll	Plan Fiduciary Net Position Percentage of the Total Pension Liability
June 30, 2016	8.685%	\$72,326	\$13,215	547.30%	25.70%
June 30, 2015	8.67%	\$63,437	\$12,512	507.01%	28.83%

Information above is presented as of the most recent measurement date.

Schedule of Pension Contributions

Fiscal Year	Contractually Required Contribution	Contributions in Relation to the Contractually Required Contribution	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a Percentage of Covered Payroll
June 30, 2016	\$ 4,143	\$ 4,143	\$ -	\$ 13,215	31.35%
June 30, 2015	\$ 3,902	\$ 3,902	\$ -	\$ 12,512	31.19%

Information above is presented as of the most recent measurement date.

Schedules are intended to show information for 10 years.
 Additional years will be displayed as they become available.
 For all Required Supplementary Information, please see Independent Auditors' Report.

Schedule of Operating Expenditures Budget and Actual

Springfield Water and Sewer Commission
for the year ended June 30, 2016

	Original Budget	Final Budget	Actual	Variance Favorable (Unfavorable)
Expenditures and other uses				
Salaries and wages	\$ 13,696,400	\$ 13,696,400	\$ 13,253,500	\$ 442,900
Employee benefits	7,045,286	7,045,286	6,838,989	206,297
Operations	23,302,682	23,293,891	23,124,002	169,889
Intergovernmental	574,494	574,494	557,125	17,369
Capital outlay	359,800	359,800	326,047	33,753
Other	526,850	526,850	415,367	111,483
Debt principal	8,045,502	8,045,502	8,041,809	3,693
Debt interest	5,161,585	5,170,376	5,034,772	135,604
Transfer out	-	432,253	432,253	-
Total Expenditures	\$ 58,712,599	\$ 59,144,852	\$ 58,023,864	\$ 1,120,988

See Independent Auditors' Report

Notes to Supplemental Schedule

Schedule of Operating Expenditures - Budget and Actual

Budgetary Basis

The appropriation appearing to the left of this page of the financial statements represents the operating budget of the Commission that was originally authorized in June 2015.

Budget/GAAP Reconciliation

The budgetary data is based upon accounting principles that differ from generally accepted accounting principles (GAAP). Therefore, in addition to the GAAP basis financial statements, the results of operations are presented in accordance with budgetary accounting principles to provide a meaningful comparison with budgetary data.

The following is a summary of adjustments made to the actual expenditures to conform to the budgetary basis of accounting.

Operating expenditures (GAAP basis)	\$ 57,973,738
Non-operating expenditures (GAAP basis)	5,035,560
Reverse capital expenditures appropriated in a prior fiscal year	(959,347)
Reverse the effect of prior year and current year GAAP accruals of:	
Inventory	(20,542)
Deferred outflows	6,348,164
Accounts payable and accrued payroll	(996,714)
Interest on long-term debt	(128,717)
Accrued compensated absences	20,962
Net OPEB obligation	(826,210)
Net pension liability	(8,888,903)
Accrued workers compensation	33,620
Budgetary basis	\$ 57,591,611



Cobble Mountain Reservoir



SPRINGFIELD WATER AND SEWER COMMISSION

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FY2016
Annual
Report

