



2016
ANNUAL REPORT
Saint Paul Regional Water Services

Table of Contents

A Message from the General Manager	2
Board of Water Commissioners and Management Staff	3
Administration Division	4
Business Division.....	6
Distribution Division.....	8
Engineering Division.....	10
Production Division.....	12
Statement of Values.....	14
Financial Summary.....	15

Dear Customers,

Safe, reliable drinking water is essential to every community. Saint Paul Regional Water Services provides that water to more than 420,000 in Saint Paul and neighboring cities. Our staff of 252 employees ensures we are true to SPRWS' mission of providing quality water and services to our customers at a reasonable cost.

In 2016, SPRWS has initiated its journey down the path to ensuring a water utility that will not only be reliable and sustainable, but also meet foreseeable water quality challenges in the future. We have completed the design and bid process for the first large project in our long-term capital investment plan for the McCarrons water treatment plant. The upgrading and replacement of all of the major electrical components in the plant will help ensure reliable service moving forward. The project will begin construction in 2017 and be completed in 2018.

We also continued to upgrade our buried infrastructure by replacing nearly 7 miles of water main along with 150 hydrants and more than 400 lead water services. The utility has also increased our public outreach to our customers in the area of water quality. Public awareness and concern of lead in drinking water is at a high level and we now offer free water testing along with filtering drinking water pitchers when maintenance activities may temporarily increase the levels of lead to the home.

We continue to update our technology as well. We completed an important upgrade to our customer information and billing system that will allow our customers increased access to their account information. Our engineering group continues to complete the necessary asset assessments so we can encompass all of our important assets in our long-term capital program.

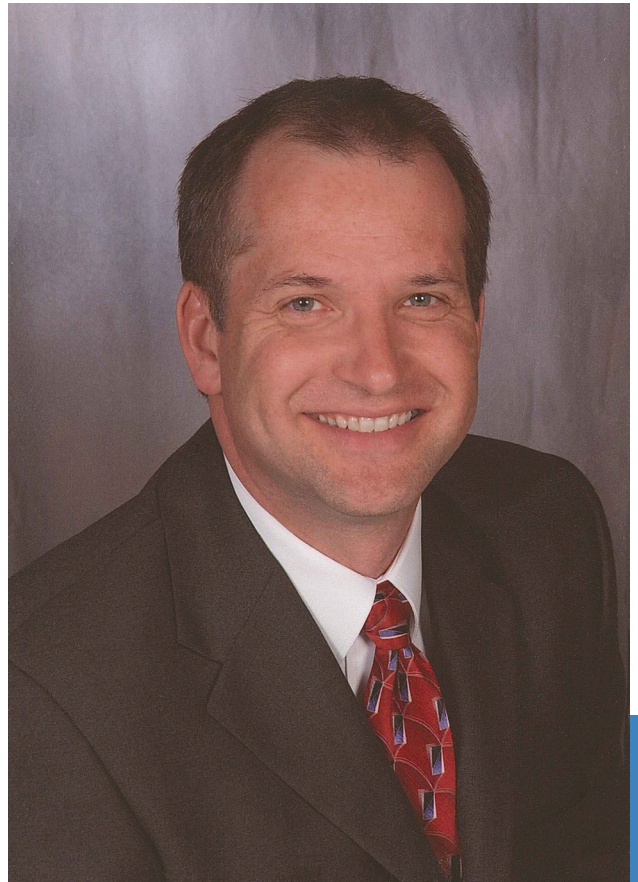
It takes contributions from each of our employees on a daily basis to continue to provide excellent service to our customers. We will continue to look to the future and work towards ensuring SPRWS remains a successful utility for many generations to come.

As always, I am proud of our accomplishments and the daily efforts put forth by all of our employees. I hope you share in that sentiment and I thank you for your interest in SPRWS.

Sincerely,



Steve Schneider
General Manager



Board of Water Commissioners



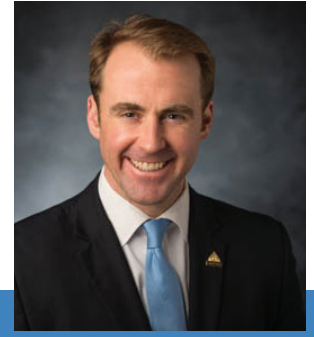
Matt Anfang
President



Amy Brendmoen
Vice President



Mara Humphrey
Commissioner



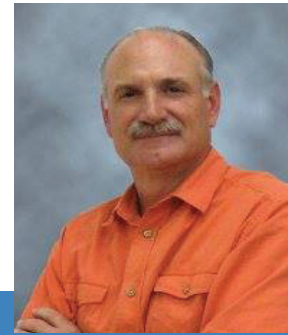
Chris Tolbert
Commissioner



Dave Meisinger
Commissioner



Rebecca Noecker
Commissioner



Will Rossbach
Commissioner

SPRWS Division Managers



Brad Eilts
Distribution



Dave Wagner
Engineering



Jim Bode
Production



Steve Gleason
Business



Jim Graupmann
Asst. GM

Administration

The administration division offers support services to all areas within the utility as well as direct contact with individual customers and communities at large. The administration division includes the business improvement unit, safety and security, training and human resources, and the general manager and assistant general manager.



Lead pipes like this one throughout the SPRWS distribution system in service lines to older homes were the source of many communications efforts throughout the year.

There were a number of initiatives that administration worked on in 2016. Probably the one that gathered the most attention was the lead service line issue. The troubles seen in Flint, Michigan, continued to make headlines for most of the year. With this, and some proposals coming from the Environmental Protection Agency (EPA) for potential new rules, we made some efforts in the lead and water quality areas.

We developed and implemented a program to give out lead filtering pitchers to any resident that had work done on their lead water service line, provided that part of the lead service line remained after the work was done.

If used properly, the pitchers are designed to reduce lead levels to well below the action level for lead, giving added protection to those residents who might otherwise see increased levels of lead with the work done on their water service.

Lead Communication

We expanded efforts in educating the public about lead in drinking water. Even though we are in compliance with the EPA's Lead and Copper Rule, we believe there is more work to be done in educating our customers on how they can reduce their exposure to lead.

We have included expanded information in our literature on our website. Additionally, we developed a presentation for the public to inform them about water quality and lead in our water system. This presentation was delivered to all of the Saint Paul City Council members; the Saint Paul Chamber of Commerce; and at two public meetings.

Ultimately, attendance at the public meetings did not warrant continuing the meetings, so we are seeking other methods to get that message out to the public.



Jim Bode, production division manager, answers WCCO TV's *Good Question* on lead in drinking water as part of media coverage of the topic during 2016.

New Bacteriological Testing Methods

Another item that was given a lot of attention during the year was bacteriological cleanliness of our newly installed water mains. Some failures to pass bacteriological tests in recent years have delayed projects and added to our costs for the project.

We came up with new procedures for the installation, chlorination, and testing of newly installed water mains that we believe will give us much better results in passing the bacteria tests. Those procedures will be put into practice in 2017, and we will monitor test results to determine if the new procedures are effective.

White Bear Lake Augmentation

The possible augmentation of White Bear Lake continued to be examined. Present proposals include a pumping and filtration station at the southeast end of Vadnais Lake, with a pipeline route extending northeasterly to White Bear Lake. Issues yet to be resolved include finding an owner/operator of the system and a funding source, among others.

Solar Energy Solutions

We continued to look at solar energy as a solution to both save us money and help the environment. No contracts had been entered into by year end, however.

Business Improvement Unit

The business improvement unit spent much of the year on trying to make our Computerized Maintenance Management System (CMMS) feed time work records, using time punch information generated by the Time Attendance and Scheduling System (TASS) into the INFOR human capital management module (human resources and payroll). The goal is to reduce the time and effort currently spent entering time into two systems. At year end, we were still several months away from this taking place.

Racial Equity

The city of Saint Paul has continued its racial equity initiative. We have done work to match the racial makeup of our new hires with the racial makeup of our service area. We have also looked at our business and work processes with an eye toward making sure that there are no disparities along racial lines.

Future Opportunities

Administration will continue directing efforts at the initiatives listed above, and monitor progress in all.

In particular, the lead issue may have some more resolution this year, and we will react accordingly.

As always, our goal is to be able to budget and finance the projects necessary to keep SPRWS operating as a top-notch utility.



The human resources consultant teaches online training.

Business

The business division offers support services to the other divisions within the water utility as well as direct contact with individual customers and communities at large. The division includes billing and customer service, meter operations, information services, financial services and public information.

Mendota Heights Added to Utility

We finalized the acquisition and legal transfer of the water mains, hydrants, service connections, tanks, and appurtenances from the city of Mendota Heights during 2016. The assets transferred are reported as a special item on the operating statement, similar to capital contributions.

Customer Information Service Upgrade

Our next most significant accomplishment of 2016 was the implementation of an upgrade to our Customer Information System (CIS) software application. We went live with version 4 of CIS Infinity on April 1, 2016. We read meters, calculated and printed bills, received Interactive Voice Response unit (IVR) and on-line credit card payments, and executed notices, all without a hitch. System downtime was only 24 hours. The new software offers enhanced functionality, more potential automation, and improved reporting.

Included as part of the new CIS software is enhanced water meter inventory tracking that includes accrued consumption, historic test results and historic locations where the meter was set. With this data available, we are creating a comprehensive meter testing schedule with the goal of identifying the optimal interval for testing and replacing meters by account.

Estimated Bills Minimized

The radio meters are functioning very reliably. Accordingly, we have continued success basing water bills on actual usage and minimizing estimated bills.

Customer Service Center

The customer service call center received 169,209 calls in 2016. About 82,080 calls, or 48.5 percent, were handled by call center staff and 87,129, by the self-serve IVR unit. This equates to approximately 675 calls per business day of which approximately 325 calls were answered by call center staff.

The abandoned call percentage remained under 1 percent, substantially lower than our goal of less than 2 percent.

On average, approximately 1,700 credit card payments were made per month via the IVR.

We continued to increase the number of registered users of our on-line bill presentment and payment site, Infinity Link. In 2016, approximately 21,000 customers paid their quarterly water bills on-line via credit card.

Customer Service Survey

We commissioned a customer survey that took place in the fall of 2016. About 400 water utility customers were interviewed in a phone survey that included both cellular and land line telephones.

The results indicate that an overwhelming majority of customers find the utility doing a good or excellent job meeting our mission of providing them with quality water and services at a reasonable price.

Billing Remains on Schedule

During 2016, the customer service unit issued approximately 34,300 bills per month or 1,700 bills per business day. Throughout the year, meter reading and water billings continued to meet schedules.



Jim Bode gives a tour of the treatment plant to Betty McCollum, U.S. representative of the Minnesota 4th congressional district.

Financial Services

Financial services created and published the 2016 annual financial report in a very timely manner.

Staff successfully navigated the Enterprise Resource Planning (ERP) system, INFOR, Computerized Maintenance Management System (CMMS), Time, Attendance and Scheduling System (TASS) and CIS applications and compiled and provided information necessary for SPRWS to manage its financial position by developing a budget, tracking spending and revenues, providing a monthly report to the Board of Water Commissioners and ensuring appropriate internal controls.

We continued to assign timekeeping staff to reconcile CMMS to TASS and help manage CMMS information.

Wi-Fi Brought to McCarrons

The city of Saint Paul deployed Wi-Fi, so McCarrons center now has Wi-Fi service for visiting vendors and customers. In addition, enhanced hydrant flushing and valve operating apps were made available. A new Geographical Information System (GIS) and Continuity of Operations Plan (COOP) map were deployed in fall 2016.

Online Bill Pay

In addition to implementing the new CIS version 4 upgrade, our Information Services Section implemented an upgrade to Infinity Link, our on-line payment module, and implemented new IVR software, which is designed to operate in a virtual environment.

Future Opportunities

In 2017, we plan to initiate a Virtual Desktop Infrastructure (VDI) pilot project. The project offers many potential efficiencies and savings, including hardware, programming, backing-up systems and data, troubleshooting, etc.

We look forward to TASS and CMMS enhancements where staff will enter time into one system while continuing to rely on CMMS delivering complete and accurate asset and financial information.

Communication in the Community

We produced several external publications, including *Customer Service Connections*, a quarterly newsletter for customers, and the annual water quality report. The water quality report was made available on the website in accordance with Minnesota Department of Health requirements. We produced three videos: One on how to reduce exposure to lead in drinking water; one on what to expect with a partial lead service line replacement, and one on our source water and how we treat it.

Internally, we continued to provide employees with communication updates by featuring timely articles in our bi-weekly employee newsletter, the *Pipeline Express*.

We anticipate implementing more functionality, creating additional reports and investigating opportunities for more automation with the new CIS version 4.

We will continue to examine workflow processes throughout the utility, looking for improved efficiency and enhanced delivery of services.

A new version of CMMS is scheduled to become available in 2018. At this time, we do not anticipate go-live with this new system before 2019.

Distribution

The distribution division is home to the operation, maintenance and capital construction of the water mains, services, hydrants and related underground piping infrastructure that brings water to our customers. Fleet management and warehouse operations are also included.

Distribution Capital Program

We continue to replace and upgrade an aging infrastructure of unlined cast iron water mains, hydrants and lead water services. Much of the water main replacement was accomplished in coordination with street reconstruction projects. This year a total of 6.8 miles of our 1,200 miles of water main were replaced.

In areas of water main replacement, temporary water mains are installed in order to serve customers while the existing water main is being replaced. For every mile of water main replaced, three to four times that amount of temporary service piping needs to be set up and again taken down when construction is completed. This requires significant coordination of efforts and it also provides a customer service opportunity that is generally well received by our customers.

In addition to water main construction, 406 lead water services were replaced last year. These replacements were done in coordination with street reconstruction projects and also where property owners have previously replaced their portion of the lead service in private property and where old services were leaking and required replacement.

Work also included the replacing 150 of the 9,610 system hydrants during the year.



A worker opens the street in preparation for a partial lead service line replacement. SPRWS did 406 partial lead service line replacements in 2016.

System Maintenance

We perform both preventative and emergency maintenance on the water distribution system. Preventive maintenance of the system is needed to ensure adequate reliability and improve distribution system water quality.

Preventive maintenance work includes hydrant inspection, Uni-Directional Flushing (UDF), and valve exercising. All 9,610 public fire hydrants in the system were inspected during the year. This involves the operation of hydrants and performing minor repair work as necessary.

We perform emergency repairs on water mains and services. We also provide water main break repair services to other municipalities outside our service area, responding to main breaks in White Bear Township and the cities of Oakdale and Newport. We repaired 107 main breaks within our service area and 23 repairs in communities outside our service area.



Curbs and gutters are replaced by restoration crews after work on an area is complete.



Temporary water mains line the sidewalk in areas of water main replacement.

Future Opportunities

In 2017, continued emphasis will be placed on water main replacement in street reconstruction project areas and our hydrant inspection program.

We plan to complete uni-directional flushing the first time through the entire distribution system in 2017.

Our infrastructure funding for 2017 will allow for additional main improvements outside street reconstruction areas. These improvements will include using the pipe bursting method for main replacement.

Engineering

The engineering division includes project engineering, agreements, maps and records, plumbing inspection, and damage prevention. The division provides support to the utility in planning and design of projects for our distribution, production and supply areas of the utility. Work in the division also involves managing our maps and records, plumbing inspections, utility locating, construction inspection and plan review for new development projects. We are committed to providing high quality asset management.

Water Main Capital Improvements

This was the second year that the water main surcharge was available to provide additional funding for water main replacement.

This year, 6.8 miles of water main was replaced or rehabilitated, including rehabilitating 1.2 miles of water main using Cured in Place Pipe (CIPP) lining technology. This was the first application of CIPP technology in our service area and the results of the work were mixed with an end result of upgraded water mains that are in service and functioning.

Our other water main work involved coordinating water main replacements in city and county street reconstruction project areas using traditional open trench methods of construction, including the replacement of water main within Jackson Street in downtown Saint Paul and on University Avenue near Regions Hospital.



Computer monitor showing cured in place pipe lining technology in action.

Lead Service Line Replacements

In addition to lead service replacement by our distribution crews, two contracts were let to perform replacement of lead services. This was done in coordination with street rehabilitation projects with the city of Saint Paul's Department of Public Works.

Leak Survey

A system-wide leak survey was completed on our distribution system in 2016. The survey found numerous leaks throughout our system on hydrants, services and water mains, resulting in 92 work order repairs.

Treatment Plant Electrical Project

Final design for the McCarrons electrical project, which will update the existing treatment plant medium voltage switchgear and transformers, was completed in 2016, with the project going out for bid. Work will begin in 2017.

Booster Station Improvements

Improvements were made to the West St. Paul booster station, which included the installation of an automatic generator and new switchgear. These improvements will provide greater reliability and service to the residents of West St. Paul. In addition, electrical improvements were made at the Hazel Park booster station.



The Mississippi River pumping station in Fridley was built in the early 1920s and put into service in 1925.

Condition Assessments

Condition assessments are being performed for our Mississippi River pumping station, McCarrons water treatment plant foundation and our raw water supply conduits. The assessment for the Mississippi River pump station at Fridley was completed and the results

indicated that the facility is generally sound, although needing some repair in order to support operations for the next 40 years. Other assessments are still in progress.

Future Opportunities

The engineering division continues with industry-leading advancement by leveraging electronic applications and effectively utilizing enhancement to best serve our asset management program. This includes the expanded use of Global Positioning Systems (GPS) for more accurate data collection. In 2017 we plan to execute on-line application of plumbing permits.

The additional \$2.8 million in funding established in 2015 for our existing water main capital improvement program was a significant increase that will help improve our aging buried infrastructure. Additional

funding will be necessary to lower the life cycle of our distribution piping. In 2017, planning will take place for water main work related to the new professional soccer stadium.

Condition assessments on our plant foundation and supply conduits will be completed in 2017 as well as a condition assessment on the historic Highland Park water tower. Repairs to the Mississippi River station will be bid in 2017. A new high service pump is under design for the McCarrons water treatment plant.

Production

The production division is responsible for processing raw water into finished water, including all the equipment required in the process and the water supply chain.

Precipitation Above Normal

Annual production of water for 2016 was our lowest since 1954, with a daily average of 38.4 million gallons per day. Precipitation was 9.71 inches above normal for the year at the National Weather Service's Minneapolis-Saint Paul airport weather station. River levels were also above normal for much of 2016, and drought was not a concern for the metroarea. Our total annual pumping from the McCarrons water treatment plant was 14,739 million gallons; 8,545 million gallons came from the Mississippi River, with the remainder coming as direct precipitation and watershed runoff in the supply system.

Good Year for Water Quality

We had another excellent year of water quality. The McCarrons water treatment plant continued the Partnership for Safe Water's Presidents Award in 2016. We are one of only 31 surface water plants in the country to achieve this level of award. This program ensures safe drinking water from its member systems by promoting optimized treatment plant operation and continuous improvement in the operation, maintenance, administration and design of the facility. The aesthetic quality of the water also continued to be excellent, with only 20 complaints of taste or odor being logged into the customer information system for the year.

Improvements Made

A number of improvements were made or undertaken in 2016. Electrical improvement work to the Hazel Park pump station was awarded. Installation of a back-up electric generator for the West St. Paul pump station was awarded. Design and specification of a new 20 million-gallon-a day high service pump was undertaken by staff.



Workers remove zebra mussels from the Vadnais conduits.

Costs Rise Slightly

Chemical costs were up slightly with a total increase of approximately \$150,000, or 4.5 percent. Total chemical expenditure was approximately \$3 million. This corresponds to an increase of \$18.78 per million gallons of water treated. The majority of this increase was caused by contract price increases for carbon dioxide and quicklime. Total finished water pumping electrical costs were up approximately \$30,000 from 2015, with a normalized value of \$58.27 per million gallons. Raw water electrical costs were up slightly from 2015, with a value of \$49.39 per million gallons.



Governor Mark Dayton with staff celebrating the excellent water quality produced by Saint Paul Regional Water Services.

Future Opportunities

The repairs to the 90-inch butterfly valve on the east Vadnais intake chamber were not completed and need to be rescheduled. The screens and screen rails in the chamber have been repaired.

A zebra mussel treatment chemical trial was executed in 2016 and shows promise for prevention of zebra mussel growth in the conduits between Vadnais Lake and the McCarrons water treatment plant. The chemical is under consideration for permanent use.

Three electrical projects are underway: the Hazel Park pump station is receiving all new switchgear and Motor Control Centers (MCCs) and should be completed in 2017; the McCarrons water treatment plant is receiving new incoming electric service switchgear and transformers, along with new pump switchgear and MCCs. This project will extend into 2018. The West St. Paul pump station is receiving a stand-by generator for electric power as well as new switchgear and MCCs. This was done in lieu of a new water storage tank.

Plans for a new high service pump are being developed, with a planned installation for winter 2017-2018. A 20 million-gallon-a-day pump will replace an existing 35 million-gallon-a-day pump and be used in the winter months for improved cost efficiency.

Work still needs to be done on some of the filter control systems in the water treatment plant, namely the old Programmable Logic Controllers (PLCs) and

flow controllers need replacement. Also in the controls arena, the new Supervisory Control and Data Acquisition (SCADA) software development has been awarded and will commence in 2017.

A pilot study for a new solids-contact clarifier was performed in summer of 2016. A Densadeg brand unit was rented from SUEZ Water Treatment. Staff and SUEZ personnel operated the pilot for two months. Operation of the unit proved challenging, and the pilot effort may have benefited SPRWS in eliminating this type of unit from future consideration. More suitable units will be examined in the near future. This pilot was part of the pre-design work for the upcoming improvements to the softening and recarbonation processes at the McCarrons water treatment plant.

The assessment of the water supply conduits is underway and will finish in 2017. This is an assessment of our two lines from the Mississippi River as well as the two conduits between Vadnais Lake and the McCarrons treatment plant. An action plan for repairs will be made after completion of this assessment.

The laboratory at the McCarrons water treatment plant is installing a new Inductively Coupled Plasma Mass Spectrometer. This replaces an aging flame/furnace Atomic Adsorption unit. The laboratory is also installing an adenosine triphosphate (ATP) analyzer for monitoring biological activity on the Granular Activated Carbon (GAC) filter-sorbers.

Mission, Vision, Values

Summary of who we are, what we believe, what we value

Mission Statement

To provide reliable, quality water and services at a reasonable cost.

Vision Statement

To be a regional and national water industry leader emphasizing quality product, services, and cost containment.

Statement of Values

We commit to these values and expectations, taking pride in what we do together and promoting a positive image of Saint Paul Regional Water Services.

Sense of Community

- Show respect to other's differences, take time to learn about each other, and treat each person as a unique individual.
- Create and maintain a positive, inclusive, diverse workforce to better serve our customers.
- Approach our work and interactions in a way that promotes and supports our community.
- Communicate openly and honestly, acting in a respectful and tactful manner.

Commitment to Excellence

- Have a shared vision of the future that gives us a clear sense of direction.
- Establish clear roles and responsibilities for all employees.
- Strive for excellence, continually improving and finding ways to be more effective and efficient.
- Keep our expertise current and willingly take on development opportunities.
- Demonstrate commitment to and effort in the work that we do.

Sustainable Stewardship

- Build trustworthy relationships, internally and externally, to achieve desired common goals.
- Protect and work to improve our water supply.
- Provide for a sustainable infrastructure entrusting reliability for future generations.
- Promote and enhance the use and respect of the environment by supporting environmental, social, and economic sustainability where possible.

Quality Customer Service

- Put the customer first.
- Demonstrate our customer service standards of responsiveness, empathy, honesty, respectfulness, and reliability.
- Promise only what we can deliver and deliver what we promise.
- Create great customer interactions.
- Carry out our work in a professional manner.

Building for the Future

- Promote innovation, change, and continuous improvement as we plan for the future.
- Commit to doing things effectively, making calculated decisions that result in organizational stability and desired change.
- Demonstrate adaptability and flexibility, adjusting to changing priorities and multiple demands within the organization and community.
- Exercise fiscal responsibility.

Financial Summary

Select financial information from the 2016 fiscal year.

Condensed Statement of Net Position (in thousands)

	Fiscal Year 2016
Assets	
Current and Other Assets	\$ 53,587
Capital Assets - net	324,146
Total Assets	<u>\$ 377,733</u>
Deferred Outflows of Resources	<u>\$ 8,113</u>
Liabilities	
Current Liabilities	\$ 16,420
Noncurrent Liabilities	63,796
Total Liabilities	<u>\$ 80,216</u>
Deferred Inflows of Resources	<u>\$ 2,365</u>
Net Position	
Net Investment in Capital Assets	\$ 285,053
Restricted for Debt Service	11,614
Unrestricted	6,598
Total Net Position	<u><u>\$ 303,265</u></u>

Condensed Statement of Revenue, Expenses, and Changes in Net Position (in thousands)

	Fiscal Year 2016
Operating Revenues	\$ 58,952
Non-Operating Revenues (Expenses)	(1,176)
Total Revenues	<u>\$ 57,776</u>
Operating Expenses	<u>\$ 48,042</u>
Income (Loss) Before Capital Contributions and Special Item	<u>\$ 9,734</u>
Capital Contributions	\$ 693
Special Item	<u>\$ 33,290</u>
Change in Net Position	\$ 43,717
Net Position - January 1	<u>\$ 259,548</u>
Net Position - December 31	<u><u>\$ 303,265</u></u>

The notes to the financial statements are an integral part of these statements.

The complete financial report for 2016 is available from Saint Paul Regional Water Services. To obtain a copy please visit us at www.stpaul.gov/water or contact the financial services unit at 1900 Rice Street, Saint Paul, MN 55113.





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