

NEWSLEAKS

Vermont
Rural Water Association

Spring 2025

**Best of
Yankee
Ingenuity**
p.10



Training Calendar p.8-10

The Vermont Rural Water Association promotes public health and environmental protection through technical assistance and education for drinking water and wastewater systems.

Staff

Executive Director

Liz Royer, lroyer@vtruralwater.org

Deputy Executive Director

Tim Russo, trusso@vtruralwater.org

Water Systems Specialists

Aaron Perez, aperez@vtruralwater.org

Harry Dunn-Davenport, hdunn-davenport@vtruralwater.org

Forest Anderson, fanderson@vtruralwater.org

Wastewater Systems Specialists

Wayne Graham, wgraham@vtruralwater.org

Elijah Lemieux, elemieux@vtruralwater.org

Source Protection Specialist

Brad Roy, broy@vtruralwater.org

Apprenticeship Program Coordinator

Paula Jackson, pjackson@vtruralwater.org

Training Administrator

Allison Smith, asmith@vtruralwater.org

Communication & Association Coordinator

Katherine Boyk, kboyk@vtruralwater.org

Board

Margaret Dwyer, Winhall-Stratton FD

John Lazelle, Town of Wilmington

Jon Thornton, Bradford Water & Sewer

April Busfield, Town of Canaan

Ray Counter, Brandon Fire District #1

Eric Blatt, VT DEC Water Investment Division
Board Liaison

Rod Lamothe, *Board Liaison*

Contact

802-660-4988

info@vtruralwater.org

vtruralwater.org

20 Susie Wilson Road, Suite B
Essex Junction, VT 05452-2827

Advertising

For advertising rates and submission criteria, email info@vtruralwater.org. We reserve the right to reject advertising deemed unsuitable. Acceptance of advertising does not constitute endorsement of the advertiser's products and services, nor do we make any claims or guarantees as to the accuracy or validity of the advertiser's offer.

© 2025 Vermont Rural Water Association

Table of Contents

- 3** From the Executive Director
- 4-5** Apprenticeship Program Celebrates Successes
- 7** Cybersecurity Assistance for Water Systems
- 8-10** Training Calendar
- 11-14** Best of Yankee Ingenuity

On the cover: Hydrant sculpture by Chris Sharp on Route 7 in Shelburne, VT

Weston & SampsonSM

transform your environment



WATER RESOURCES

- Drinking Water
- Well Rehabilitation
- Pump Repair & Maintenance
- Construction of Large Diameter Wells
- Source Siting / Hydrogeology
- Emerging Contaminants (PFAS)
- Wastewater
- Brewery / Industrial Pretreatment
- Stormwater
- Municipal Pools

98 South Main St. Waterbury, VT 05676 · shaws@wseinc.com

westonandsampson.com

an employee-owned company

Updates from the Executive Director



by Liz Royer
Executive Director

As I write this in mid-February, Vermont Rural Water is in the midst of very uncertain times in terms of our federal funding. We will share additional information with our members as soon as we know more, but be assured that our top priority is continuing to provide top-tier training and technical assistance to Vermont's drinking water and wastewater systems.

Right now, we want to give an extra thank you to our members and sponsors. Your membership dollars and donations are especially important given the current insecurity of federal funding.

In early February, a contingent from Vermont Rural Water visited Washington, D.C. for the Rural Water Rally. I was joined by board president Margaret Dwyer (Winhall-Stratton) and national director Jon Thornton (Bradford), along with Kurt Motyka, Montpelier's public works director. The City



Left to right: Kurt Motyka, Margaret Dwyer, Liz Royer, and Jon Thornton in Washington, D.C.

of Montpelier was there to represent Vermont in the Great American Water Taste Test.

Along with Rural Water representatives from every state, we headed up to the Hill to meet with Vermont's congressional delegations. Our meetings with staff members from the offices of Senator Welch, Senator Sanders, and Representative Balint were all positive. Vermont's delegation continues to be very supportive of Vermont Rural Water and our work.

During the luncheon for the Great American

Water Taste Test, we found out that Montpelier was not one of the finalists, but we were excited to celebrate with Hooksett, N.H. which placed second nationally.

In other news, Vermont Rural Water has had a recent staffing change with our Circuit Riders (known as Water Systems Specialists). After eleven years with Vermont Rural Water, Paul Sestito moved to Connecticut to be closer to family. Harry Dunn-Davenport joined us at the beginning of February to fill that position. He will be assisting municipal and other USDA RD-eligible systems in southern Vermont. Aaron Perez, who has been covering southern Vermont as a Circuit Rider for 17 years, will be shifting his services to northern Vermont. As always, please reach out to our main phone number or email address if you aren't sure who to contact.

CONTINUED ON
PAGE 6 »

tce
a Bowman company

Civil & Site Engineering
Planning | Environmental
Landscape Architecture
Survey | Geospatial
Reality Capture

tcevt.com
bowman.com

Apprenticeship Program Celebrates Successes



by Allison Smith
Training Administrator

Now in its sixth year, Vermont Rural Water’s Apprenticeship Program has celebrated many recent successes.

Last November, apprentices gathered in Waterbury for our first ever in-person meeting. Eleven apprentices from across the state came for training, networking, and support. Apprentices shared insight into their experiences, including the challenges and opportunities of learning the skills needed to be successful in the water workforce. This sort of peer networking was a goal when we first launched the Apprenticeship Program in 2019, but—like so many things—it was delayed by the pandemic.

Over the past few months, several apprentices have graduated from the program. We would like to take a moment to celebrate these individuals and their achievements.

In September, **Jeremiah Borsoi** completed his apprenticeship in Wastewater Treatment with **Barton Village**. Jeremiah began his apprenticeship in 2022, and since then has demonstrated great determination in learning to operate his facility amidst changes in leadership.

Jay Kluza also completed his apprenticeship in Wastewater Treatment with the **City of Essex Junction** this fall. Jay came into the industry as a military veteran,



Jeremiah Borsoi at the Barton Village WWTF



Zach Field at the Wallingford WWTF

bringing his ethic of service to his new career along with his ability to respond quickly and troubleshoot emergent events.

The **Town of Poultney** recently gained a certified operator as **Ryan Muratorri** completed his Water Treatment Apprenticeship. Ryan works in both the town’s drinking water and wastewater facilities and balances the many day-to-day demands of a public works employee.

In December, **Zach Field** completed his Wastewater Treatment apprenticeship. Zach works for **Simon Operation Services** and manages a large portfolio of systems, including the wastewater system in Bridgewater and drinking water and wastewater systems in Wallingford. Zach



Jay Kluza receives his graduation certificate from Paula Jackson



Mike Doran, Alan-Glen Burnell, and Ryan Muratorri from the Village of Poultney

came to the industry after serving in the U.S. Army.

The program’s most recent graduate is **Brad Snow**, who completed his Wastewater Treatment Apprenticeship with the **Town of Richmond**. Brad has been a staple member of the Richmond team and operated the plant during numerous severe flooding events over the last two years.

Vermont Rural Water is immensely proud of these graduating apprentices and the determination, fortitude, and hard work that they have demonstrated throughout their apprenticeships. Recent years have presented many challenges for water and wastewater operators, including flooding and weather events, which have kept these apprentices



Brad Snow at the Richmond WWTF



Apprenticeship gathering in November 2024.

on their toes and make us even more appreciative that they persevered in the program.

As we send recently graduated apprentices on their way in the water industry, Vermont Rural Water is also welcoming new individuals into the program.

In November, **Preston Bergeron** was signed on as a Small Systems Water Treatment apprentice with **Addison Central School District** in Middlebury.

Logan Powers became the second apprentice at the **City of Montpelier** as a Water Treatment Operator in January.

Kaylan Gray has started a Small Systems Apprenticeship in Water Treatment with the **Town of Canaan**.

Tori Beloin joins us as our newest Wastewater Treatment Apprentice with **Simon Operation Services**, based in the Putney area.

The Apprenticeship Program currently has 18 active apprentices. Fourteen of these are in the water treatment program and four are in wastewater treatment. Since

the program's inception, twelve apprentices have completed the two-year program. Vermont Rural Water thanks the many employers and mentors who support apprentices and make these opportunities possible!

If you know of someone looking to start their career or make a

change, or if you are part of a system that is finding it challenging to hire, consider the Apprenticeship Program to help build a competent, capable workforce. Find more information at vtruralwater.org/apprentices. 💧

ENDYNE
ENVIRONMENTAL LABORATORY SERVICES

Williston, VT 802-879-4333 Plattsburgh, NY 518-563-1720 Lebanon, NH 603-678-4891

Email info@endynelabs.com

FROM THE EXECUTIVE DIRECTOR

» CONTINUED FROM PAGE 3

Finally, Vermont Rural Water has received funding from USDA Rural Development to put on three Disaster Response Trainings during 2025. These trainings are designed to guide communities in preparing for and responding to emergencies and natural disasters, with a focus on safety and resilience for water and wastewater systems. We hosted the first class on January 22 at the Association of General Contractors building in Montpelier.

We were excited to have Dan Whipple return as

one of the instructors for this class. Dan worked as a trainer and manager for the Vermont Occupational Safety and Health Administration (VOSHA) for many years and taught numerous trainings for our industry. He is now providing training through his new company, Integrity Safety Consulting Services, LLC.

We will be holding this 6 TCH (water and wastewater) class twice more this year. The next date for this training is Tuesday, July 15 at the Vermont State University Campus in Randolph.



The third session will be at the Williston Fire Station on Thursday, December 11. Registration for the July session is now open on our website, and the December session will be open in a few months. 💧

Dan Whipple teaching at the first Disaster Response Training in January.

Since 1955, Team EJP has been providing high-quality products, service, and knowledge in the waterworks industry. Trust the experts, call EJP with any of your water, wastewater, and stormwater needs.

 **LET'S MOVE WATER**

TEAM EJP

WATER • WASTEWATER • STORMWATER SOLUTIONS

1-800-EJP-24HR
www.ejprescott.com



2318 Airport Road
Barre, VT 05641
(802) 223-2385

1235 Airport Parkway
South Burlington, VT 05403
(802) 865-3958

New Cybersecurity Assistance for Water Systems



by Forest Anderson
Water Systems Specialist

Vermont Rural Water is excited to announce that we are one of just two states (along with Oregon) chosen for the Cybersecurity Circuit Rider pilot program. This one-year study to enhance cybersecurity for rural water systems is a collaboration between the National Rural Water Association, the White House Office of the National Cyber Director (ONCD), and the United States Department of Agriculture (USDA).

Through this program, I am able to provide free assistance to water systems in the Green Mountain State that are looking to improve their cybersecurity. As operators of small utilities, we understand that cost can be a barrier, even when it comes to something as important as security. I am here to assist with identifying low-cost, high-impact security measures that are well-suited for your industrial control systems (ICS) and operational technology (OT).

Some of you may have noticed the addition of cybersecurity in Vermont's 2025 sanitary survey. If you're uncertain where to begin, I am available to help you perform a cybersecurity assessment, clarify best practices, and connect you to additional resources and experts.

Water and wastewater systems across the country have been targets of a number of well-publicized cyberattacks in recent years.



Regrettably, it's not a question of if, but rather when such an event will occur in Vermont. It is important for systems to be prepared to respond to a cyberattack and reduce their threat profile to minimize the chances of an attack. Rather than being a six-point buck grazing in an open field, it's time to venture into the woods and find shelter among the trees; hunting season is upon us.


"America's critical infrastructure is at constant risk of a cyberattack and rural America can't be an afterthought," said then-USDA Rural Utilities Service Administrator Andy Berke in a press release from the National Rural Water Association in October. "If a rural community lacks training and resources and isn't prepared, a cyberattack on a rural water system would completely devastate the community."

The consequences of a cyberattack could be crippling to your water system and your users.

Through the Cybersecurity Circuit Rider pilot program, Forest Anderson is available to provide free cybersecurity assistance to drinking water systems.

How quickly could you respond to an attack? Do you possess the capability to manually operate your system if needed? These are two of the most fundamental questions we must consider in 2025.

As critical infrastructure operators, we bolster these traits day in and day out. Rural communities often depend on ingenuity and wit to deliver affordable services. But now, as operators delve into the realm of cybersecurity, it is crucial to take thoughtful measures moving forward to safeguard our drinking water, environment, and infrastructure. The land of tomorrow depends on us to protect against cyberattacks and to be prepared to respond if the worst happens.

If you have any questions or concerns about cybersecurity, or would like to schedule free onsite assistance, contact me at fanderson@vtruralwater.org 

AE Aldrich + Elliott
WATER RESOURCE ENGINEERS



Leading Initiatives in Sustainable & Innovative Water Resources

Water, Wastewater, & Stormwater Engineering for Municipal Clients

Jason Booth, P.E., President

jbooth@AEengineers.com

802.879.7733 | www.AEengineers.com

Training Calendar

Spring 2025

Date	Course	TCHs	Location	Cost (Member/Non)
Fri, April 4 8:30 am – 2:30 pm	Water Operator Math Course: Day 1	5 W	Essex ¹	\$40 / \$80 Textbook sold separately
Thur, April 10 9 am – 12 pm	State Revolving Funds (SRF) for Drinking Water, Wastewater, and Stormwater New!	2.5 W WW	Zoom	\$20 / \$40
Fri, April 11 8:30 am – 2:30 pm	Water Operator Math Course: Day 2	5 W	Essex ¹	\$40 / \$80 Textbook sold separately
April 15 – 24 9 am – 1:30 pm	Small Systems Class 2 Water Operator Certification Course	16 W	Hybrid (Zoom/Essex ¹)	No cost Textbook sold separately
Thur, April 17 9 am – 11:15 am	Preventing Heat Illness in the Workplace	2 W WW	Zoom	\$16 / \$32
Fri, April 18 8:30 am – 2:30 pm	Water Operator Math Course: Day 3	5 W	Essex ¹	\$40 / \$80 Textbook sold separately
Wed, April 23 9 am – 11:15 am	Protective Coatings and Manhole Rehabilitation New!	1 W 2 WW	Zoom	\$16 / \$32
Thur, April 24 9 am – 12:30 pm	Advanced WW Series: Microbiology of Anaerobic Digesters	3 WW	Zoom	\$36 / \$72
Mon, April 28 8:30 am – 1 pm	Class 3 Exam Preparation	4 W	Rutland ²	\$32 / \$64
Tue, April 29 8:30 am – 1 pm	Class 4 Exam Preparation	4 W	Montpelier ³	\$32 / \$64
Wed, April 30 8:30 am – 1 pm	Distribution Exam Preparation	4 W	Montpelier ³	\$32 / \$64
Wed, April 30 9 am – 3 pm	Wastewater Microbiology: A Monitoring Program for Operators	5 WW	Zoom	\$72 / \$144
Thur, May 1 9 am – 12:30 pm	Issuing a Boil Water Notice	3 W	Rutland ²	\$24 / \$48
Fri, May 2 9 am – 12:30 pm	Water System Sampling	3 W	Essex ¹	\$24 / \$48
Tue, May 13 9 am – 12:30 pm	Water Treatment: Chlorination	3 W	Zoom	\$24 / \$48
Thur, May 15 8:30 am – 3 pm	Vermont Rural Water's Annual Conference	3.5 W WW	Fairlee ⁴	\$85 / \$130
TCH = Training Credit Hour W = Approved for Water Credit WW = Approved for Wastewater Credit				

Register Online: vtruralwater.org/training

Date	Course	TCHs	Location	Cost (Member/Non)
Tue, May 20 9 am – 12:30 pm	Cross Connection Control	3 W	Waterbury ⁵	\$24 / \$48
Wed, May 21 9 am – 12:30 pm	Operation and Maintenance of Distribution Systems	3 W	Lyndonville ⁶	\$24 / \$48
Tue, May 27 9 am – 12:30 pm	Personal Protective Equipment, Ladder, and Electrical Safety New!	3 W WW	Montpelier ³	\$24 / \$48
Thur, May 29 1 – 3 pm	Lake Champlain Live!	2 W WW	Burlington ⁷	\$32 / \$64
Thur, May 29 9 am – 3 pm	Advanced WW Series: Real Control of the Activated Sludge Process	5 WW	Montpelier ³	\$40 / \$80
Thur, May 29 9 am – 12:30 pm	Operation and Maintenance of Distribution Systems	3 W	Brattleboro ⁸	\$24 / \$48
Wed, June 4 8 am – 3 pm	Advanced WW Series: Principles of Nitrogen Removal	6 WW	Montpelier ³	\$72 / \$144
Tue, June 10 8 am – 11:30 am	Optimize Your Water and Wastewater Pump Stations	3 W WW	Lyndonville ⁶	\$24 / \$48
Wed, June 11 8 am – 12:30 pm	Understanding Your Motor Control Panels	4 W WW	Lyndonville ⁶	\$32 / \$64
Thur, June 12 9 am – 12:30 pm	What to Expect at a VOSHA Inspection	3 W WW	Zoom	\$24 / \$48
CONTINUED »				

Locations

- 1. Essex:** Vermont Rural Water’s office – 20 Susie Wilson Rd, Suite B, Essex Junction, VT
- 2. Rutland:** FW Webb – 3091 Cold River Rd, Rutland, VT
- 3. Montpelier:** Dewey Building – 1 National Life Drive, Montpelier, VT (furthest building in National Life Complex)
- 4. Fairlee:** Lake Morey Resort – 82 Clubhouse Rd, Fairlee, VT
- 5. Waterbury:** Waterbury Municipal Center, Community Room – 28 North Main St, Waterbury, VT
- 6. Lyndonville:** Lyndon Public Safety Facility – 316 Main St, Lyndonville, VT
- 7. Burlington:** Rubenstein Ecosystem Science Laboratory – 3 College St, Burlington, VT
- 8. Brattleboro:** Brattleboro Fire Department – 103 Elliot St, Brattleboro, VT

Date	Course	TCHs	Location	Cost (Member/Non)
Tue, June 17 9 am – 12:30 pm	Leadership in Safety	3 W WW	Zoom	\$24 / \$48
Tue, June 24 8 am – 3 pm	Advanced WW Series: Principles of Phosphorus Removal	6 WW	Montpelier ³	\$72 / \$144
Wed, June 25 8:30 am – 12 pm	Optimize Your Water and Wastewater Pump Stations	3 W WW	Brattleboro ⁹	\$24 / \$48
Thur, June 26 8:30 am – 1 pm	Understanding Your Motor Control Panels	4 W WW	Brattleboro ⁹	\$32 / \$64
Thur, June 26 9 am – 12:30 pm	Successful Crisis Communications: Lead, PFAS, & Incident Management New!	3 W WW	Zoom	\$24 / \$48
TCH = Training Credit Hour W = Approved for Water Credit WW = Approved for Wastewater Credit				

Locations

3. Montpelier: Dewey Building – 1 National Life Drive, Montpelier, VT (furthest building in National Life Complex)

9. Brattleboro: Windham Regional Career Center, Cusick Conference Room – 80 Atwood St, Brattleboro, VT

Register Online: vtruralwater.org/training

Renewal Reminder

Water Operators: Class 3 and D certifications must be renewed by June 30, 2025. You will need 20 hours of continuing education. Please note that the renewal process for water operators will be different in 2025. DWGPD will be providing more details soon. In the meantime, we encourage all operators to save their certificates from training classes and track their TCHs. (The operator search database is no longer being updated.)

Wastewater Operators: Wastewater licenses must be renewed by July 31, 2025. You need 8–16 hours of continuing education (depending on your license level) in order to renew.

Registration and Payments

Register online at vtruralwater.org/training to pay by credit card or check.

Members of the Vermont Rural Water Association receive a 50% discount on most registration costs.

Accommodations

Call 802-660-4988 or email info@vtruralwater.org prior to the day of class to request accommodations.

Cancellations/Refunds

Cancellations received at least 24 hours in advance can receive a refund or transfer to another class. No-shows will be charged the full course fee.

Sick Policy

We ask that if you have symptoms of a contagious illness (Covid, flu, or other) you please do not attend classes in-person. If you are ill on the day of class, we will work with you to find a remote attendance option or switch to another class on a different day.

BEST OF THE BEST

YANKEE INGENUITY



by Wayne Graham
Wastewater Specialist

I have been writing this column about unique solutions to difficult problems since 2008. I didn't want these great ideas to get buried over the 17 years, so here is a "best of" compilation of how operators have solved problems, saved money, and made life at their second home—the treatment plant—a little easier.

USE OLD CHLORINE VENTILATION FOR CHEMICAL ODORS

Many treatment facilities handle chemical room odors by venting their chemical storage tanks into ductwork originally designed for gas chlorine evacuation. These existing ventilation systems usually have a blower that comes on when the room's lighting is turned on. A good work practice would be to turn on the light/blower a few minutes prior to entering the room.

This idea is especially useful when dealing with sodium bisulfite odors. Take care not to run the blower too long in the winter as sodium bisulfite will crystalize around 45°F.

I have seen this in Hardwick, Barton, and Orleans, but I am sure that others have thought of it as well.



Buddy Ball uses a curb stop screw auger tool to remove a blockage.

USE TOOLS TO CLEAR CLOGGED PUMPS

Ever encounter a pump so bound up with debris and "flushable" wipes that you couldn't remove the tangled mess? The ever-inventive Buddy Ball, superintendent Lunenburg Fire District 2, found a quick solution to this issue by using a curb stop screw auger tool to remove the blockage. This saved him from having to dismantle the pump.

As a safety note, don't reach into a pump with your hands because of the risk of hypodermic needles and razor blades. Take Buddy's cue and use tools or pliers to remove such debris. You might want to invest in puncture-resistant gloves as well when working on pumps or handling screenings.

PROTECT ELECTRICAL PANELS FROM COLD

Outdoor electrical panels/enclosures may have issues with cold temperatures and moisture. Operators at the Shelburne WWTFs installed a dehumidifier designed for a gun safe that circulates warm, dry air throughout the panels on a continual basis. This keeps the door panel seals from freezing, the switch gear from sticking, and prevents moisture from building up!

DuBois & King inc.
Water/Wastewater Engineering Services

- Sourcing
- Treatments
- Distribution
- Reservoirs
- Collection
- Pumping
- Treatment
- Disposal

For over 60 years, D&K has provided design through construction phase services throughout Vermont.

Contact
Jon Ashley, PE
802.728.3367
jashley@dubois-king.com

USE A WINCH TO RAISE AND LOWER A DECANT PUMP

The crew at the West Rutland WWTF installed a very simple and very effective sludge storage tank decant pump on a winch system. This allows them to raise and lower the pump as the sludge levels fluctuate so the pump is always at the right level to remove the liquid on top. This design is extremely effective and even self-draining for cold weather use.



Decant pump (blue, bottom right) attached to a winch (top right).

REMOVE SLUDGE WHILE LAGOONS ARE IN OPERATION

The Village of Jeffersonville has a two-cell aerated lagoon facility. It used to be quite a balancing act to dewater and remove sludge from one lagoon, while the other held all of the flow without discharging a partially treated effluent! This was difficult, labor intensive, and expensive.

After extensive research, the Village purchased a sludge dredge system and geotextile tubes for sludge dewatering. The biggest benefit of this system is that the lagoons can stay in normal operation while sludge is removed from the bottom. The operators have been very happy with the process.

EXTEND THE LIFE OF IMPELLERS

Do you have pump impellers and volutes that experience heavy wear? After receiving training from a local machine shop, St. Johnsbury operators coat the inside of volutes and entire impellers with a ceramic protectant. They have been doing this for years and see a huge difference in pump component longevity.



Impeller coated with ceramic protectant.

STRUCTURE. & INTEGRITY.

PITTSBURG TANK & TOWER GROUP
An ESOP Company Since 1919

"100 years and still climbing"

CREWS AVAILABLE GLOBALLY



WWW.PTTG.COM



INSPECTIONS REPAIR TANKS



Wet	Code	Elevated
Dry	Updates	Ground
ROV	Paint	Relocation
In-Service Cleaning	Insulation	Erection
		Dismantles

NEW TANKS – Rick DiZinno
(270) 826-9000 ext. 2601

EXISTING TANKS – Jordan Pyles
(270) 826-9000 ext. 4601

Distribute. Visualize. Integrate.

Powerful GIS Solutions to Meet Your Needs

- Custom Web & Mobile Applications
- Geodatabase Design
- Software as a Service (SaaS)
- Distributed Utilities
- Private Business
- Local, Regional & State Gov



cai-tech.com

TWO TRICKS FOR BAR RACKS

Trevor Welch at the Jeffersonville WWTF had issues with surface aerator performance. The aerator props were very prone to getting tangled with debris from the influent that passed through the coarse bar rack, so he added fine bar screen downstream. This addition has made the aerators much more reliable.

Speaking of manually raked bar racks, ever try to rake one in freezing temperatures? It results in quite a frozen mess. Try splashing influent on the racks, drainage platform, and the rake itself. A very thin layer of ice forms and keeps the screenings from sticking to the metal. As any operator knows, handling screenings from bar racks and screens is not a fun part of our jobs (in fact, I tell new operators in the Basic Wastewater Course that if they only learn one thing from me, it's to keep your mouth closed when raking a bar rack!)



The pump station (left) with a retrofitted valve handle (right) allows for safer operation from ground level.



VERTICAL VALVE TO AVOID CONFINED SPACE ENTRY

When complying with safety regulations, sometimes engineered solutions (aka work-arounds) are warranted. The Sugarbush Utilities staff at Mountain Wastewater Treatment, Inc. did just that by hiring Laramie Water Resources to do some interesting retrofits so they could avoid repeated confined space entries. Phil Laramie's crew cored a hole in the concrete pump station wet well and installed a vertically operated valve. This allows the operators to open and close the valve from above using a valve key. The operators no longer have to enter this confined space to turn the valve.

PREVENT EFFLUENT DISCHARGE DURING POWER OUTAGES

The Danville WWTF uses UV disinfection, so if the power went out and the UV lights shut off, the effluent wouldn't get disinfected. They solved their power failure concerns by installing automatic valves on the effluent line. When the power goes out, these valves immediately close, which stops effluent discharge. This ensures that effluent that hasn't been disinfected won't be discharged. The facility does not need a generator for short power outages that are less than 24 hours. This method works because Danville is a small lagoon plant, but other facilities may experience overflows if their effluent discharge is closed for an extended period.

Thank you to our newest Sustaining Associate Members:

BP Wastewater Services LLC

mPower Innovations

We appreciate your support!

DG
DUFRESNE GROUP
CONSULTING ENGINEERS

Defining Solutions for Environmental Challenges

- ✓ Water treatment & distribution
- ✓ Civil and site
- ✓ Stormwater treatment & retention
- ✓ Construction services
- ✓ System computer modeling
- ✓ GIS applications
- ✓ Wastewater treatment & collection

Springfield, VT | Barre, VT | St. Johnsbury, VT
 dufresnegroup.com info@dufresnegroup.com 802.674.2904



Elizabeth Walker installing the pump.

RETROFIT AN OLD PUMP

Sometimes Vermont Rural Water staff even dabble in Yankee Ingenuity. The North Troy wastewater plant was in desperate need of a return activated sludge pump. They were in the middle of an engineering review and not in a position to purchase a new pump. Now-retired VRWA wastewater specialist Elizabeth Walker and I repurposed a Penn Valley pump from another facility. With some piping modifications and assistance from plant staff, it was operating flawlessly in no time!

ASYMMETRICAL RUN TIME

This is an idea that I stole 38 years ago from operators at my first wastewater job in West Lebanon, NH. If you have duplicate pieces of equipment, especially duplex or triplex units, don't run them for equal amounts of time.

Contrary to what most equipment suppliers will tell you, alternating equipment to maintain equal run hours is not a good idea. The reason for this is that if you have two units of the same blower, pump, motor, etc. and you run them equally, then chances are when one of them wears out, the second unit is in similarly poor condition. This leaves you with the dilemma of having one unit broken or under repair and your back up unit is also at risk of failing.

IF MIXERS WON'T WORK, USE A BLOWER INSTEAD

Another cheap and very effective fix from the operators in St. Johnsbury was finding a way to keep their 1.2 MG sludge holding tank mixed when the sludge level was lower than the mixers. The staff set up a portable blower on a skid and now blow air into the bottom of the tank cone through a sludge line.



Blower assembly (left) and a holding tank being mixed by the blower (right).

An example of a better rotation is to run your lead unit six days a week and your backup unit one day per week. When the lead unit is ready for rebuild, your backup unit will still be in good shape.

Granted, there will be exceptions to this such as warranty issues, when you may want to max out equipment run time, or equipment that needs to be operated or exercised daily.

A good practice that can be used facility-wide is to exercise your backup units while exercising your generator. This will keep your electrical demand charges down.

If you have interesting ideas that you want to share, send them to me to be included in future articles. I also encourage you to tour other facilities and share ideas; you will find that networking with other operators can be very beneficial. Several organizations can help; VTWARN, GMWEA, VT Watershed Management Division, and of course, Vermont Rural Water.

Stay safe out there, we need you! 💧



STATEWIDE

AQUASTORE, Inc.

Premium Water & Wastewater Storage Tanks



www.statewideaquastore.com

info@statewideaquastore.com

315.433.2782

2025 Conference & Trade Show



May 14-15, 2025

Lake Morey Resort • Fairlee, VT

Trainings • Vendors • Golf Tournament

Class Topics:

- SCADA Overview, Troubleshooting, & Resiliency – Tom Allen, LCS Controls
- Peristaltic Pumps 101 – Kevin Moran, Stenner Pumps
- Ice Pigging – Paul Treloar, American Pipeline Solutions
- Security and Resilience – Joe Duncan, Champlain Water District
- Drinking Water Regulatory Updates – Ben Montross, DWGPD
- Wastewater Regulatory Updates – Heather Collins and Michelle Kolb, Wastewater Management Program

Register at
vtruralwater.org/conference

Planning	Design	Permitting
OTTER CREEK ENGINEERING		
Civil and Environmental Consulting Engineers		
East Middlebury, VT 802.382.8522 Rutland, VT 802.747.3080 www.OtterCrk.com		

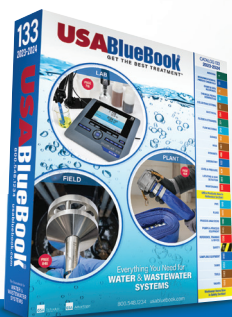
	Serving New York and New England since 1963.		
We're dedicated to having the fastest service and the most knowledgeable experts in the water and wastewater industry.			
800.225.4616	www.tisales.com	info@tisales.com	

Experience the **USA**BlueBook[®] Advantage

Get the *Best Treatment*[™] from a partner who has served the industry since 1991.

- Over 57,000 products from leading brands
- Fast shipping from our nationwide distribution network
- Unsurpassed customer service
- Free technical advice from industry experts
- Satisfaction guarantee

In the lab, plant and field, USABlueBook is your trusted ally in all things water and wastewater.



Request a catalog

FREE 1800-page catalog: usabluebook.com/C133
800.548.1234 • usabluebook.com

USABlueBook[®]
GET THE BEST TREATMENT[™]

