



# Earth Water Specialists, Inc.

Dear Water Resource Professionals

We are very fortunate to live in the state of Vermont. Environmental concerns, such as safe drinking water and clean water discharges from wastewater treatment plants are held to the highest standards in the regulatory process as well as the highest of expectations from the Operators controlling the processes. **Many thanks to Vermont Water and Wastewater Professionals for providing such safe and great tasting water to residents and ensuring we have clean water resources!**

Sincerely,

Paula C Jackson, Water Resource Specialists- Trainer, Earth Water Specialists, Inc.

**Attaches you will find the Earth Water Specialists, Inc. 2017 Training Calendar.**

Please go to our website [www.earthwaterspecialists.com](http://www.earthwaterspecialists.com) to register or for more information on classes.

[paulajacksonnews@gmail.com](mailto:paulajacksonnews@gmail.com)

PO Box 745 Colchester VT 05446

(802) 878-7636 Office

(802) 343-1356 Mobile

***Earth Water Specialists, Inc. also provides these services:***

**Training opportunities for Drinking Water Operators – Wastewater Operators**

**OSHA Compliance Safety Training for all Employees - Onsite**

**Water Storage tank Cleaning and inspections**

**Operations and Maintenance Manuals**

**Source Protection Plan Updates**



# Water Storage Tank Inspection and Cleaning

**What's in your water storage tank?**

**Sediment? Sludge? Bio-film? Insects? Rodents? Worms? Birds?**

**Do you have Total Coliform Positive Samples?**

**Taste and Odor Problems?**

**Does your concrete water storage tank need re-sealing?**

- 100,000 Gallons or less – 1-10 Tanks POLY – CONCRETE – FIBERGLASS - STEEL
- Water Storage Tanks are **required to be cleaned and inspected every 5 years.**
- OSHA Certified Permit Required Confined Space Entry Procedures, trained staff and equipment
- Water storage tanks are drained - power washed –Biofilm removed – Iron and manganese stains removed - sediment removed – Inspected - Minor Repairs – Shock chlorinated – Inspection report with full color pictures and video upon request – Recommendations
- Call for an estimate today
- Call (802) 878-7636 Office Mobile (802) 343-1356 for more information
- E-mail [earthwaterspecialists@gmail.com](mailto:earthwaterspecialists@gmail.com)



## Laboratory and Sampling Basics for Drinking Water 4 TCH's

Groundwater and Surface Water Systems measure the efficiency of their treatment processes through sampling and analysis. The Safe Drinking Water Act sets sampling standards that water systems and operators are held too to ensure that the public in the United States gets high quality, safe drinking water every time they open a faucet. In this class we will categorize which types of water systems sample and analyze for certain contaminants. The contaminants we sample for have certain protocols for accurate results. We will look at each contaminant and its health effects and the proper sample collection methods for accurate results. Daily operational sampling is very important for operating a water system and making the proper adjustments to maintain quality water. Chlorine residuals, pH and Turbidity are few operational analyses that we will go through proper sampling and analyses procedures.

***This class is approved by the Vermont Drinking Water and Groundwater Protection Division for 4 Water Certification Renewal Credits***

**22217 February 22, 2017 8:30 AM – 12:45 PM 4 TCH's \$100 South Burlington, VT**  
**Location: The Best Western Wind Jammer 1076 Williston Road South Burlington VT**

**51017 May 10, 2017 8:30 AM – 12:45 PM 4 TCH's \$100 Lyndonville, VT**  
**Location: Lyndonville Fire Department 316 Main Street Lyndonville, VT 05851**

## Introduction to Corrosion Control – Optimization 6 TCHs

- Attendees will learn about corrosion in drinking water systems; Heavy metal leaching in consumer's homes, such as lead and copper.
  - We will discuss the lead poisoning which happened in Flint, Michigan and ways we can avoid such a tragedy from happening in our water systems.
  - Your source water may be aggressive, or maybe it is a distribution problem. We will look at corrosion from source to the tap of your consumers.
  - The chemistry behind corrosive water is an important factor for determining treatment options and maintenance procedures.
  - Attendees will review the lead and copper rule, and how it affects your water system.
  - Water quality parameter sampling for pH – Hardness- Alkalinity- TDS – Temperature
  - We will look at treatment options such as pH adjustment, Orthophosphates, lime contactors and sequestering agents.
  - Corrosion control treatment, maintenance, reporting and safety will be discussed.
- ✓ This class is approved by the Vermont Drinking Water and Groundwater Protection Division for Water Certification Renewal Credits
- ✓ Lunch on your own

**41917 April 19, 2017 8:30 AM – 4:00 PM 6 TCH's \$150 Montpelier, VT**  
**Location: The Hilltop Inn 3472 Airport Rd Montpelier VT 05602**

**61517 June 15, 2017 8:30AM – 4:00 PM 6 TCH's \$150 White River Junction, VT**  
**Location: Hartford Town Hall – 71 Bridge St White River Junction VT 05001**

## **Ground Water System and Operation and Maintenance 4TCH's**

Ground Water Systems make up about 85% of the water systems in the United States. Ground Water comes in the forms of wells and springs. This course teaches the students about the source protection of your groundwater system, the water quality and water treatment that may be required such as iron and manganese removal, ion exchange and disinfection. Pumps, water storage tanks, water sources and valves are few components that require preventative maintenance. We will discuss preventative maintenance that keeps your water system running strong. Sanitary surveys are water system inspections by the State of VT Drinking Water and Groundwater Protection Division. As we discuss the O&M of your water system we will look at what the state requires so you will be better prepared for your next sanitary survey.

**51817    May 18, 2017    8:30A – 12:45P    4 TCH's    \$100    Water**

**Location: Vermont Technical College Randolph VT - VTC Campus Building TBA**

*\*This class is approved by the Vermont Drinking Water and Groundwater Protection Division for 4 Water Certification Renewal Credits*

## **Basic Water Works Operation's 6 TCH's**

Operating a water treatment plant, small or large has many duties and responsibilities. The state of Vermont Drinking Water and Groundwater Protection Division has certain expectations from water system Owners and Operators that fall under "The Safe Drinking Water Act".

The Basic Water Works Operations course focuses on the relationship between safe drinking water and the important role played by water operators in maintaining both adequate and safe drinking water supplies. During the course, participants receive an overview of Operator certification requirements, sampling and monitoring, O&M Manuals, Source protection plans, sanitary surveys, operating permits and operational duties of the water system owners or operators. This course outlines responsibilities of water system personnel and serves as a good refresher.

*This class is approved by the Vermont Drinking Water and Groundwater Protection Division for 6 Water Certification Renewal Credits*

**42017    April 20, 2017    6 TCH's    \$165    8:30AM – 4:00PM**

**South Burlington, VT    The Best Western Wind Jammer    1076 Williston Rd South Burlington VT**

**Lunch is included and will be provided by the Wind jammer for participants**

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*ONSITE TRAINING:*

*If you have 3 or more operators and would like to have an onsite training please contact us for details.*

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## **Chemical Addition in Water and Wastewater Treatment 4TCH's**

Chemicals are used in water and wastewater treatment for coagulation, disinfection, corrosion control, taste and odor control and many other treatment processes. This course will look at chemicals and what they are used for; safe chemical handling, chemical feed system components, chemical storage, SDS's and feed rate calculations. This is a great course for any operator, operator in training and chief operators. Attendees will leave this course with a basic knowledge in water and wastewater chemicals. A chemical Addition Manual will be provided to each student to take back to your plant for future reference.

**31617    March 16, 2017                    8:30A – 12:45P    4 TCH's    \$100    Wastewater/ Water**  
**Location: Montpelier – The Hilltop Inn - 3472 Airport Rd Montpelier VT 05602**

**102517 October 25, 2017                    8:30A – 12:45P    4 TCH's    \$100    Wastewater/Water**  
**Location: Lyndonville Fire Department    316 Main Street                    Lyndonville, VT 05851**

*\*This class is approved by the Vermont Drinking Water and Groundwater Protection Division for 4 Water Certification Renewal Credits*

*\*This class is approved by the Watershed Management Division for Wastewater Certification Renewal Credit hours*

## **Basic Water Distribution Operations and Maintenance 4 TCH's**

This course was designed to introduce water distribution operators to key concepts needed to operate and maintain a water distribution system. Attendees will learn the basic design and hydraulics of a water distribution system. O&M of water distribution system components such as fire hydrants, valves, meters, piping and pressure reducing devices will be learned. Water Audits- Leak Detection – Cross Connection Control – Water Quality Control and distribution system flushing will be discussed. This course is a good refresher for those seasoned operators working in distribution systems currently.

*\*This class is approved by the Vermont Drinking Water and Groundwater Protection Division for 4 Water Certification Renewal Credits*

**61417                    June 14, 2017                    8:30A – 12:45P    4 TCH's    \$100    South Burlington VT**  
**Location: The Best Western Wind Jammer - 1076 Williston Road South Burlington VT**

## **Maintaining Water Quality to the Customers Tap 5 TCH's**

The water leaving your water treatment plant tastes great and is safe to drink. When that top Quality Drinking water hits the distribution system it can become chemically and physically changed and deteriorated by many contaminants such as iron, Bio-slime (microorganisms), cross connections, and contaminants surrounding the distribution piping exterior.

- This course will take a close look at the vulnerable areas of the distribution system that can cause poor tasting or contaminated water.
- Disinfection by products are one of the major health concern contaminants that can be formed in the distribution system. Where do they come from? How do they form? How can you balance out disinfection and water age to keep disinfection by products from forming in your distribution system?
- Aggressive water can cause corrosion issues which release heavy metals such as lead and copper into the drinking water in your consumer's home. We will look at corrosion control treatment techniques being used to prevent this.

**32217    March 22, 2017                    8:30 AM – 2:30 PM                    5 TCH's                    \$125**

**Location: Brattleboro VT    Holiday Inn Express - 100 Chickering Drive Brattleboro VT 05301**

## Water and Wastewater Utility Operator Safety Training 6 TCH's

- 💧 This class is approved for Vermont licensed Designers of Water and Wastewater Treatment Systems for 3 Non- Soil Credits
- 💧 This Class is approved by the Watershed Management Division for Wastewater Operator renewal Credit hours
- 💧 This class is approved by the Vermont Drinking Water and Groundwater Protection Division for Water Certification Renewal Credits

**51117 May 11, 2017 8:30 AM – 4:00 PM 6 TCH's Montpelier VT \$150.00**  
**Location: Comfort Inn at Maplewood - 213 Paine Turnpike N. Montpelier VT 05602**

**92817 September 28, 2017 8:30 AM – 4:00 PM 6 TCH's South Burlington VT \$160.00**  
The cost for this training session is \$160.00 per Student. Lunch will be provided by the Wind Jammer  
**Location: The Best Western Wind Jammer - 1076 Williston Road South Burlington VT 05403**

Water and Wastewater Utility Operators encounter many types of safety hazards every day, from hypodermic needles in manholes (confined spaces) to handling chemicals in the treatment plant. This 7 hour course was developed with the Water and Wastewater operator in mind and includes the following safety topics:

- Hazard Communications with the new Globally Harmonized System “SDS” and labeling requirements. This training is required training by December 1, 2013 for all employees
- Excavation and trench safety - Ladder safety - Electrical safety - Permit required confined space entry**
- **Blood borne Pathogens - Chemical Handling safety**

## Class 3 Water Operator Certification Exam Preparation

**92217-3 September 22<sup>nd</sup> October 20<sup>th</sup> October 23<sup>rd</sup> 2017 8:30 AM – 4:00 PM \$450 18 TCH's**

**Location: White River Junction VT – Hartford Town Hall - 71 Bridge St. White River Junction VT 05001**  
*Class 3 Exam Preparation is approved by the Vermont Drinking Water and Groundwater Protection Division for renewal credit hours.*

- This 18 hour class is designed to prepare Operators taking the Vermont Class 3 Water Operator Certification exam.
- **The Class 3 Water Operator Certification Exam Preparation covers the basics such as water sources, characteristics, chemistry, microbiology, basic hydraulic theories, the safe drinking water act, sampling and monitoring, disinfection, pumping systems and water storage, water distribution and water operator safety. The course will also cover corrosion control, iron and manganese treatment, aeration treatment, fluoridation and granular activated carbon**
- At the end of the 3rd day a 100 question practice exam will be given. We will go over the exam answers and discuss as a group.
- This course will prepare class 3 and 4 water operators for taking the certification exam
- It is recommended that the basic water operator math course also be taken.
- Students will have the opportunity to buy the text Book, “Water Treatment Plant Operation” Volume 2 – Fifth Edition \$60 - AWWA Water Operator Study Guide \$75
- Lunch will be on your own

## Class 4 Water Operator Certification Exam Preparation

**September 22<sup>nd</sup>, October 20<sup>th</sup> - 23<sup>rd</sup> -26<sup>th</sup> -27<sup>th</sup> 2017 8:30AM – 4:00 PM 30 TCH's Course fee \$600**

**Location: White River Junction VT – Hartford Town Hall - 71 Bridge St. White River Junction VT 05001**

- Class 4 Exam Preparation is approved by the Vermont Drinking Water and Groundwater Protection Division for **Certification Preparation and Water Certification Renewal Credits**
- This 30 hour class is designed to prepare Operators taking the Vermont Class 4 Water Operator Certification exam.
- **The Class 4 Water Operator Certification Exam Preparation covers material such as water sources, characteristics, chemistry, microbiology, basic hydraulic theories, the safe drinking water act, sampling and monitoring, disinfection, pumping systems and water storage, water distribution and water operator safety. The course will also cover corrosion control, iron and manganese treatment, aeration treatment, fluoridation and granular activated carbon. Surface water treatment – coagulation – flocculation – sedimentation – filtration – instrumentation/SCADA**
- At the end of the 5th day a 100 question practice exam will be given. We will correct and discuss the exam answers as a group.
- This course will prepare class 4 water operators taking the certification exam
- It is recommended that the Basic/Advanced water operator math course also be taken. (Sept 6<sup>th</sup> – Sept 7<sup>th</sup> 2017 in Montpelier)
- Students will have the opportunity to buy the **NEW text books** which were developed specifically for the “ABC Water Treatment Certification Exam” Cost \$199 - Also Recommended - AWWA Water Operator Study Guide \$75
- Lunch will be on your own

## Class D Water Operator Certification Exam Preparation

**92917-D September 29th, October 4<sup>th</sup>, October 5<sup>th</sup> 2017 8:30AM – 4:00PM 18 TCH's \$450**

**Location: White River Junction VT – Hartford Town Hall - 71 Bridge St. White River Junction VT 05001**

- *Class D-Distribution Exam Preparation is approved by the Vermont Drinking Water and Groundwater Protection Division for Certification Preparation and Water Certification Renewal Credits*
- This 18 hour class is designed to prepare Operators taking the Vermont Class D Water Distribution System Operator Certification exam.
- **The Class D Water Operator Certification Exam Preparation Course will cover the following topics: Water characteristics, corrosion chemistry, microbiology, the safe drinking water act, sampling and monitoring, disinfection, pumping systems, water storage, water operator safety, distribution system hydraulics, water main replacement, water main disinfection, valves, hydrants, cross connection control and water quality control.**
- At the end of the third day a 100 Question practice exam will be given. We will go over this exam in class and discuss the answers so students may gain a better understanding of concepts.
- It is recommended that the basic water operator math course also be taken. (September 6, 2017 Montpelier VT)
- Students will have the opportunity to buy the **NEW text books** which were developed specifically for the “ABC Water Distribution Exam Cost \$139 - Also Recommended - AWWA Water Operator Study Guide \$75
- Lunch will be on your own

## Water and Wastewater Operator Basic Math for Exam Preparation 6 TCH's

This math course is paced by the progress of the students. Most people taking certification exams claim that math is their weak area. The instructor will cover math concepts and then students will work practice problems on their own with the help of the instructor if needed. The next step is going over the practice problems as a group so everyone has a complete understanding. The environment is a non-stressful informal classroom style course.

**Course Will Cover:** Conversions – Word Problems – Linear Feet – Area – Volume – Temperature Conversions- Detention Time – Flow Rates – Pounds Formula – Chemical dosing - Pressure

*This class is approved by the Vermont Drinking Water and Groundwater Protection Division for 6 Water Certification Renewal Credits*

*\*This class is approved by the Watershed Management Division for Wastewater Certification Renewal Credit hours*

**Lunch on your own**

**42517 April 25, 2017 White River Junction, VT 8:30AM – 4:00PM 6 TCH's \$150**

**Location:** White River Junction VT – Hartford Town Hall - 71 Bridge St. White River Junction VT 05001

**9617 September 6, 2017 Montpelier, VT 8:30AM – 4:00PM 6 TCH's \$150**

**Location:** Montpelier VT - Comfort Inn - 213 Paine Turnpike N. Montpelier VT 05602

## Water Operator Advanced Math for Exam Preparation 6 TCH's

This math course is paced by the progress of the students. Most people taking certification exams claim that math is their weak area. The instructor will cover math concepts and then students will work practice problems on their own with the help of the instructor if needed. The next step is going over the practice problems as a group so everyone has a complete understanding. The environment is a non-stressful informal classroom style course.

**Course Will Cover:** Basic Review – Conversions- Water Loss – Flow Rate – Pressure psi/Ft of head – Detention Time – Surface loading Rates – Weir Overflow Rates – Pounds Formula – Chemical Dosing – Horsepower-

*This class is approved by the Vermont Drinking Water and Groundwater Protection Division for 6 Water Certification Renewal Credits*

*\*This class is approved by the Watershed Management Division for Wastewater Certification Renewal Credit hours*

**9717 September 7, 2017 Montpelier, VT 8:30AM – 4:00PM 6 TCH's \$150**

**Location:** Montpelier VT - Comfort Inn - 213 Paine Turnpike N. Montpelier VT 05602

## Vermont Class 2 Water Operator Exam Preparation 18 TCH's

**92217-2 September 22<sup>nd</sup>, 25<sup>th</sup>, 26<sup>th</sup> 2017 8:30 AM – 4:00 PM \$450 18 TCH's**

**Location:** White River Junction VT – Hartford Town Hall - 71 Bridge St. White River Junction VT 05001

- ✓ *Class 2 Exam Preparation is approved by the Vermont Drinking Water and Groundwater Protection Division for Certification Preparation and Water Certification Renewal Credits*
- This 18 hour class is designed to Prepare Operators taking the Vermont Class 2 Water Operator Certification exam.
- **The Class 2 Water Operator Certification Exam Preparation Course is considered to be the “base Course” which covers the basics such as water sources, characteristics, chemistry, microbiology, basic hydraulic theories, the safe drinking water act, sampling and monitoring, disinfection, pumping systems and water storage, water distribution and water operator safety.**
- At the end of the third day a 100 question practice exam will be given. We will go over the answers to the exam and discuss the concepts for a better understanding.
- Students will have to buy the text Book, “Introduction to Small Water Systems” \$60
- Lunch will be on your own



**Mail- in Registration Form**

Register/pay on-line at [www.earthwaterspecialists.com](http://www.earthwaterspecialists.com)

Call 802-878-7636 to register

E-Mail Registration: [paulajacksonews@gmail.com](mailto:paulajacksonews@gmail.com)



Mail to: Earth Water Specialists, INC. - PO Box 745 Colchester Vermont 05446

Today's Date: \_\_\_\_\_

Attendee Name: \_\_\_\_\_ Phone: \_\_\_\_\_

E-mail Address: \_\_\_\_\_ Cell Phone: \_\_\_\_\_

Financial Contact: \_\_\_\_\_ Phone Number: \_\_\_\_\_

Employers/Billing E-mail: \_\_\_\_\_ PO # \_\_\_\_\_

Course Number	Course Name	Course Location	Course Fee	Course Date

Remarks:

**Payment Information**

Bill my Employer  Check Enclosed  Bring Check to Class  Pay on the website

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Refund Policy:** Payment for the class is preferred in advance of the class. If cancellation is necessary, refund requests should be e-mailed or mailed. 15 + days prior to the class you will receive a full refund less any materials/text books mailed to you. 5-14 days Half Payment less materials /text books. Less than 5 Days – No refund but someone can substitute for you. If you register for a class and do not cancel Earth Water Specialists will invoice for the full amount of the class. SNOW STORMS or bad weather, may cancel the class, it will be rescheduled. Operators may cancel and be given a credit for the amount of the class.

Dear Water Resource Professionals

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Date	Course Title	Course #	TCH's	Location	W	WW	Time	Fee
2.10.2017	Securing your Water and Wastewater Treatment Facilities	21017	4	White River Junction	X	X	8:30AM - 12:45PM	\$100
2.22.2017	Laboratory and Sampling Basics for Drinking Water	22217	4	South Burlington	X		8:30AM - 12:45PM	\$100
3.16.2017	Chemical Addition in Water and Wastewater Treatment Plants	31617	4	Montpelier	X	X	8:00AM - 12:30PM	\$100
3.22.2017	Maintaining Water Quality to the Customers Tap	32217	5	St. Albans	X		8:00AM - 1:30PM	\$125
4.19.2017	Introduction to Corrosion Control - Optimization	41917	6	Montpelier	X		8:00AM - 3:00PM	\$150
4.20.2017	Basic Water Works Operations	42017	6	South Burlington	X		8:00AM - 3:00PM	\$150
4.25.2017	Basic Math for Water and Wastewater Operators	42517	6	White River Junction	X	X	8:30AM - 3:30PM	\$150
5.10.2017	Laboratory and Sampling Basics for Drinking Water	5917	4	Lyndonville	X		8:30AM - 12:45PM	\$100
5.11.2017	Water and Wastewater Operator Safety Refresher	51117	6	Montpelier	X	X	8:00AM - 3:00PM	\$150
5.18.2017	Groundwater Water Systems Operation and Maintenance	51817	4	Randolph	X		8:30AM - 12:45PM	\$100
6.14.2017	Basic Water Distribution Operations and Maintenance	61417	4	South Burlington	X		8:30AM- 12:45PM	\$100
6.15.2017	Introduction to Corrosion Control - Optimization	61517	6	White River Junction	X		8:30AM - 3:30PM	\$150
9.6.2017	Basic Math for Water and Wastewater Operators	9617	6	Montpelier	x	X	8:00AM - 3:00PM	\$150
9.7.2017	Advanced Math For Water Operators	9717	6	Montpelier	X	X	8:00AM - 3:00PM	\$150
9.(22,25,26). 2017	Vermont Water Certification Exam Preparation Class 2	92217-2	18	White River Junction	X		8:30AM -3:30PM	\$450
9.28.2017	Water and Wastewater Operator Safety Refresher	92817	6	South Burlington	X	X	8:30AM - 3:30PM	\$150
9.29.17 -10.(4,5).2017	Vermont Water Distribution Certification Exam Preparation	92917-D	18	White River Junction	X		8:30AM - 3:30PM	\$450
9.22.17- 10.(20,23)2017	Vermont Water Certification Exam Preparation Class 3	92217-3	18	White River Junction	X		8:30AM - 3:30PM	\$450
10.25.17	Chemical Addition in Water and Wastewater Treatment Plants	102517	4	Newport	X	X	8:30AM - 12:45PM	\$100
9.22 - 10.(20,23,26,27)	Vermont Water Certification Exam Prpreparation Class 4	92217-4	30	White River Junction	X		8:30AM - 3:30PM	\$600

**Register Online:** [www.earthwaterspecialists.com](http://www.earthwaterspecialists.com)

**E-mail us:** [erathwaterspecialists@gmail.com](mailto:erathwaterspecialists@gmail.com)

**Call Us:** 802.878.7636 Office 802.342.1356 Mobile

**Send in registration form on other side:** PO BOX 745 Colchester Vermont 05446

**Payment does not have to be received prior to attending course. Your employer can be invoiced**