



2016 ANNUAL REPORT

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Serving Our Community



Brown County’s majestic Pamperin Park is featured on the cover and on this page. The park is an inspirational setting in Green Bay, and served as a filming location for NEW Water’s “Water Knows No Boundaries” video, which can be viewed on the YouTube channel.



New this year! View an interactive Flipbook of this Annual Report online! www.newwater.us/about



Look for this icon throughout this report – which signifies content with videos featured in both our Flipbook and YouTube Channel (www.youtube.com/user/gbmsd)

A Message from the Executive Director



NEW Water made significant progress in 2016 on several programs focused on serving our community. The year started with adoption of a revised strategic plan that clearly established NEW Water’s vision of “Protecting our most valuable resource, water” and set goals for: engaging the community and strengthening our workforce; delivering environmental improvements; and supporting a vital, growing community. The Resource Recovery and Electrical Energy (R2E2) Project was in full construction and is on schedule for operation beginning in mid-2018. The project is expected to generate about half of NEW Water’s electrical and heating needs, significantly reducing its dependence on purchased energy.

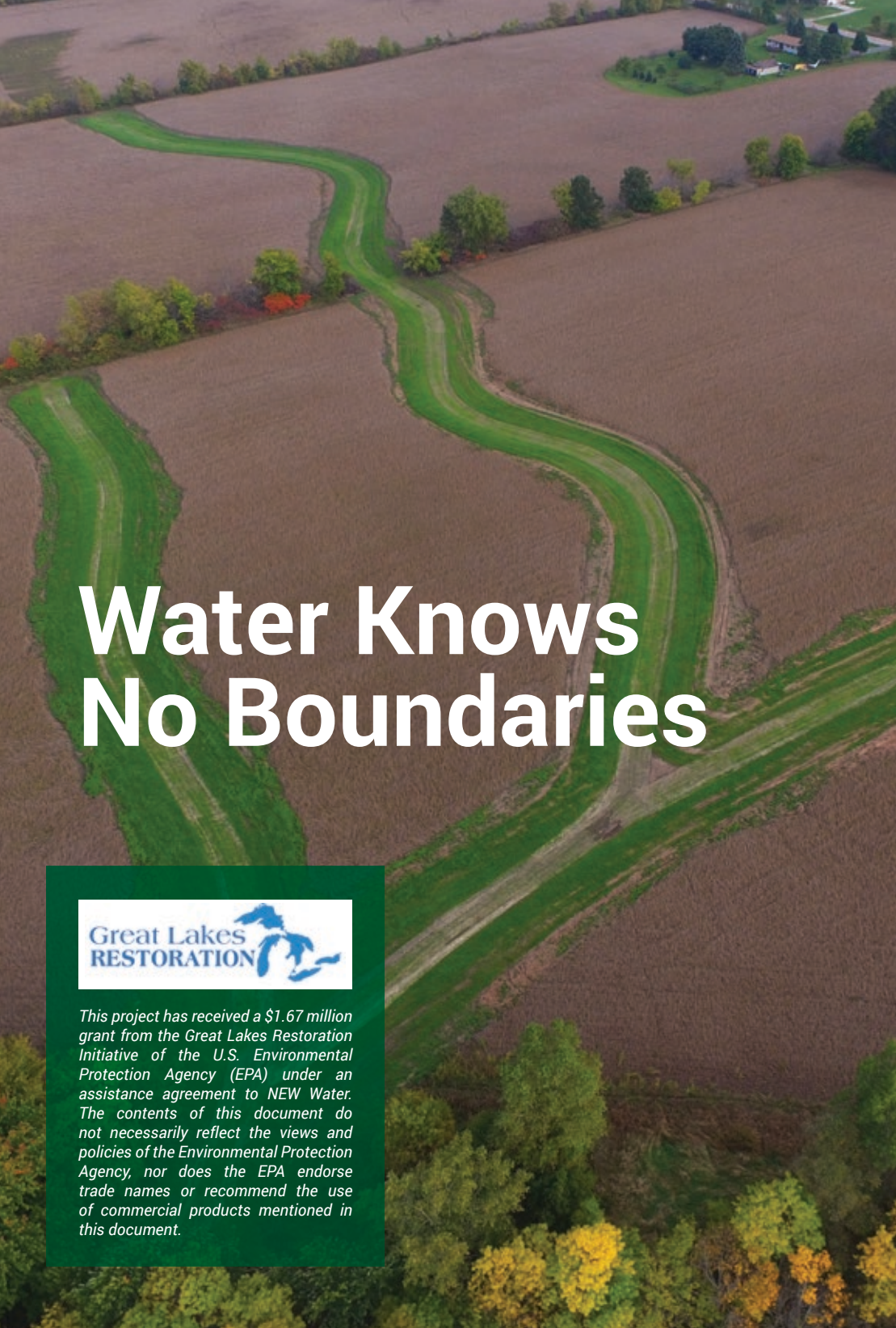
2016 brought another year of 100% permit compliance at NEW Water’s two treatment facilities, with five years of continuous compliance at the De Pere Facility and 14 years at the Green Bay Facility. At both facilities, actual performance is beyond compliance with its permit resulting in cleaner water returned to the Fox River and the bay of Green Bay.

Adaptive Management was firmly established as a viable method for NEW Water to partner with the stormwater and agricultural communities to implement Best Management Practices on land to significantly reduce runoff of sediment and nutrients into area waterways tying directly into NEW Water’s vision of protecting Northeast Wisconsin’s most valuable resource. The Silver Creek Adaptive Management Pilot Project is informing NEW Water of the costs, benefits, and practices of implementing Adaptive Management on a larger scale as part of a cost-effective, long-term permit compliance strategy.

In developing its interceptor master plan, NEW Water partnered with its member communities to understand the capabilities and limitations of the various components of its interceptor system. The plan allowed NEW Water to discuss level of service desires and system capabilities with customers in terms of potential wet weather flows. These discussions are informing capital project needs for NEW Water.

I hope you enjoy this report and seeing how NEW Water is serving our community.

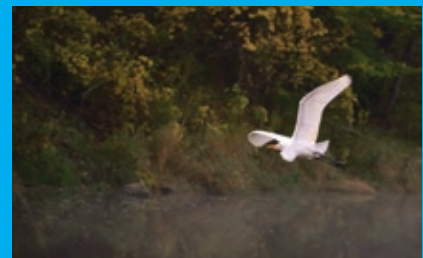
Thomas W. Sigmund, P.E.



Water Knows No Boundaries



This project has received a \$1.67 million grant from the Great Lakes Restoration Initiative of the U.S. Environmental Protection Agency (EPA) under an assistance agreement to NEW Water. The contents of this document do not necessarily reflect the views and policies of the Environmental Protection Agency, nor does the EPA endorse trade names or recommend the use of commercial products mentioned in this document.



Photos left to right:

An aerial drone photo of a grassed waterway in Silver Creek. At the start of the project, 35% of the land was in cover; now that number is 70%.

NEW Water’s Watershed Programs Manager Jeff Smudde and Outagamie County’s Nikki Raimer work together to install best management practices to help reduce erosion.

Visit NEW Water’s YouTube channel to view the “Water Knows No Boundaries” video.

What if we banded together to improve water quality? At NEW Water, we believe we can accomplish more if we do. That’s why we have branched out into the watershed to forge partnerships to improve what’s happening on the land, so that our area waters will be cleaner.

The Wisconsin snow melt each spring carries a heavy runoff of sediment and phosphorus into the bay of Green Bay, leading to a “dead zone.” NEW Water has convened partners for a pilot project to help stem the tide. In 2016, the second year of the Silver Creek Adaptive Management Pilot Project, the team planted cover crops, installed grassed waterways, and greened up shores with buffer strips of vegetation. Scientific data collection and analyses from 2016 indicate that these conservation practices prevented 689 pounds of phosphorus and 2,270,000 pounds of sediment from entering area waterways.

These conservation practices improve soil health and management of nutrients which helps prevent runoff from entering the bay. There is an economic benefit, too: Healthier soils and management of nutrients maximize crop production, reduce the need to purchase fertilizers, and improve water quality.

The pilot project continues through 2018. Given the benefits of this cost-effective, environmentally responsible approach to meeting compliance requirements, NEW Water is continuing to evaluate this watershed approach, beyond Silver Creek.



Educating our community – The Silver Creek “CREW” (Committed to Restoring and Enhancing our Waters) struck again in 2016: A team of students from Oneida Nation and Bay Port High Schools conducted field studies to learn about the waterways where they live, and the science of water. Water experts from NEW Water and the Oneida Nation led educational activities including water monitoring, aquatic critter identification, and geological mapping.



Harnessing Science & Innovation

Science informs NEW Water's efforts to clean, improve, and protect our most valuable resource, water. Innovation drives efforts "beyond compliance," toward a more sustainable use of our community's financial resources, and stewardship of water resources.

In 2016, NEW Water's state-certified Laboratory adopted a new name to better reflect the vision of the department and organization: Laboratory and Research Department.

Scientific tests and data analyses are conducted on water samples from NEW Water treatment facilities' processes; the Silver Creek Pilot Project, the Field Services Department from area industries permitted through NEW Water's Pretreatment Program, and the Aquatic Monitoring Program, which samples area waters.

In 2016, 15,227 samples came in to the Lab – an average of 48 per day. On these samples, a number of tests, or analytes, are conducted for parameters including nitrites, nitrates, biochemical oxygen demand, phosphorus, and more. Research discussions include chemical effects in interceptors, effects of pollution prevention strategies, and harvesting resources from the incoming water stream. Data generated by the Lab also will help launch, and complement operations of the new solids handling facility, Resource Recovery and Electrical Energy, or R2E2.

The Laboratory and Research Department strives to serve as a clearinghouse for water/wastewater quality data and information.



Photos left to right:

Jeff Smudde conducting water sampling in the Silver Creek watershed.

Lab Analyst Scott Dequaine performs tests.



Aquatic Monitoring Program – Considered by water scientists to be one of the most robust datasets in the Great Lakes, the Aquatic Monitoring Program (AMP) celebrated 30 years in 2016. The program monitors and patrols the waters of Northeast Wisconsin, pulling from 34 stations throughout the Fox River, East River, and the bay of Green Bay.

Photos left to right:

The Bay Guardian workboat.

Left to right: Jeff Smudde, Watershed Programs Manager; Bill Hafs, Environmental Programs Director; Dr. Val Klump, University of Wisconsin-Milwaukee School of Freshwater Sciences; John Kennedy, former Watershed Programs Manager, being honored for his vision to launch AMP; Erin Houghton, Water Resources Specialist; Tom Sigmund, Executive Director.

"A Day in the Life of AMP" video with Erin Houghton can be viewed on NEW Water's YouTube channel.

Plant Optimization In addition to the work "outside the fence" with the Silver Creek Project, NEW Water is continually working to improve operations at its two treatment facilities.

Cleaning billions of gallons of water around the clock each year requires that numerous complex processes run in harmony. One change can impact numerous processes throughout the facility.

To meet new permit requirements, NEW Water launched an Operational Evaluation Report to optimize the plant for phosphorus and Total Suspended Solids reduction. Given that the new solids handling facility is slated to go online in 2018, the needs of anaerobic digestion also factor into optimization efforts.

Optimization efforts include: increasing the un-aerated portion of the biological treatment process to enhance nutrient removal, which involved constructing walls and adding 20 mixers to aeration basins at the Green Bay Facility ("looks like a cake mixer at home, on a super-size scale," says Jake Becken, Treatment Lead); adding Oxygen Reduction Potential (ORP) probes to better evaluate the performance of the phosphorus removal process; "jar testing" – conducting tests on a small-scale in the Laboratory to simulate what might work out in the treatment process to optimize Total Suspended Solids, and phosphorus removal; microbiology inventory to assess the health and efficacy of the biological treatment process.



Resource Recovery and Electrical Energy (R2E2)

Construction of NEW Water’s new solids handling facility, R2E2, was in full swing in 2016.

Panels for the anaerobic digester walls were poured and constructed to the tune of 42 panels, each weighing 80,000 pounds. The new solids building was enclosed before winter arrived so construction could continue inside. An underground tunnel was constructed to connect the digesters to the solids facility; major equipment including a dryer, centrifuges, incinerator, and biogas engines, were set in place. Reactors were installed for struvite harvesting. A roadway to accommodate receiving high-strength waste was constructed.

The project ushers in a new era of resource recovery and community sustainability, resulting in saved energy, reduced costs, and enhanced environmental stewardship. This allows NEW Water to continue providing the nonstop service the community has come to expect. The facility is slated to go online in 2018.

Serving Sustainably

- **ASSET MANAGEMENT.** In 2016, NEW Water launched a new asset management system to better track and maintain all assets required to treat water around the clock. NEW Water also conducted a condition criticality assessment of assets. These efforts will help with risk mitigation, and guide capital improvement decisions as well.
- **INTERCEPTOR SYSTEM MASTER PLAN.** NEW Water continued work to address the interceptor system outside the fence in the service area. A hydraulic model was built, which considered future needs for potential population growth in Northeast Wisconsin, aging pipes and infrastructure, and inflow and infiltration issues. The model incorporates rainfall events, pipe capacity and indicates how weather events impact NEW Water sewers. NEW Water engaged customers on this plan, in efforts to meet their desired level of service at an acceptable level of risk, and lowest life-cycle costs.
- **LEAN PROJECTS.** With an eye toward improved efficiency, in 2016, NEW Water staff completed three Lean projects, netting over \$9,700 in savings, over 200 hours in processing of information savings, and reuse of an entire laboratory for office space.



Photos top to bottom:
R2E2 Project Coordinator Craig Lawniczak and Treatment Manager Bruce Bartel, with anaerobic digesters under construction behind them.
The base of the anaerobic digesters.



NEW Water’s journey to become a utility of the future includes finding sustainable solutions toward protecting our most valuable resource, water. That philosophy is being applied with the R2E2 Project.



42.8%

of regional materials used.

The project goal for R2E2 is to use 30% regional materials (that have been extracted, harvested, or recovered, and manufactured within 500 miles of the site).

98%

of construction waste diverted away from landfills.

The project goal is diversion of 75% of construction waste.

Around the Clock Community Service



Educating and Inspiring Our Future Leaders

“This partnership with NEW Water has hit on something special – we’re addressing an identified community need for more opportunities to learn STEM skills in a fun, interactive way. The children have learned about the importance of water and, in particular, the role NEW Water plays in keeping our waterways clean.”

– Eric VandenHeuvel,
Chief Academic Officer of the Boys & Girls Club of Greater Green Bay

NEW Water teamed up with The Boys & Girls Club of Greater Green Bay for an interactive, hands-on STEM Superheroes Camp. Staff shared their expertise and enthusiasm, leading activities in STEM (science, technology, engineering, and mathematics), to help campers earn their “Defenders of the Bay” certificates.



Photos clockwise from top left:

Campers got messy with science as they earned their certificates.

NEW Water Commissioners and staff commemorated the camp with Boys & Girls Club staff and the new “Defenders of the Bay.”

Making paper with screens helped demonstrate how screens are used in the water treatment process.

Checking video footage of a pipe being televised, in real time.

Stefanie Stainton, Public Affairs & Education Specialist, and Aaron Eichhorst, Treatment Lead, taught the children how runoff happens.

Lisa Sarau, Engineer, explained how televising (inspecting) a sewer works.

Erin Houghton as “Watershed Warrior Woman.”

Aaron Eichhorst donned a cape to play the role of “Commander Cleanwater.”

Lee Vander Steeg, Youth Apprentice, played the role of “Sinister Sediment.”



Engaging Our Community

Treatment Lead Jake Becken shares information about working in the clean water industry at a career fair.



World Water Day – The NEW Watershed Champion Award went to U.S. Congressman Reid Ribble, for his Save the Bay initiative, and ongoing support to improve area waters. Tom Sigmund, Congressman Ribble, and Nancy Quirk, General Manager of the Green Bay Water Utility.



Love Your Pipes – NEW Water teamed up with the Brown County Public Library for “World Toilet Day.” The library hosted NEW Water’s educational toilet on wheels, which informs “what not to flush.” Mechanic Brian Shikoski, left, and Maintenance Planner/Scheduler Bill Wydeven, right, helped set up the display.



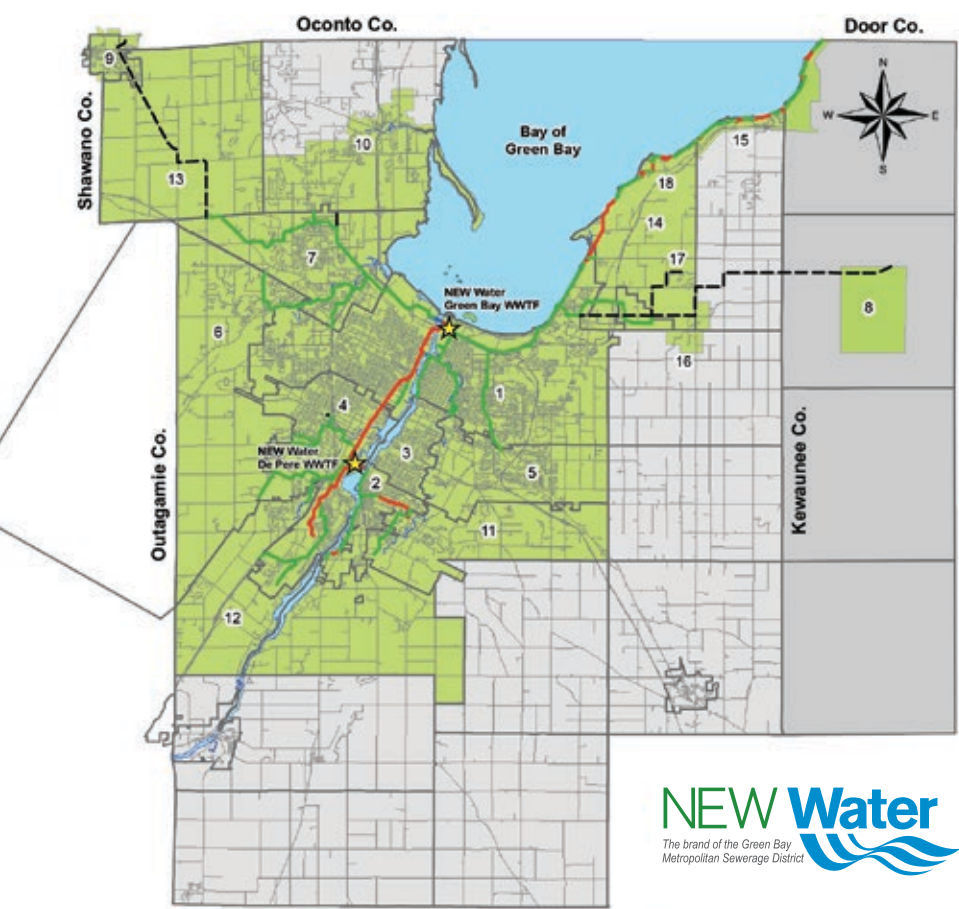
Einstein Science Expo – Human Resources Manager Trisha Brown, at left, volunteered at NEW Water’s booth at the annual Einstein Science Expo. Children tested what would sink or float by popping various toys into aquariums.



Backflow preventer outreach – Many are unaware that homeowner backups can be prevented with having a functional backflow preventer installed in their homes. NEW Water created a video and outreach materials to help educate the community. *Photos left to right:* Brian Vander Loop, Field Services Manager, explained how to inspect a backflow preventer inside your home. Bob Zepnick, Field Services Tech, demonstrates how a backflow preventer works. The video can be viewed on NEW Water’s YouTube channel.



Proudly Serving Our
Community Since 1931



Service Area

- 1. City of Green Bay
- 2. City of De Pere
- 3. Village of Allouez
- 4. Village of Ashwaubenon
- 5. Village of Bellevue
- 6. Village of Hobart
- 7. Village of Howard
- 8. Village of Luxemburg
- 9. Village of Pulaski
- 10. Village of Suamico
- 11. Town of Ledgeview Sanitary District #2
- 12. Town of Lawrence - Utility District
- 13. Pittsfield Sanitary District No. 1
- 14. Scott Municipal Utility
- 15. Dyckesville Sanitary District
- 16. New Franken Sanitary District
- 17. Royal Scot Sanitary District
- 18. Bayshore Sanitary District

LEGEND

- Gravy Sewer
- Forcemain Sewer
- River Siphon Sewer
- Sewer By Others
- Roads
- Municipal Boundary
- NEW Water Annexed Area
- Brown Co.
- Kewaunee Co.
- River/Bay

Mission:

Leading water quality improvements for the bay of Green Bay through operational excellence, resource recovery, education, and watershed management.

NEW Water Leadership



Commission

Row one, left to right:

- Kathryn Hasselblad, President, Term End: 12/31/21
- James Blumreich, Secretary, Term End: 12/31/19
- Tom Meinz, Vice President, Term End: 12/31/18
- Mark Tumpach, Vice President, Term End: 12/31/20
- Lee Hoffmann, Vice President, Term End: 12/31/17

Executive Staff

Row two, left to right:

- Thomas W. Sigmund, P.E., Executive Director
- Nathan Qualls, P.E., Director of Technical Services
- Patrick Wescott, Director of Operations
- William Hafs, Director of Environmental Programs

Vision:

Protecting our most valuable resource, water.



Teamwork to Serve Our Community

Awards

Watershed Hero Award from the Fox Wolf Watershed Alliance

Platinum Award for 100% permit compliance – 14 consecutive years for the Green Bay Facility from National Association of Clean Water Agencies (NACWA)

Gold Award for 100% permit compliance – 5 consecutive years for the De Pere Facility from NACWA

Excellence in Manufacturing/K-12 Partnership for the Youth Apprenticeship Program from the NEW Manufacturing Alliance

Water Resources Utility of the Future from the Water Environment Federation

Community Citizenship

NEW Water staff continued to support initiatives addressing community needs, including: raising funds for the Northeast Wisconsin Veteran's Treatment Court; kicking off an employee giving campaign to the United Way, and hosting blood drives for the American Red Cross.

New Hires

Edward Bellin – Maintenance Mechanic

Colin Clark – LTE WWTP Operator

Ashley Lloyd – LTE WWTP Operator

Kim Schwake – LTE WWTP Operator

Brian Shikoski – Maintenance Mechanic

Retirements

Thomas Kujava – Maintenance Mechanic

Job Changes

Patrick Smits – Maintenance Planner/Scheduler to Asset Reliability Coordinator

William “Bill” Wydeven – Mechanical Team Lead to Maintenance Planner/Scheduler

Jim Harper – Maintenance Mechanic to Mechanical Team Lead

Ashley Lloyd – LTE WWTP Operator to Lab Analyst I

Corey Evers – WWTP Operator-in-Training to WWTP Operator

Matt Pamperin – WWTP Operator-in-Training to WWTP Operator

In Memoriam

Pete Mohr – Pete worked for NEW Water for 10 years as an Electrical and Instrumentation Technician and will be deeply missed by all who knew him.

Photos left to right:

Mechanic Jason Swoboda and colleagues at work keeping the Green Bay Facility running.

Mechanic Apprentice Bobby Zepnick, center, and Electrical and Instrumentation Technician Curt Schweiner, right, lead an activity with Boys & Girls Club campers.

Administrative Services teammates Lana Vickman, left, and Terri Lealou, right, help celebrate NEW Water's Utility of the Future achievement.

Investing in the Community

2016 Financial Statement

This statement is presented in this report for informational purposes only and is not intended to represent full financial disclosures. Complete financial statements and related notes are available on NEW Water's website at www.newwater.us or available upon request.

OPERATING REVENUES

	2016	2015
User fees - municipal waste	\$32,647,826	\$30,769,420
User fees - mill waste	1,415,855	1,241,092
Capital revenue - mills	1,696,131	1,246,166
Other revenues	1,702,120	2,965,036
Total operating revenues	37,461,932	36,221,714

OPERATING EXPENSES

Salaries and wages	7,055,515	6,943,478
Fringe benefits	3,252,544	2,621,952
Employee development	118,996	108,638
Travel and meetings	61,576	60,756
Power	2,408,771	2,411,083
Natural gas and fuel oil	908,606	1,064,850
Chemicals	590,801	502,937
Maintenance - plant	1,371,703	1,506,683
Maintenance - interceptors	257,930	376,651
Contracted services	2,261,912	1,746,549
Insurance	232,200	200,413
Solid waste disposal	173,741	169,058
Office related expenses	461,973	432,598
Supplementary expenses	403,151	378,752
Subtotal	19,559,419	18,524,398
Depreciation	7,474,124	7,421,951
Total operating expenses	27,033,543	25,946,349
Operating income	\$10,428,389	\$10,275,365

2016: In Numbers



14

years of achieving 100% permit compliance at the Green Bay Facility, and five years at the De Pere Facility

8,517

work orders completed by Maintenance and Field Services, to keep things running

14,286,630,000

gallons of water cleaned

89,954

analytes conducted by the NEW Water Laboratory. Analytes are analyses conducted for metals, nutrients, and microbiology

49

pairs of muddy boots, from the annual Silver Creek Kids Student Monitoring Project. Area youth conducted scientific field studies to learn about the waterways in their community

70%

of land in cover crops in the Silver Creek Project watershed, resulting in a reduction of 689 pounds of phosphorus and 1,135 tons of sediment from entering area waters

10,287

active assets in NEW Water's database, which includes pumps, pipes, and everything mechanical it takes to clean water 24-7-365

75

smiles on Girl Scouts' faces after earning their "Wonders of Water" Badges with NEW Water

364,423

pounds of phosphorus removed by NEW Water and prevented from entering area waters

65

white spruce trees planted at NEW Water's Green Bay Facility to beautify the area along Bay Beach Road