Acton Water District

SUMMER 2013

Water Words Notice

Greetings and salutations! Like the product that we provide, our priorities must be liquid, ever-changing and free flowing. In the world of Public Water Supply, one must wear many hats, and be equally proficient and diverse in each calling. From repair of a service outage to maintenance in a pump station or water treatment plant, our staff is comprised of highly trained experts with diverse backgrounds. With a complex treatment and supply network, coupled with equally complex regulations, staffing is challenging. As we prepare to break ground on our second full-scale water treatment plant in South Acton, these challenges are multiplied. State licensing requirements for certified drinking water operators have changed significantly in the recent past including prerequisite education requirements and additional certification testing. Fortunately our highly skilled division of operators is prepared to take on the challenge and keep the ball moving forward.

The aforementioned South Acton Water Treatment Plant design, bidding and construction is on schedule. We just passed the 60 percent milestone in the design of the facility that will be located at our Assabet Well site near Powdermill Road in South Acton. Bidding and the awarding of a contract is scheduled for later this summer with construction set to begin in the fall of 2013! Final completion is required to be done for December 2014. During this fast paced construction schedule and ultimate cutover from our old systems to the new system; we appreciate the patience and cooperation of our customers. Once this work is complete, we expect everyone in Acton will benefit from the project!

Finally, I would like to take this opportunity to thank Elaine Lawson for over 30 years of service to the residents of Acton. She worked both for the Acton Highway Department and for the Water District. Elaine retired in June, and her smiling face and enthusiastic attitude are missed. I wish you fair winds and following seas, Elaine, as you sail off into retirement!

Respectfully submitted,

Chris Allen
District Manager

Elaine Lawson retired from the Water District on June 14, 2013 after nine years of service. Elaine joined the District in 2004 as the Accounts Payable Bookkeeper/Secretary. Prior to that she worked for 25 years in the Town of Acton Highway Department. Her knowledge of municipal government, her customer service skills and her familiarity with Acton will be sorely missed. We wish Elaine all the best as she enjoys her retirement!

Elaine Lawson has been a familiar face around Acton for over 30 years.

Breaking News

On Thursday June 20th, a standing room only crowd of Acton Water District voters, approved the purchase of 4.1 acres of land in South Acton. The 16 Knox Trail property was a gravel processing and distribution system for over 50 years and predated the installation of the Assabet water supply wells in 1970. This purchase will continue a 40 year progression of land acquisition, totaling almost 80 acres, in the area of the District's largest source of supply. This will also help to remedy a Notice of Non-Compliance (NON-CE-12-5D031) issued by the Massachusetts Department of Environmental Protection in March 2012, for well head protection violations caused by the company formerly operating at this location.

South Acton Water Treatment Plant

The construction associated with our South Acton Water Treatment Plant is going to be a major undertaking for the District. This comprehensive project will combine two existing treatment facilities into one common filtration plant located off of High Street. As part of this project, there are two relatively large water pipeline installations that must occur. A transmission line must be installed in the public Right-of-Way from School Street, along Parker Street to Independence Road, before travelling cross country into the new plant for filtration. Second, a larger diameter pipe on High Street from Valley Road to Main Street must be installed to account for the higher flow coming from this area. We anticipate this project to last approximately 12–14 months. The project is expected to break ground this fall and the plant is mandated by State regulators to be operational by December 1, 2014.

This will be the second full-scale filtration plant constructed in our system, joining the currently operating North Acton Water Treatment Plant, which was placed in service in June of 2009. The two facilities combined have a supply capacity of 2 million gallons per day (MGD). (Acton's average day demand is approximately 1.6 MGD.) This latest project is anticipated to carry a hefty price tag, in the neighborhood of $12 million. To assist in the financing, and minimize the impact to rate payers, we applied for, and were approved for a 2 percent loan on a 20-year bond through the Massachusetts Water Pollution Abatement Trust State Revolving Fund (SRF). Be on the lookout in the imminent future for project updates on our web site at *www.actonwater.com*. Since all customers will benefit from this water quality improvement project, regardless of how much water they use, each billed dwelling unit will see a "Debt Impact Fee" on the quarterly water bill. This fee will rise and fall as the principle and interest on the loan rise and fall over time.

Help Move the Acton Water District Forward

Some of you may be reading this newsletter on your computer, tablet, or Smartphone. If so, you are already helping to move the District forward! With recent changes in the interpretation of the Federal Safe Drinking Water Act regulations, we are able to "deliver" our consumer confidence report, a summary of important information regarding your water, electronically. We hope that this will increase readership of our publications while also decreasing our cost to produce and mail this information to our customers. If you prefer to receive a hard copy of this report, please contact Matthew Mostoller to be placed on a list of recipients to mail a copy to. If you wish to receive this report and other communications from the District electronically, please go to our website *www.actonwater.com* and look for the "Go Paperless!" link on the homepage.

Periodically, the District conducts surveys of our customers. Although we like to think of low customer interest as a good sign, we know that people have opinions and concerns that we should be aware of. Please take a few minutes to visit our website *www.actonwater.com* and complete a short customer survey. You will have the option to provide an email address for future communications from the District or for follow up if you have concerns that require immediate attention. Staff is always available Monday–Friday, 7:30am–4pm to discuss your concerns and answer questions relating to your public water supply. A treatment operator can always be reached 24 hours a day in the case of an emergency.

Report on Water Quality

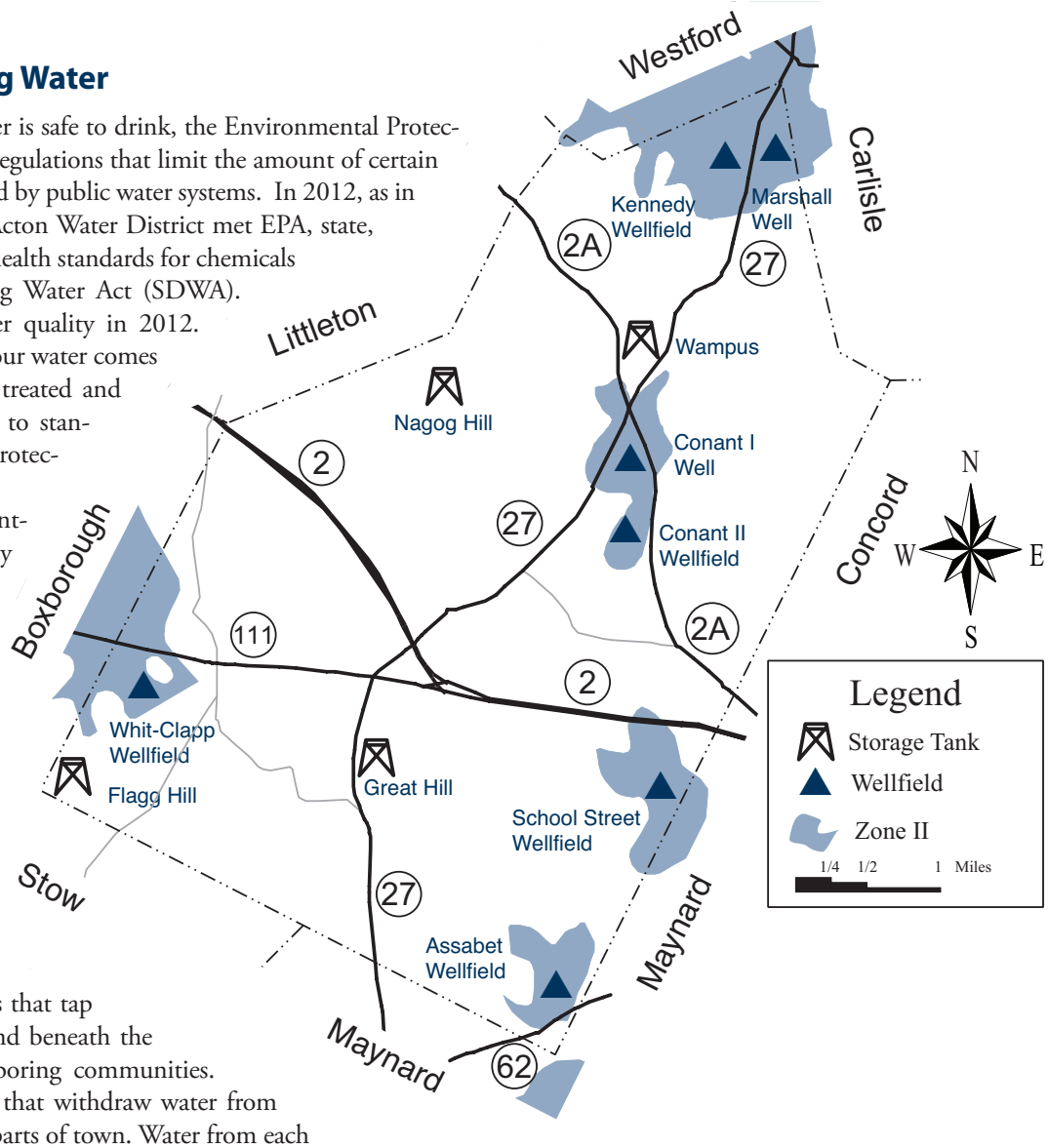
SUMMER 2013 PWS 2002000

Acton Water District

Testing for Your Drinking Water

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. In 2012, as in years past, water supplied by the Acton Water District met EPA, state, and our own local drinking water health standards for chemicals regulated under the Safe Drinking Water Act (SDWA). This report is a snapshot of water quality in 2012. Included are details about where your water comes from, what it contains, how it is treated and distributed, and how it compares to standards set by the Environmental Protection Agency.

The Acton Water District vigilantly safeguards your water supplies by employing multiple barriers for protection, including source water protection, distribution system protection, ongoing monitoring, and treatment. Last year, we collected more than 650 samples and tested them for over 100 different potential drinking water contaminants.



The Source of Your Drinking Water

Your water comes from wells that tap the water held in the ground beneath the town of Acton and neighboring communities. The District has22 different wells that withdraw water from seven wellfields located in various parts of town. Water from each well is pumped to treatment facilities located in each of the various wellfields, and then into the distribution system (a network of over 130 miles of water mains, four storage tanks, and over 1,100 fire hydrants) where it blends together and is delivered to homes, businesses, schools, and other public users. The map on this page shows the various storage tanks, wellfields and the critical, protective radius (called Zone II) around each wellfield.

Protection for Your Drinking Water

The Acton Water District employs three important "barriers" to maintain the highest possible quality of drinking water:

- A protective area called Zone II surrounds each of Acton's wells. Land use activities that could adversely affect water quality are restricted within the Zone II area.
- Each of Acton's wells is treated in order to remove impurities and improve the taste of the water. Water treatment specifics are listed below.
- The system of pipes that delivers water to your home is protected by a program that works to minimize "cross connections" between potable (intended for human consumption) and non-potable water. An example of a cross connection is a point where a drinking water pipe might connect to a fire suppression system or to an outside irrigation system.

Why are Impurities in Your Drinking Water?

As water travels through the ground it dissolves naturally occurring minerals. It can also pick up substances resulting from animal or human activity. Contaminants that may be present in source water include:

- **Microbiological** contaminants (such as viruses and bacteria) that may come from septic systems, agriculture, and wildlife.
- **Inorganic** contaminants (such as salts and metals) may be naturally occurring or result from storm runoff, wastewater discharge, mining and farming.
- **Pesticides and herbicides** may come from a variety of sources such as agriculture, storm water runoff, and residential uses.
- **Organic chemical** contaminants are byproducts of industrial processes, and can also come from gas stations, urban storm water runoff, and septic systems.
- **Radioactive** contaminants can be naturally occurring or be the result of oil and gas production and mining activities.

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some impurities. The presence of an impurity does not necessarily indicate that the water poses a health risk. The Acton Water District has compiled information on drinking water and health in our drinking water resource center. Please feel free to visit or call us for information, or call the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Treatment for Your Water

To meet local, state, and federal requirements, and to improve taste and appearance, the Acton Water District treats all of its water before it is supplied to our customers. The table below shows the treatment provided at each wellfield.

Treatment	Conant I Well	Conant II Wellfield	Marshall Wellfield	School Street Wellfield	Assabet Wellfield	Kennedy Wellfield	Clapp/Whitcomb Wellfield
Aeration *VOC removal*		♦	♦	♦	♦	♦	♦
Chlorination *disinfection*	♦	♦	♦	♦	♦	♦	♦
Fluoridation *tooth decay prevention*	♦	♦	♦	♦	♦	♦	♦
pH Adjustment *corrosion control*	♦		♦			♦	
Carbon Filtration *taste/color control*							♦
Membrane Filtration *mineral/color removal*			♦			♦	

Source Water Assessment and Protection Report Available

The Source Water Assessment and Protection (SWAP) program requires states to assess the susceptibility of public water supplies to potential contamination. The Department of Environmental Protection (DEP) has completed its assessment on each of the Zone IIs for the Acton Water District's wells. A susceptibility ranking of "high" was assigned to each Zone II using the information compiled by the DEP. Copies of the SWAP report are available at the Acton Water District office or on our website, *www.actonwater.com*.

The Acton Water District has long recognized the susceptibility of its sources, and has worked closely with the town and state to maximize the protection of all of its Zone IIs. For more information, please call Matthew Mostoller at the Acton Water District (978) 263-9107.

For more information, additional copies, or comments on this report, contact:

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Phone: 978-263-9107 • Fax: 978-264-0148
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Water Quality Data Table

The data presented in the table below are from calendar year 2012 unless otherwise noted. Only compounds that were detected in the water delivered to our customers are reported in this table. Because water from all wellfields is blended within the distribution system, these data represent the range of water quality in all wellfields.

Substance (units)	Range of Detects	Level Allowed (MCL)	Goal (MCLG)	Typical Source	Exceeds MCL?
Regulated Substances (MCL has been established)					
Total Coliform	0 -5 positive samples	< 2 samples positive/month	0	Naturally present in the environment	Yes
Arsenic (ppb)	0 -4	10	No MCLG	Erosion of natural deposits	No
Barium (ppm)	0.012-0.032	2	2	Erosion of natural deposits	No
Trihalomethanes (ppb)	6.6-49 average: 16	80	No MCLG	Formed when natural organic material present in the water reacts with chlorine added as a disinfectant	No
Nitrate (ppm)	0.00-2.89	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	No
Fluoride (ppm)	0.0-1.8	4	4	Water additive which promotes strong teeth	No
Perchlorate (ppb)	0.11-0.48	2	No MCLG	Rocket propellant, fireworks, munitions, flares, blasting agent	No
Chlorine (ppm)	0.01-0.62 0.06:highest running annual average	4 (MRDL)	4 (MRDLG)	Water additive used to control microbes	No
Unregulated Substances (MCL has not been established)					
Iron (ppm)	0.0-0.58	No MCL	No MCLG	Erosion of natural deposits	Unregulated contaminants have no established MCL
Manganese (ppm)	0.0-0.24	No MCL	No MCLG	Erosion of natural deposits	
Sodium (ppm)	28.5-37.9	No MCL	No MCLG	Erosion of natural deposits, road salting	
Chloroform (ppb)	0-5.4	No MCL	No MCLG	Formed when natural organic material present in the water reacts with chlorine added as a disinfectant	
Chlorodibromomethane (ppb)	0-5.1	No MCL	No MCLG	Formed when natural organic material present in the water reacts with chlorine added as a disinfectant	
Bromodichloromethane (ppb)	0-6.4	No MCL	No MCLG	Formed when natural organic material present in the water reacts with chlorine added as a disinfectant	
Bromoform (ppb)	0-0.6	No MCL	No MCLG	Formed when natural organic material present in the water reacts with chlorine added as a disinfectant	
1, 4-dioxane (ppb)	0.148-0.274	No MCL	No MCLG	Chemical solvent, lab reagent, stabilizer, adhesive, may be found in cosmetics, detergents, and shampoo	
Lead & Copper (30 sites sampled during August & September, 2010. Next sampling during Summer 2013.)					
Substance (units)	90th percentile	# sites above Action Level	Action Level	Typical Source	Exceeds AL?
Lead (ppb)	10.00	1	15	Corrosion of household plumbing systems; Erosion of natural deposits	No
Copper (ppm)	1	2	1.3	Erosion of natural deposits; Leaching; Corrosion of household plumbing systems; from wood preservatives	No

TERMS AND ABBREVIATIONS

AL: Action Level: The concentration of a contaminant, which if exceeded, triggers treatment or other requirements which a water system must follow.

MCL: Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG: Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL: Maximum Residual Disinfectant Level: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

pCi/L: picoCuries per liter

ppm: part per million by volume

ppb: part per billion by volume

90th Percentile: The concentration of a substance that falls at the top ninety percent of all values for that substance.

Discussion of Data Table Detections

TOTAL COLIFORM: Coliform bacteria are naturally present in the environment and are generally not harmful themselves. They are tested as indicators of the presence of other, potentially harmful, bacteria which may cause symptoms including diarrhea, cramps and nausea and associated headaches and fatigue. During the month of September 2012, more than one of our distribution samples showed the presence of coliform bacteria. More than one sample positive for total coliform is considered a monthly MCL violation for total coliform. During this time, the Water District increased the level of chlorination at the sites involved, inspected facilities, conducted immediate resamples, and notified customers of a temporary violation in a notice printed in the *Beacon* newspaper and posted around town. Following this time period, resamples showed no coliform present, indicating that the problem had been abated.

GROUNDWATER UNDER THE INFLUENCE: The District is required by Administrative Consent Order to notify our customers of the status of the Christofferson Well. This source was deemed to be groundwater under the direct influence of surface water and therefore requiring additional treatment. Since this determination, the Christofferson Well has not been used as part of our source of supply. Ongoing efforts to construct a filtration plant in South Acton will resolve the water quality issues associated with this source and make it fully useable. We are currently required to have this facility fully operational by December 1, 2014.

SODIUM: Although sodium does not have a Maximum Contaminant Level, the Commonwealth of Massachusetts does have a guideline of 20 parts per million (ppm) for sensitive individuals, such as those on very salt-restricted diets. The Acton Water District notifies the Board of Health of all sodium results, and results of the most recent sodium tests are posted at: the Acton Public Health and Nursing Service offices; the Acton Water District Information Center and website; the Acton Public Library; and the Acton Senior Center. Sodium levels in drinking water vary considerably from well to well and month to month. For the most accurate data on sodium levels at your home, an individual tap sample would be necessary.

LEAD AND COPPER: If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Acton Water District is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at *http://www.epa.gov/safewater/lead*.

MANGANESE: Manganese is a nutrient that is part of a healthy diet. Drinking water may naturally have manganese and, when concentrations are greater than 50 µg/L, the water may be discolored and taste bad. Over a lifetime, EPA recommends that people drink water with manganese levels less than 300 µg/L and over the short term, EPA recommends that people limit their consumption of water with levels over 1,000 ug/L, primarily due to concerns about possible neurological effects. Children up to 1 year of age should not be given water with manganese concentrations over 300 ug/L, nor should formula for infants be made with that water for longer than 10 days.

1,4 – DIOXANE: During 2012 the Acton Water District c ollected samples for this compound in the raw and treated waters of the Assabet and School Street wells. This sampling was conducted due to the presence of this compound at the WR Grace Superfund site in South Acton. 1,4-dioxane is not a regulated contaminant, and the State of Massachusetts has not established an MCL or approved a laboratory process for analyzing this compound. The Water District is following the potential regulation of this contaminant and the effect it may have on our water system. The Massachusetts DEP established a new guideline in June 2011 of 0.3 ppb for this compound. Samples collected by the Water District did not exceed this guideline in treated water delivered to our customers and ranged between 0.07 and 0.34 ppb in raw water. The United States EPA is requiring assessment monitoring nationwide between 2013 and 2015 to determine if an MCL or other regulatory action is appropriate.

VOLUNTARY MONITORING: In addition to the monitoring required by the Safe Drinking Water Act, the Acton Water District voluntarily conducts hundreds of additional tests each year to ensure high quality water. For more information on our voluntary monitoring, please contact us.

VULNERABILITY: Some people may be particularly vulnerable to impurities in drinking water. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

Do You Want to Become More Involved?

The Board of Water Commissioners meetings are typically scheduled on the second and fourth Monday of each month at 7:30 PM, and all citizens of Acton are welcome to attend. If you wish to attend, please call us to confirm the next meeting date. Our Annual Meeting is held on the third Wednesday of March every year. All interested persons are welcome to attend.

Seasonal Outdoor Water Use

Our seasonal water use restrictions are in effect from May 1 to October 1 of each year. These restrictions allow customers with even numbered addresses to use water outdoors on *Tuesday, Thursday, and Saturday.* Odd numbered addresses may use water outdoors on *Wednesday, Friday and Sunday.* No lawn watering is allowed between the hours of 7AM and 7PM, and no outdoor water use of any kind is allowed on Mondays. These restrictions apply to both new and established lawns. We encourage homeowners to plant new grass early in the spring or wait until October. The outdoor water use restriction applies not only to automatic and manual irrigation, but to any outdoor water use. Examples include filling or topping off pools, car washing, power washing, and recreation.

EPA WaterSense PARTNER

When it is your day to use water, please keep these important tips in mind:

- Look for pooling water and excess run off from your lawn and plantings. Both of these conditions can indicate overwatering.
- Use mulch around plantings to reduce evaporation and control weeds.
- Check that you are irrigating your plants and lawn, not the driveway, street, or side of your house!
- Do not water on windy days.
- Just because it is your day to use water, does not mean you need to.
- Only an inch of water per week is needed, this includes rain.
- Check your system for leaks throughout the season.
- Make sure you understand how your irrigation controller works.
- This includes how to shut off or reprogram your system.
- Visit *www.epa.gov/watersense* for more helpful tips.

Bill Kingman (left) is thanked by Water Commissioner Len Phillips (right).

Bill Kingman Recognized for Years of Service

Another long serving District official is wrapping up his active involvement in the management of our financial affairs. William L. Kingman has been an Acton resident since 1957 and served the District as a member of the Finance Committee since 1983. He and his wife Nancy were both active in the town of Acton and were interested in where the Town was going. At the time, he was serving on the Town's Finance Committee when then District Moderator, John Putnam, appointed him to the District's Finance Committee.

Bill's background in financial management and investments made him an appropriate member of this committee. Having graduated from Yale and worked in his family's financial management business during summers, to his tenure at Appleton Partners, Bill's knowledge of investing became critical as the District began to steward the W.R. Grace settlement funds. The prudent management of these funds has enabled the District to more than triple the value of these dollars to help defray operating costs and impacts to ratepayers.

In addition to his service to the Water District, Bill has been involved in many local volunteer efforts. He has served on the Acton Conservation Commission, been a Trustee at Emerson Hospital, and has served with the Acton Conservation Trust and the Historical Society. Bill enjoys sailing, skiing and horseback riding. In fact, Bill and Nancy have always had horses on their Esterbrook Road property.

Water Words Notice
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Acton Water District

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What is it?

Please email your answers to *webgeek@actonwater.com*. Winners (and the correct answer) will be posted in the next *Water Words Notice*. Customers with a correct answer, as determined by District staff, will receive a prize in addition to the fame of having your name published in this space!

What was it?

We did not have any readers correctly identify the photo from our Fall 2012 *WaterWords*. This was a photo from the piloting conducted during the spring and summer of 2012 for our South Acton Water Treatment Plant. It is the upper section of a GE/ZeeWeed 1500 Series ultrafiltration (UF) membrane module mounted on a portable skid for the pilot study. The competing membrane, manufactured by the Pall Corporation, was selected for full scale filtration in South Acton.