Vermont Rural Water Association....Supporting Water and Wastewater Systems since 1982

Succession Planning

Aaron Perez, Water Systems Specialist

It has become evident this year that there is a great need for new operators in both the water and waste water fields. I have been hearing from town administrators and operators that finding a replacement that is qualified, reliable and looking to make a commitment to the industry is getting harder and harder. Town administrators should begin succession planning to identify and train water operators to fill positions as they become available. Without this, municipalities are at risk for having their water system fail without experienced and capable employees at the ready.

Some of the challenges include offering a competitive wage, finding someone local enough to deal with emergencies in a timely manner and being able to offer enough training time with the already experienced operator who is familiar with the system. Sufficient training time ensures that the system outlives the operator. The unspoken knowledge of the day to day operations is often difficult to access, capture, and share, yet is the most critical information needed to create a succession plan that carries the knowledge into the future. Budgeting for succession planning, especially in some of the very small systems, can be challenging. It can put a huge strain on

Advocating for Rural Water Rally 2016

Shaun Fielder, Executive Director

In the last issue of News Leaks I let everyone know VRWA was gearing up for our annual rally visit to Washington and the event was productive and successful. VRWA's main objective, to visit with our Congressional delegation, achieved. We specified rural water appropriations requests and showcased the activities and acOne support letter in particular included in the accomplishments packet noted assistance provided by VRWA team members related in direct savings to the system totaling \$40,000! While a higher value return, not uncommon for our work.

The VRWA "rally team" consisted of directors Ed Savage (West Rutland), Rod Lamothe (Endyne and

> Castleton Meadows a late substitution for Margaret Dwyer who into scheduling issues) and myself. Very good have face

> > time

to

with

complishments of the VRWA team. The accomplishments information clearly illustrated a great return on the investment for the programs. For a snap shot on 2015 - VRWA completed the following, 127 training sessions conducted across all parts of Vermont with 5.233 TCHs distributed, 2.085 hours of one on one onsite technical assistance conducted, 24 source protection plans completed. This with a lean and efficient team of nine dedicated individuals.

staff members in Senator Sanders and Congressman Welch's office and also time with staff and Senator Leahy himself at his office. VRWA along with all other affiliates continue to keep contact with representatives as the FY2017 budget discussions continue. VRWA appreciates continued support from Senator Sanders, Senator Leahy, and Congressman Welch.

(Continued on page 9) (Continued on page 9)

Who We Are

Since 1982, Vermont Rural Water Association has supported water and wastewater systems across the state. We provide many services, including training, source water protection planning, and onsite assistance.

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News Leaks is the official publication of VRWA. It is published quarterly for distribution to operators, owners, managers and board members of water and wastewater systems in Vermont, as well as to association members, water and wastewater service providers, regulators, and other friends. Opinions expressed in the newsletter do not necessarily reflect the views and policies of VRWA.

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Letters



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January 4, 2016

Shaun Fielder VT Rural Water Association 20 Susie Wilson Rd, Suite B Essex Jct., VT 05452

Dear Shaun,

This is just a quick letter of thanks for the help VRWA provided the City of Rutland to address very challenging water infrastructure problems in 2015. The massive KIA Motors water leak last March was particularly difficult to identify and threatened the integrity of the entire system. Ultimately the leak surfaced during an emergency pressure loss, but we became familiar with your capabilities during that crisis and much appreciated the assistance.

As a result of working with you on the KIA event, we called you again to help nail down the source of water plaguing the North Street and Melrose Avenue neighborhood. You conducted two surveys, and both failed to find a leak large enough to be the cause of the problem. In the end it was determined that the source was groundwater and not a system leak, but your negative finding helped point us in the right direction sooner than would have happened otherwise.

Rutland City is a long standing member of VRWA, and can attest to the great value of the work you do to support both large and small water systems throughout Vermont. Here's hoping 2016 will be a little less 'exciting' here in Rutland, but it is great to know we can call anytime and get expert support from VRWA.

All the Best,

Jeff Wennberg
Commissioner

Cc: Mayor Louras, Jim Rotondo, Scott Taggart



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News on Tap

VRWA Annual Conference and Trade Show 2016

Mark your calendars and be sure to save the date for our 2016 conference and trade show event. We are looking forward to returning to the Lake Morey Resort on May 4 & 5, 2016. More information on registration for our associate contacts as well as individuals has been mailed separately and is available on our website.

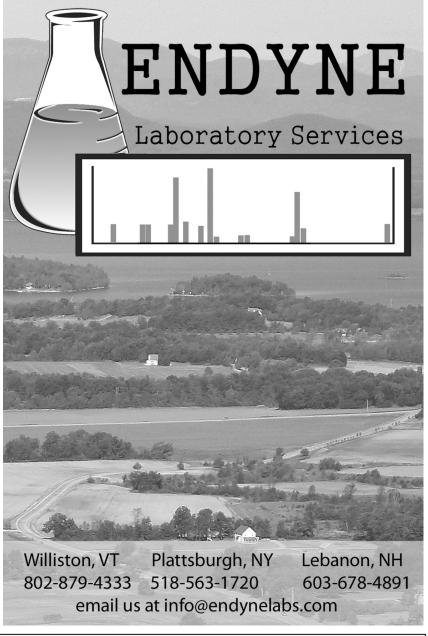
http://vtruralwater.org/industry/
conference_registration.php

Final Lake Champlain TMDL Still Not Issued

As of press time the final phosphorus reduction plan has not been issued by EPA Region 1. At this time, final review and edits are taking place and latest news indicated it should be issued early this Spring.

Vermont Reviewing Policy / Rules On Combined Sewer Overflows

VT DEC has been hosting public hearings and receiving comments on the CSO guidance. Last issued in 1994, a number of edits and updates have been proposed. On a parallel track, a bill to address this same issue is now being considered in the Vermont Legislature. VRWA has advocated that the legislature allow VT DEC to update the CSO rule and there is no need for any bill or potential act that duplicates any new guidance measures. The final outcome is to be determined and more info on the rule can be found at this link www.watershedmanagement.vt.g ov/ww/htm/notices.htm





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Planning to Protect Vermont's Drinking Water Sources

By Liz Royer, Source Protection Specialist

After years of brainstorming how to better reach out to the planning community, the seed of an idea was planted during a summer 2014 Groundwater Coordinating Committee (GWCC) meeting in Montpelier. Along with Kira Jacobs of US EPA Region 1, Liz Royer of Vermont Rural Water (VRWA) had prepared an agenda of discussion items for the GWCC meeting. Promotion of groundwater reclassification (Class II), revisions to the Vermont Water Quality Standards, and ways to encourage municipal protection for source protection areas were hot topics. Other discussion revolved around updating guidance and outreach documents such as "Protecting Public Water Sources in Vermont" and "Ounce of Prevention." It seemed as if every topic that was mentioned included a need to initiate outreach to planners.

This outreach effort kicked off in January 2015, when VRWA presented to the Regional Planning Commission (RPC) Executive Directors as part of the monthly Vermont Association of Planning and Development Agencies meeting. Marjorie Gale, Vermont State Geologist, and Kira Jacobs were available by conference call to help answer questions. Topics ranged from STATEMAP funding to the Water Well Database and from Act 199 (Vermont Groundwater Act) to Hazard Mitigation Planning. The goal of the discussion was to answer the following questions:

- How can we increase collaboration on topics related to groundwater planning and source water protection?
- How can RPCs help with strategic targeting for towns that may want or need assistance?
- What resources are needed to meet these objectives (grants, technical assistance, etc.)?

Based on feedback from the presentation to RPC Executive Directors, we decided to do several focused workshops for Regional Planning Commission The first of these was held on October 6, 2015 at the Two Rivers-Ottauquechee Regional Commission in Woodstock. The title of the workshop was "Planning to Protect Ver-Drinking Sources" and included presentations with plenty of time for discussion. We also promoted the Vermont ANR Natural Resource Atlas and reviewed new map layers related to groundwater and drinking water.

The program kicked off with a real world story of a local community that recently ran out of water — a place we called NoWaterTown, Vermont. This presentation was done by Rodney Pingree, Water Resources Section Chief in the DEC Drinking Water & Groundwater Protection Division.

Next up was State Geologist Marjorie Gale with "Know Your Growth and Recharge Areas." Marjorie discussed how the Vermont Geological Survey can work with towns on water supply issues. "The Federal Perspective – Partnerships with the EPA" was presented by Kira Jacobs. Finally, a local perspective on protection of drinking water sources was provided by Liz Royer, Source Protection Specialist with VRWA.

An additional workshop with similar themes was held on December 9th at the Windham Regional Commission in Brattleboro. Currently, we are working on scheduling workshops in the Middlebury and Morrisville areas during April 2016. Future plans include presenting to town planners, planning commission members, and zoning administrators. If you are interested in planning to protect the drinking water sources in your community, please contact Liz Royer at lroyer@vtruralwater.org.





What's A Curb Box Charger?

Joseph D. Fenicle, PS (submitted by Brent Desranleau, VRWA Water Systems Specialist)

Article provided by Marty Frizzell

I have been surveying for almost 20 years now, and it is rare that some new technology comes about that I have not heard of.

Sometimes, that new technology is only new to me. I had one of those moments when I first started surveying and we were searching for a corner. The older guy on the crew with me kept asking me if I got a dip, and I was so confused. He didn't dip, and I was starting to think he was off his rocker. Fi-

nally, asked what he was talking about. and we laughed as he reminded me of my age and then explained what a dip needle was. To this day, I love telling that story.

Well, the same thing

happened the other night at a remonumentation peer group meeting. One of the local surveyors was presenting a corner for review, and during his presentation mentioned that he couldn't find the corner he was looking for, so he "charged the intersection." I sat back confused, but bit my lip until he was done presenting. Then, luckily, another local surveyor looked at him and asked what he was talking about. As with "the dip needle debacle,"

this led to laughter and how young I was and how exactly you "charge an intersection."

One of the surveyors actually left the meeting, went to his truck and brought in the "charger." I expected to see something from the 21st century, something that sits alongside the ground penetrating radar (GPR) unit, or next to the drone or the robot. It was none of the before-mentioned items. Actually, it was an odd-

> looking heavy piece of metal with a wooden handle sticking out of the side. a long while, the meeting came to rest as we examined this contraption and an explanation was given by the surveyors who knew what it was and how it worked.

The heavy metal contraption had a small tag

on the top that labeled it as a Miller Curb Box Charger with U.S. Patent Number 2,817,795. The surveyors gathered said how rare these were and that they have looked for them on the Internet but the search was futile. At this point, I was on a mission to find a curb box charger, and to find out how it worked and who invented the thing and why. The meeting ended a few hours later and, immediately upon getting home. I was

scanning the Internet for the patent paperwork and for a charger itself.

The History

The curb box charger was invented by Basil Miller, of Elkhorn, Wis. The original paperwork was filed on April 4, 1952, but the patent didn't get recorded until Dec. 24, 1957. Born in Newton, Iowa, Miller was an avid inventor and businessman, but also the Superintendent of City Utilities in Elkhorn. One of his many inventions was the wind power generator. With this invention, he founded the Miller Motor Company, which was later renamed the Wind Power Light Company.

According to the patent, "This invention relates to a curb box charger and particularly to a marking device to apply a magnetic charge to hidden metal objects so they may be readily discovered by means of a magnetic needle." Miller continues, "It frequently happens that these



News Leaks, Spring 2016

boxes or outlets become covered with dirt or paving material, or in the winter time with snow and ice so that it is impossible to find the devices without an excessive amount of experimental digging. It is known that elongated metallic objects such as pipes or curb boxes have a tendency to be magnetized by the earth's magnetism. However, it is also known that the reluctance of the material of which these boxes are composed substantially defeats any magnetization thereof by means of the earth currents. However, when the earth currents are aided by means of a magnetizing device, such devices are easily magnetized, and because of that, the said reluctance retains the magnetism over a considerable length of time even over a period of years."

We have all searched for that PK nail, knowing it was there, but could not get a good tone on it. I personally have also had #5 re-

bar, 36 inches long, with absolutely no magnetic field at all. A few months ago, we actunickally named a troublesome harrow tooth with no tone the "Toneless Tooth."

The patent continues, "The present invention provides a charger adapted to assist in producing magnetization of buried metal objects, particularly elongated metal objects, so that they may have a material magnetic influence and may be readily determined by means of a magnetic dip needle." At least now I know what a dip needle is ... or else the confusion would have continued.

How It Works

The actual charger works by having a super strong magnet inside a magnetized tube with a brass, non-metallic end. The super strong magnet on the inside is on a moveable plunger and can be "activated" by moving the plunger up or down. When the plunger is down, it magnetizes a limited area underneath the charger. If you do this enough times around an intersection, you have successfully "charged the intersection."

The more technical terms straight

of such a magnetic device, a shield in the form of a tubular guide of magnetic material is provided and means is provided for locating the magnet within the shield when it is not in use. In order to use the device for increasing the magnetization of a buried metal object, a non -metallic end, such as a brass tube, is applied to the shield and means are provided, such as a handle, for projecting the magnet into the tube. If desired, a magnetic piece may be applied at the end of the tube to serve the double purpose of a magnetic tip and an anchoring means for retaining the magnet in the non-magnetizable guide." Alnico magnets are made to be permanent magnets made of aluminum, nickel and cobalt, thus forming "al -nico." The only stronger magnet is one comprised of rare earth elements, and that didn't come about until the 1970s. Therefore, the Alnico magnet was the strongest magnet around at the time of the Miller Curb Box Charger.

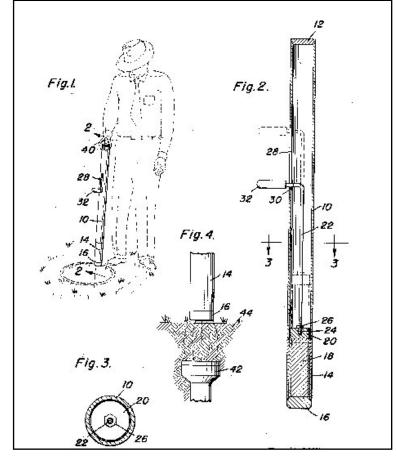
Alnico or other high permeability

alloys. To allow proper utilization

The only downfall of "charging the intersection" is that any ferrous object (i.e., bottle caps, slag, etc.) will be magnetically charged and may give a false tone to the user. The clear advantage is you may also find that "lost" section corner you have been searching for or that troublesome "Toneless Tooth."

So, the next time you go to call out the GPR guy or the backhoe guy, maybe just thank ol' Basil Miller and use a curb box charger — if, that is, you can get your hands on one.

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WATER, WASTEWATER & STORMWATER SOLUTIONS

Vermont Environmental Consortium (VEC) Presents Environmental Career Panel Discussions

The Vermont Environmental Consortium (VEC) recently presented a panel discussion for University of Vermont students on opportunities in environmental careers for all potential majors and degree programs. The first of these discussions was hosted by UVM in the UVM Career + Experience Hub in Burlington. Panelists, all professionals from VEC member organizations, came from a variety of businesses and nonprofits. Panelists included Shaun Fielder- Executive Director of Vermont Rural Water Association: Ronald A. Shems, Esq. - Attorney, Diamond & Robinson, P.C.; Julie Moore- Senior Engineer and Water Resources Service Line Leader.

Stone Environmental, Inc.; and Kurt Muller, P.E. - Senior Project Engineer/Manager, The Johnson

Company, Inc.

VEC has designed and is offering these panel discussions free of charge to Vermont universities and colleges to meet the educational outreach compo-

nent of its mis-

sion. The panels will be comprised of VEC members with diverse professional backgrounds in Vermont's environmental sector.

This program builds on the Vermont Green Careers Website, developed by VEC for the Vermont Depart-

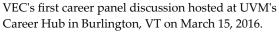
ment of Labor. A wide variety of "green jobs" and careers can be researched on the website, including: Environmental Protection: Green

Building,

Manufacturing & Transportation; Green Education & Research; and Energy Production. The website guides a visitor to job description, educational requirements, wages, job trends and projections, specific to each potential job or career choice. A video accompanies each section where people discuss that specific environmental career. The website be found at: www.vermontgreencareers.org/ or under the "Projects" tab of VEC's www.vectogether.org. Career related events will be posted under the News tab on the Green Careers website.

Vermont educational institutions interested in hosting a VEC career panel should contact Kurt Muller at (802)229-4600 JKM@jcomail.com to learn more. To hear more about the first panel hosted at UVM please contact; Anna Smiles-Becker, Career Counselor & Internship Coordinator for Rubenstein School of Environment and Natural Resources / University of Vermont at Anna.Smiles-Becker@uvm.edu or 802-656-3002.









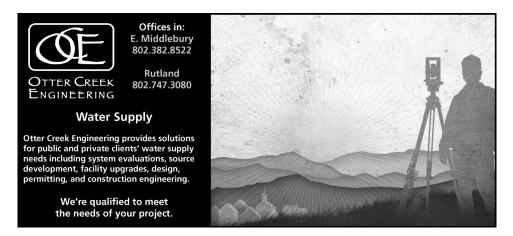
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"If it is possible to have someone in a different department cross train, it can save a town big financially and also make for a much smoother transition. "

"Succession Planning" continued from cover

the budget when a system has the budget to pay just one operator but the need to pay two while training. Looking within a town's pool of existing employees can be a good start. If it is possible to have someone in a different department cross train, it can save a town big financially and also make for a much smoother transition. Another option is to establish a mentoring program to develop technical skills for the position. Also, finding a qualified operator who does not need a lengthy training period can mean expanding the types of recruitment media that you should advertise in. The local paper is a good place to start but using internet options can really make a difference in reaching the right person. VRWA, for example, posts jobs on its web site as well as many other social media outlets.

Whether a town chooses to recruit from afar or develop skills internally, discussions about the cost for and process of succession planning for water operations should be happening in every town.





chris.hodgson@dntanks.com



"Advocating for Rural Water" continued from cover

Many hot button issues at hand during the rally event including the Flint water crisis and of course many discussions on issues associated with the Presidential campaign activities. It will be interesting to see the final election outcomes this November. In regards to the Flint crisis there is much to be analyzed and one basic takeaway for now, cutting corners and limiting investments in the water sector are a move in the wrong direction.

Toward to the goal of promoting how important the rural water funding support as well as your work is in the water and wastewater industry, I believe USDA Secretary Tom Vilsack summed it up best during his opening session address. He noted, "Without water and wastewater service we lack public health and environmental protection and additionally without water and wastewater service there will be no economic opportunity in our given communities." It was nice to hear a cabinet member personally thank all operators, board members, and systems representatives for their dedication to the water sector and the country.

My thanks to Ed Savage and Rod Lamothe for their time and commitment to advocate on behalf VRWA and for clearly illustrating how important rural water appropriations are to all Vermont systems.

News Leaks, Spring 2016

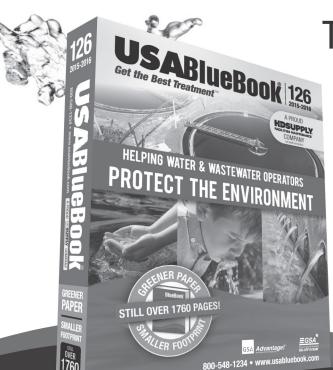


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