Championing Water
Public Affairs & Education
Departmental Snapshot 2018
Protecting our most valuable resource, water
Conveying the Value of Water
‘Complex’ NEWWater project in its final stages

Solids-handling facility will produce electricity for district operations

By Harry Maier
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One of the larger, most complex construction projects in Green Bay is moving into its final stages.

That’s the word from Tom Sigmund, executive director of NEWWater, the brand of the Green Bay Metropolitan Sewerage District.

The project is construction of a new solids handling facility officially known as Resource Recovery and Electrical Energy (R2E2), at a cost of approximately $169 million.

Construction began in 2015 and Sigmund said next April or May could signal substantial completion. C.D. Smith Construction, Fond du Lac, is the general contractor with J.F. Ahern, Fond du Lac, the mechanical contractor and Faith Technologies, Green Bay, the electrical contractor.

Workers place a lid on one of the digesters for NEW Water’s Resource Recovery and Electrical Energy project.

See NEW Water, PAGE 34
Member Spotlight
NEW Water Overcomes Barriers, Gains Ratepayer Support, to Become a ‘Utility of the Future’

In 2008, the Green Bay Metropolitan Sewerage District, now rebranded as “NEW Water,” was at a critical crossroads. Facing aging infrastructure, beyond capacity limits and increasing regulations, the utility needed an innovative solution for these cross-cutting issues. An exhaustive analysis of more than 70 technologies and configurations and thorough stakeholder engagement culminated in the creation of the Resource Recovery and Electrical Energy (R2E2) project.

One Water Spotlight: NEW Water, the brand of the Green Bay Metropolitan Sewerage District

Thinking outside the fence - A point source in Green Bay works upstream to improve water quality.

“Never forget that you live at the mouth of the largest freshwater estuary in the world ... and never forget the great responsibility you bear for that.”

- Dr. Jack Day, Professor Emeritus, University of Wisconsin-Green Bay, and NEW Water Commissioner

That quote hangs on the wall of the Jack Day Environmental Education Center, in homage Dr. Day, who dreamed that the waters of Green Bay would once again be tranquil and salubrious. The environmental education center bearing his name sits at the confluence of the Fox River and the Bay of Green Bay, which leads to Lake Michigan. The Great Lakes hold 82 percent of North America’s surface waters, and 11 percent of the earth’s surface freshwater. In Wisconsin, the joke goes that while Minnesota may claim to be the land of 10,000 lakes, Wisconsin has more - they just haven’t gotten around to naming them all. Nearly one-fifth of Wisconsin is covered in water, with more than 13,000 lakes, these waters have served as a keystone of the Wisconsin economy.
Targeted Outreach: Customers

Today's Agenda

• 2018 Budget – Tom Sigmund
• R2E2 – Nate Qualls
• Silver Creek / Adaptive Management – Bill Hafs
• Fixed Charge – Brian Vander Loop
• Addressing Inflow & Infiltration in Our Community – Discussion with Customers
Targeted Outreach Efforts

2017 Dairy Education Conference

Wednesday, September 13

- 10:45 Registration
- 11:00 Silver Creek Watershed Project - Jeff Smude, NEW Water Watersheds Program Mgr.
- 11:30 GEA DairyProQ - Steve Pretz, Director of DairyProQ Sales NA
- 12:00 Lunch
- 12:30 On the Road to Resource Recovery: NEW Water - Tricia Garrison, Communications & Education Coordinator and Bruce Bartel, Treatment Manager

- 1:15 Board Bus

Travel to tour destinations:
- NEW Water Wastewater Treatment Plant Tour
- Pagel’s Ponderosa Dairy
- Kinnard Farms
- 6:15 – Cheese and pizza social at Conference Site

September 13 & 14
Comfort Suites
1950 Bond Street
Green Bay, WI

Conference Room: Rock Garden

NEW Water @NEWWater_WI · 29m
Thank you all for coming, we are honored that you included us in your conference!

DBMMC @dbmmcoop
We are at the Dairy Education conference and just toured @NEWWater_WL Up next we are touring DBMMC’s Kinnard Farms and @PagelsPonderosa!
Convening for Water

I had the honor to introduce Kelly Ellis of @einsteinproject for the @NEWWater_WI Watershed Champion award for #WorldWaterDay. We're all excited to have Kelly as our future neighbor at the STEM Innovation Center!
Building a Network of Watershed Champions
NEW Water Partnering on a Study of Cyanobacteria (Blue-Green Algae) in the Bay
Joint Study with Wisconsin Department of Natural Resources and
the University of Wisconsin-Milwaukee Zilber School of Public Health

Focuses on Toxins near Bay Beach
February, 2018

NEW Water, the brand of the Green Bay Metropolitan Sewerage District, is currently collaborating with partners in a study entitled “Assessing Cyanobacterial Harmful Algal Blooms (CAHBs) in Lower Green Bay”. This joint study is monitoring cyanobacteria, commonly known as blue-green algae, and assessing the spatial abundance and the long-term presence of cyanobacterial toxins, including along the shoreline at Bay Beach.

Cyanobacteria have existed for millennia, and thrive in warmer temperatures, even in the absence of nutrients, such as phosphorus.

The three-year study, being conducted with the Wisconsin Department of Natural Resources and the University of Wisconsin-Milwaukee Zilber School of Public Health (UWIM), is currently in the scientific data collection phase. Results will be shared upon study completion in 2019.
Save the Bay Update from NEW Water
March 2018

Silver Creek Project Status 2018
Silver Creek work since December 2017 has been
sustained solids at most of the sites above
winter samples. Sums of the
upstream
nutrients, including phosphorus and organic materials, were
observed at the sample points along the river. These
findings are consistent with previous studies,
indicating that phosphorus is the primary
limiting factor in Silver Creek.

Major accomplishments in Silver Creek in 2017:
- 70% increase in 2017, to 86% in 2017. This
- waterbody for runoff to the Bay of Green Bay.
- phosphorus and organic materials in Silver Creek.
- phosphorus and organic materials in Silver Creek.
- phosphorus and organic materials in Silver Creek.
- phosphorus and organic materials in Silver Creek.

The Water Knows No Boundaries video, which NEW Water created to explain the goals of Silver Creek pilot project, captured the cooperation and dedication of communities in Silver Creek, and led to the completion of the NEW Water project in 2017.

Adapting Agricultural Management
Adapting Agricultural Management

World Water Day / NEW Watershed Champion Award
On March 15, 2018, NEW Water was honored with the 2018 World Water Day
Champion Award. NEW Water, through its innovative approach to water
management, was recognized for its efforts in improving water quality and
preserving the natural resources of Silver Creek.

The 2018 NEW Watershed Champion is Kelly Ellis, Executive Director of the
Einstein Project. Kelly Ellis has been instrumental in developing strategies to
improve water quality and protect the natural resources of Silver Creek.
Making Sure Our Biological Workers are Healthy

By: Corbin Magrin/Bill Hafs

The activated sludge process uses bacteria and microorganisms to feed on organic material in the wastewater. NEW Water treats every day. The bacteria and microorganisms are the true workhorses of the wastewater plant; we refer to these as our "bugs." When provided with a healthy environment, these bugs consume nutrients and reproduce. As this process continues, a small amount of activated sludge is wasted (incinerated) while the lucky ones are returned to the treatment process to multiply and start again. Washing of activated sludge removes contaminants and nutrients such as phosphorus and nitrogen that was consumed by these organisms. Surplus activated sludge is also removed to keep the ratio of biomass to food supplied in the wastewater in balance as well as keeping a diverse population of bugs present.

Treatment staff inspects the population of these organisms on a weekly basis to verify that they are healthy and diversified. Ninety-five percent of the population is made up of bacteria which aren’t distinctly visible or quantifiable with a compound microscope. Instead, we focus on the much larger microorganisms (protozoa and metazoa) that feed on and interact with these bacteria as an indication of their well-being. Activated sludge samples are taken from the end of the treatment process and prepared on microscope slides. These slides are observed from 100-1000x’s magnification. Employees then make passes up and down these slides counting individual organisms to build a profile of our bugs. This profile is recorded, reported to the DNR as part of our Operational Evaluation Report, and also made available to operators to make plant process changes if deemed necessary.
Connecting Our Staff to the Community
NEW Water - Speaker's Bureau

is hereby recognized for outstanding volunteer service. Your energy and commitment brightens the life of our community! Thank you for your generosity.

Presented April 27, 2017
Education & Community Outreach
Digital Media: Website, E-Newsletter, Social Media, Video, “Flip Book”
On Monday, January 15th’s Inservice Day WDP High School teachers spent the morning visiting businesses in the community to learn about STEAM skills in the workplace and how to best prepare our students for these careers after high school.

Groups of teachers visited: Bellin College, Belmark inc., KI Furniture, Green Bay Metropolitan Sewerage District - NEW Water, NWTC, Proto GB/Einstein, SparkNET Interactive and Wild Blue Technologies. Thank you to all the local businesses who helped us with this great opportunity!

Gary Miller
@uwgbchancellor

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Gearing Up for R2E2 Start-Up

Resource Recovery and Electrical Energy (R2E2)

Construction of the Resource Recovery and Electrical Energy (R2E2) project is well under way at the Rockville site.

The anaerobic digesters were installed and commissioned. The digester tanks will be used to treat wastewater and produce biogas for energy generation. The project is expected to be completed in late 2023.

Walls Up! Anaerobic Digesters for R2E2 Project

Around the Clock Community Service

R2E2 Project Coordinator Greg Larranaga and Operations Manager Steve Meyer, with members of the construction team, oversee the site operations.
Capturing NEW Water’s Colorful History