

FALL  
2012

The Official Publication of the Water Environment Association of Utah



# DIGESTED news

*Celebrating 50 Years of Clean Water*

## Midyear Conference

West Valley City, Utah  
November 15, 2012

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**INSIDE:**

Market Trends ■ Collections ■ Professional Wastewater Operator

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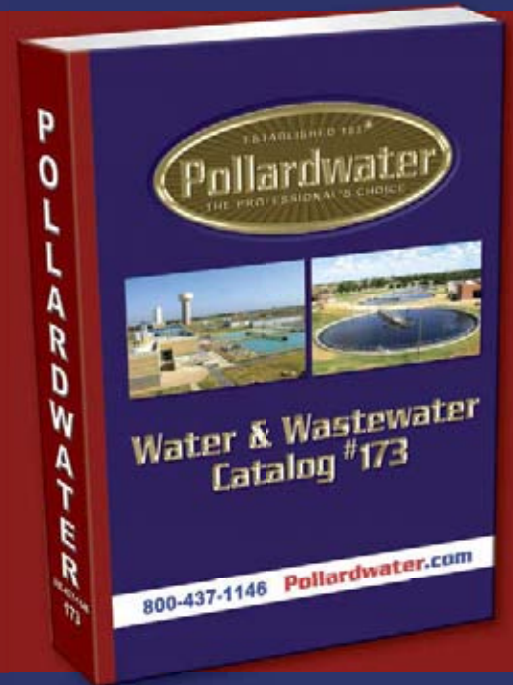


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## SCREENINGS & HEADWORKS

### M2 RENEWABLES

Pretreatment, Primary Clarification

### DUMPSTERVEYOR

Solids Container Handling Systems

### HUBER TECHNOLOGY

Screens (Step, Perforated, Wedge Wire, Bar Rake, Septage, and for MBRs), Wash Press and Grit Washer

### JDV

Shaftless Screw Conveyors

### LAKE SIDE

Screens (Perforated Plate, Bar, Septage, and for MBRs), Wash Press, Grit Removal and Grit Washers

### PLASTI-FAB

FRP Parshall Flumes, Weirs, Buildings, Slide Gates, Stop Logs

### POLYCHEM

Grit Removal System (Chain & Flight)

### WESTECH

Screens (Perforated Plate, Bar, Step, Sludge), Grit Removal, Grit Classifier

## AERATION & MIXING

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### ENVIROPAX

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### KOMAX

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### MTS

Jet Mixing and Aeration

### NEUROS

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### AQUA TURBO

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### UNIVERSAL BLOWER

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## TREATMENT PROCESSES

### AZZURO

Biological Odor Control Systems

### BIOWORKS

Lagoon-based Aeration System

### ENVIROQUIP

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### LAKE SIDE

BNR Oxidation Ditches (Brush Rotors)

### WESTECH

Membrane Bioreactor (Flat Sheet)  
Oxidation Ditch (Vertical Turbine Aeration),  
Motorized Trickling Filter Rotary Distributor,  
Hydraulic Trickling Filter Rotary Distributor,  
Rotating Drum Aeration Process,  
Slow Speed Mixing with Fine Bubble Aeration

## CLARIFICATION

### M2 RENEWABLES

Alternative Primary Clarification

### LAKE SIDE

Secondary Clarifiers

### NEFCO

FRP Stamford Density Current Baffles and Launder Covers

### POLYCHEM

Rectangular Non-Metallic Chain & Flight Clarifiers

### POLYTECH

Rotary Pipe & Helical Scum Skimmers

### WESTECH

Primary and Secondary Circular Clarifiers

## FILTRATION

### AQUA TURBO

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### M2 RENEWABLES

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### SEVERN TRENT

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### WESTECH

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## DISINFECTION

### PROCESS SOLUTIONS

"Microclor" Onsite Hypo Generation and Tank Shark Tank Mixer Systems

### PURAFIL

Dry Scrubbing Systems for Odor Control

### WATSON MARLOW

Peristaltic Chemical Feed Pump

### WEDECO

Low Pressure/High Intensity UV System

## DIGESTION

### AEROMIX

Coarse Bubble Diffusers

### MTS

Aqua Turbo

### WESTECH

Mechanical Mixing, Digester Covers & Digester Heating Systems

## BIOSOLIDS PROCESSING

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### BDP INDUSTRIES

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### ENPRO

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### FENTON

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### FLUID DYNAMICS

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### HUBER

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### WESTFALIA

Centrifuges

## PUMPING EQUIPMENT

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### HAYWARD GORDON

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### LAKE SIDE

Screw Pumps

### PENN VALLEY

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### WATSON MARLOW

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# The Association still lives



Paul Krauth

**T**hree months gone and the Association still lives! Well we are three months into the reign of terror and I have not bankrupted us yet! I would like to update all of you with were we are on this year's board initiatives:

### Transparency


All of the approved minutes and our current agendas are posted on the website. <http://www.weau.org/who-we-are/meeting-minutes> additionally our approved budget for 2012 is also posted <http://www.weau.org/who-we-are/budget>. Last year's budget and expenses are shown to provide you (the members) where we are spending YOUR monies!

### Connecting to you

The lack of an effective method of communicating with you (the members AND non-members) is still one of our biggest challenges. Recently you should have received a flyer on a three-day pump training, while this seems to be one of the more effective way of informing you, but it is very costly! (\$675 per mailing) This is why we are going to electronic media to get the word out. If you are not currently receiving emails from us on upcoming events, please contact Giles Demke at [membership@weau.org](mailto:membership@weau.org) to get on our email list. The joint DEQ training calendar is always a good resource up to date. <http://www.weau.org/resources/upcoming-seminars>. And finally we are tweeting at [WEAU@WEAUT](https://twitter.com/WEAU@WEAUT) so you can follow that for updates.

### Training and Conferences

The Midyear Conference is scheduled for November 15, once again at the Utah Cultural Center. If you can, plan on attending this one-day technical conference. This year lunch speakers are a bit different. It is the WEAU board, we hope to have an informal discussion with you. On how we are doing and what do YOU thing we should be doing? This year's Annual Conference is set for April 30 – May 3, 2013 at the Dixie Center in St. George. We have also finalized that this WILL BE A JOINT conference with the Nevada Water Environment Association. More talks, more vendors, and more people, more networking and more FUN! Plan on attending!

Finally, a point of personal privilege. I would like to thank you all for your cards and call of support on the recent passing of my mother. As most of you know she was a regular attendee at our annual conference for the past 16 years. I believe she probably had a lunch or dinner with over half the membership. She loved every minute of it and loved being included with all of you. Thank you all for making her feel so welcomed! 



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# Appreciating others' sacrifices



Orem has been going through some substantial upgrades over the last few years. As the project comes to a close I am always amazed, impressed, and overwhelmed with what modern day technology is capable of accomplishing. Things as simple today as remote pump control and wireless offsite monitoring of the plant through a SCADA system would have been unheard of 60 years ago when our original plant was in its inception and coming on line. I take my hat off to all those that possess that entrepreneurial spirit in our industry that are willing to take risks and compete in a free market to make a living for themselves, build a company, and provide improved products, service, and equipment.

I am a little old fashioned and love old stuff, my wife thinks I would have been happy being born 100 years ago! I have recently taken an interest in antique farm equipment. I have acquired some equipment that some of you would only deem worthy of being used for yard ornaments. I have restored some of the equipment and am currently in the process of restoring a Case #5 horse drawn sickle mower that dates back to the early 1900's. When I open up a gear box on an old piece of equipment and look inside I am amazed at what they were able to build back then with what I consider to be very limited resources. Believe it or not, my intent for restoring this equipment is not to put it in the yard or have it on display, it is to actually use it the way it was intended. I spent the last few weeks behind a team of horses plowing, harrowing and planting a wheat field all without the assistance of modern equipment. It was both fun and rewarding and my appreciation for what others went through years ago has increased immensely. My thanks go out to inventors and blacksmiths like Cyrus Hall McCormick and John Deere for what they got started in their day that has developed into the modern equipment we have today. I have to admit that farming the old way is fun, but if I had to do it all the time it would be a challenge and I would have a sore butt!! 

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# Collections Quiz - Got pipe?

Submitted by Lonn Rasmussen

1. What are some of the problems associated with exfiltration?
  - a) Ground water contamination
  - b) Pipe settling
  - c) Infiltration due to high water table
  - d) All of the above
  
2. While inspecting a manhole you notice that the aggregate is showing, what is this condition telling you?
  - a) The freeze thaw cycle is affecting the manhole
  - b) The manhole has seen a back up recently
  - c) Wrong type of aggregate was used
  - d) Hydrogen sulfide deterioration
  
3. Sewers that are under the water table stand a greater chance of?
  - a) Floating
  - b) Exfiltrating
  - c) Inflow issues
  - d) Failing an air test
  
4. What are the effects of I & I on the collection system and treatment plant?
  - a) It lowers the cost to transport and treat the water because it is cleaner
  - b) Fewer plugs because the extra water helps to scour the pipes
  - c) It takes up capacity
  - d) It reduces the incoming BOD loading

5. A good way to detect pipe defects and installation problems is to?
  - a) Wait until the line is in service then TV it
  - b) Run water in the system then TV
  - c) Require a double air test
  - d) Use ASTM 1320, schedule 45, double gasket pipe
  
6. What is the purpose of lamping?
  - a) To light an area at night
  - b) To see if the manhole has flammable gasses in it
  - c) To see up a pipe
  - d) To clear the way for a rehab project
  
7. When would be a good time to smoke test a line?
  - a) When it is raining
  - b) When the ground water is high
  - c) When active inflow is happening
  - d) Dry weather flow
  
8. How often should manholes be inspected according to the State SSMP?
  - a) Yearly
  - b) 1.5 years
  - c) As needed but no longer than 5 years
  - d) 2 years

9. Why is it a good idea to keep past TV logs?
  - a) To show proof of work
  - b) To track cleaning progress
  - c) To track flow levels
  - d) To track pipe defects
  
10. What is a major determining factor in the depth of bedding and select backfill to be used around the pipe?
  - a) Type of pipe gasket
  - b) Soil conditions
  - c) Expected I & I
  - d) Ongoing maintenance requirements

*This quiz is brought to you by the Education and Training Committee of WEAU*



Answers:

1-d, 2-d, 3-a, 4-c, 5-b, 6-c, 7-d, 8-a, 9-d, 10-b

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## Collection News

The Collection Committee had training on Manhole Rehabilitation. Some of the topics covered were, Why use chemical grouts, Types of chemical grouts and where to use them, Injection procedures for manholes, Cementitious manhole coatings and Urethane manhole coatings. The training was excellent with lots of demonstrations showing the various properties of the different coatings. Jack Whitworth with De Neef Construction Chemicals Inc. and his crew are deserving of a special thanks for providing excellent training of manhole rehabilitation.

Chris DMA

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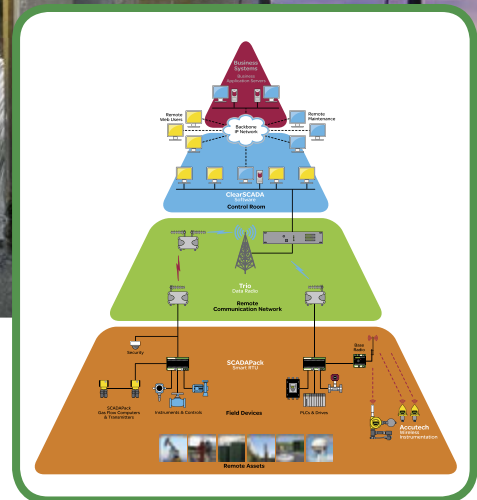
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# The ramblings of the PWO Rep

By Ron Clements

I used to think years ago, after looking at the older generations, and wondered how people let themselves get old. I was under the fallacy that it would never happen to me, heck no. I could eat whatever I wanted, whenever I wanted and I was as strong as I would ever been. I worked with my dad for years as a contractor and at the end of each day my father went home tired. I however still had gas in the tank. I could not understand how my dad could be so strong and self motivated each and every day and still go home so weary every night.

In my later years, I realized it was because he was doing most of the work and I was kidding myself thinking I was holding my own with the old man. The ironic part of it all is he just turned 76 years old and can still out work me two to one. He was always two steps ahead of me and never said a word. He always gave me credit for the contributions I made even when the effort did not match the praise. Dad always seemed to have the patience of Job. I remember me and a friend from school were doing doughnuts and power slides in the parking lot behind the school one summer. Long story short we rolled his 1969 bug. It was the third time that poor car had been in an accident in about six months. Well we panicked of course walked to my parent's house and I had asked Dad if we could talk? He said, "how bad is it?" Well the shock wore off and we busted up laughing and said do not have a stroke, but it is totaled. Instead of explaining how bad it was, I spent the next few minutes thinking of my fool-proof exit strategy in case he chose to kill me at the scene.

Probably, the only time in my life that I was scared of the actions that my father might take and was worried that Job was on vacation. After a series of carnal verbs, violent finger pointing and the a moment of silence, which I think he was doing the math of how many years he would get for




killing two idiots. He took a deep breath put his arms around Darin and I and said, "you got lucky twice today, once for not getting killed and twice for me not killing you."

The part that surprised me the most, after we cleaned up the mess and got the car home was that he made me decide my own punishment. At first, I had it all planned out to explain that I was a passenger and not in control of the situation, which was a lie cause I was the one egging him on, usually it was my Chevelle that we were in when most of the tire frying was happening. It had only been a week since the last butt chewing over Darin and I getting two flat tires on my car. Both back tires were cord barren and finally gave up the ghost after only two months. Needless to say it was I that killed that poor mans spirit. I tell him often that he did it to himself. When people drink they do dumb stuff like have

kids. I was an accident by the way. I came home one afternoon from school and my sister and mother had decided to share a bottle of wine and felt that I needed this information. That kind of news will get you through the tough days won't it.

Now, I find myself middle aged and sober with a house full of wonderful kids giving the same speeches that he gave to me. My father tells me now that the grandkids are the blessings you get from not killing your kids.

Well thanks for listening. Remember that we are blessed to live and grow in the greatest country in the world no matter what you look like, what you believe, or where your came from and it is provided by the men and women who have served and the ones who continue to serve. When you get the opportunity, remember to say thank you to them. I hope the coming years are good for all of us.

See ya. 

“ We are blessed to live and grow in the greatest country in the world, provided by the men and women who have served and the ones who continue to serve.”



The South Valley Water Reclamation Facility (SVWRF) is located approximately 15 miles south of Salt Lake City on the West Bank of the Jordan River in West Jordan, Utah. This Facility provides wastewater treatment for the cities of Sandy, Herriman, Midvale, West Jordan, South Jordan, Riverton, Bluffdale, Draper, Copperton, and unincorporated portions of South Salt Lake County. It encompasses a 200-square mile service area. The facility is a nitrification/denitrification activated sludge design and has been in service since 1985.

In order to maintain and improve existing facility infrastructure, additional machinery and equipment was necessary. Hugh Hedges P.E, the plant facility engineer at SVWRF contacted Bob Mayers, P.E. with Bowen Collins & Associates, a local engineering firm with over 15 years of Wastewater Engineering experience. He explained his concerns with tight working conditions and the need for detailed record drawings in order to accurately design some new improvements. Mr. Mayers had worked previously with McNeil Engineering on another Wastewater project and recommended that he try LiDAR (Light Detection and Ranging) Surveying to gather the required information. This surveying technology was chosen because of its high accuracy and precise solutions that can be achieved in a short amount of time. Gathering data in this type of environment is very inefficient and can produce many dimensional inconsistencies using traditional survey methods at the accuracy standards required for this type of project.

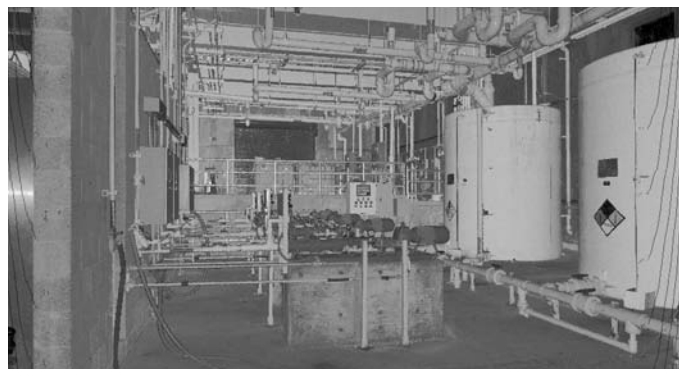
The first area that McNeil Engineering HDS (High Definition Surveying) provided LiDAR Scanning for was the Thermal Drying Building. Since then, several other areas within the facility have been scanned to provide detailed record documents. Data for the Thermal Drying Building was collected in one day vs. weeks or even months using traditional surveying methods and still would not have been as accurate and detailed as that collected with the Leica C10 scanner.

The Leica C10 scanner collects 50,000 survey grade x,y,z points per second. Each point is collected within 1/8 in. tolerance. The scanner collects points through a 180 degree rotation, it measures the points on the surface

of an object as any reflectorless total station currently does, it just does it at a much faster rate. This scanner is a "time of flight" scanner, it is the most common type of laser scanner for engineering projects. A "time of flight" scanner combines a laser emitting a beam, a mirror deflecting the beam towards the scanned area, and an optical receiver subsystem, which detects the laser pulse reflected from the object. Since the speed of light is known, the travel time of the laser pulse can be converted to a precise distance measurement. Typically this data is collected from each set up in **less than 5 minutes**.

The group of points from each setup is referred to as a "point cloud." The point cloud from each set up is then registered or "stitched" to one another so that one measurable point cloud is created for the entire facility. The point cloud is then modeled in AutoCad, Revit, or other software packages to capture all required information. All improvements within the facilities, 1 inch and bigger were modeled, including pipes, valves, stairs, platforms, pumps, electrical boxes, handrails, etc. Structures or objects not needed outside the scope of this project can be obtained from the pointcloud at a later date.

According to Mr. Hedges, the success of the recent platform and silo access stairways project at the Thermal Drying Building would have been nearly impossible without the accurate data that was obtained through LiDAR scanning. Mr. Mayers noted that current design efforts for the Thermal Drying foul air piping, Solids Handling Building drain piping replacement and the Headworks washer-compactor projects would be equally difficult without the LiDAR scanning information.



# Operators Challenge letter

“ I would also like to give a special shout out to our WEAU board for all their support and allowing us to have all the tools at our disposal.”

**H**ello all, as expected our two teams, the Central Valley Wasted Gas and the WEAU All Stars are in full swing preparing for the 2012 National Operators Challenge. I know we are all pulling for both teams to do very well. All in all Utah has always done well on the national stage.

Wasted Gas, as you may remember, pulled out a third place overall last year which is the fourth time we have been in the top five at a national event. I cannot wait until that elusive first place is finally achieved. Our state has come so close, so many times in the past. I am very optimistic this year and both teams certainly look strong enough to get it done. I was able to acquire a couple of pictures of both teams and would like to thank Chris ‘Potty Mouth’ Reilly for his help in herding the gifted kids of Central Valley into one area long enough to get the photos. I myself had to go to great lengths to get the All Star team to sit still long enough for pictures. They spent most of the time running around from bike to bike making engine noises thinking they were Chad Reed. Just kidding guys.

I could not help myself when I seen the picture of Josh being pushed down in the ditch. All I could think was everyone seems to have a hard time getting some solids to settle. Lol. Josh, that is for you brother.

On a serious note, I would like to thank Central Valley for their generosity and allowing the teams to use their facility. I know that Gary Faulkner and Anthony Daw have certainly put up with a lot of inconvenience and disruption to accommodate everyone.

I would also like to thank the one and only (thank the maker he is the only one) Brett Olson. Not too many people know this but Brett has been building our association bran-me-new cutting tables for the OPS challenge. If you know Brett’s body work and

metal fabrication skills you wait until you see these babies. We were able to get the plans from our friend Steve Harrison of the national tables and Brett has certainly out done himself once again. Our new tables will no longer need wrenches to secure the pipe. Now they are a ‘C’ clamp style strap that holds the pipe in place. Brett has spent a lot of time thinking of ways to make our system like Nationals but with his additions. Both tables will now have a belly pan and their own water barrels. The water barrels will allow both tables to be more stable during the events and after each event the dry table can be washed and no more slick floors from the pipe shavings left on the ground. He is installing a pump and a rinse hose so judges can set up the event for the next team much faster and cleaner. I would also like to thank Marlo Davis because this was his idea from the very start. Marlo, whom is short and a real pain in the butt, has had some great ideas and put in some long hours himself into making our OPS challenge much less of a challenge for the rest of us. Now if I could get Brett to make him some training wheels for his new bike Marlo would be set.

I would also like to give a special shout out to our WEAU board for all their support and allowing us to have all the tools at our disposal in preparation on the national level.

And last but not least, thanks to Central Weber for their support and allowing Brett the opportunity to serve WEAU like he does. Of course most of the credit goes to Jeff because I love to get at Lance every time opportunity knocks at the door and its knocking.

By the way Lance, I still have not received my mileage reimbursement. You are awesome Mr. Wood, thanks for playing.

See you all in the funny papers. **DN**



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All Star Team



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# Gimmicks and gadgets




**H**ere at the North Davis Sewer District our management staff has been looking at redundancies in our system. They asked the question, “What would we do in the event that we lost the shaftless conveyors in our dewatering building.” We also were faced with the uncertainty of how long it would take us to make repairs on the conveyors. The liners and shafts were worn out and we did not know how long it would take us. We felt now was the best time to design

a backup plan. Myron Bachman gathered the operations and maintenance staff and together came up with the idea to rent a series of continuous conveyors that would transfer the sludge to the dump truck on the other side of the building. Myron was able to find a local vendor that supplies such equipment and because of they are local it can be delivered the same day it’s ordered.

Myron had our in house fabrication tech. Shane McCowen design and build a

new discharge chute that would overlay over the existing one and direct the sludge to a smaller opening that would feed the portable conveyors. Once the vendor delivered the conveyors it took very little time to set everything up. The vendor was even good enough to supply extra motors and extra belts and at no extra charge just in case there was a failure.

We also had to have the ability for Scada to calculate the lbs of solids each day, so we have a toggle in the program that will remember the weight of the truck and only the solids added to the truck will be totalized. This allows us to keep accurate regulatory tracking of our daily and annual solids produced.

We tested it for a couple of days and with minimal cleanup, we were pleased with the results. It took a few days to get the project set up for the first time but now there is a set of Sop’s, accessible on every computer. As a matter of fact now all of our Sop’s are accessible digitally on the network. So if we ever need it, there are even pictures to document everything we did. The next set up will only take a couple of hours to be up and running. Pretty slick idea we thought. 

“All of our Sop’s are accessible digitally on the network.”



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# QUIZ

1. What are the three determinants for output in the rotary design of a rotary screw air compressor?
  - A. Length, voltage, material of the rotor
  - B. Speed, diameter, rpm of the rotor
  - C. Length, diameter, speed of the rotor
  - D. Speed, voltage, amperage of the rotor
  
2. Most common device used for transmitting the torque whenever two pieces of rotating equipment are used such as a small pump and motor found in the plant.
  - A. Torque Wrench
  - B. Coupling
  - C. Torque converter
  - D. Clamp
  
3. When starting a small motor between 1/8 HP and 7 1/2 HP what is often used to store energy when high power is required at the start.
  - A. Phase
  - B. Winding
  - C. Relay
  - D. Capacitor
  
4. You are asked to pump down a clean water vessel into a tank on the hill above it, what is the HP requirement assuming 100% efficiency. Your tank is 50ft by 50ft by 30ft. Head pressure is 95ft of head. You need to pump 600 GPM.
  - A. 7.5 HP
  - B. 10 HP
  - C. 15 HP
  - D. 20 HP
  
5. Something that is commonly used with pulleys and sheaves and is made from a variety of high strength rubber and other synthetic material commonly used in power transmission.
  - A. Coupling
  - B. Universal Joint
  - C. Bearing
  - D. V-Belt

ANSWER KEY  
1.C 2.B 3.D 4.C 5.D



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# 2012 Midyear Conference

## PROMISES TO BE ANOTHER BLOCKBUSTER

BY JIM SCHWING/CH2M HILL  
COMMITTEE CHAIRMAN

This year's Midyear Conference program once again is chock for of interesting and educational presentations. The conference is Thursday, November 15, at the Cultural Celebration Center in West Valley City.

The Young Professionals are planning several interesting activities including a poster competition with a \$500 prize, a food and/or clothing drive and an after-conference event at the Hollywood Connection.

The PRELIMINARY program is below. Watch your email and snail-mail for registration program and the final program. [DN](#)

Time	Session A1	Session B1	Session C1	Session D1
8:00 - 8:30	<b>REGISTRATION AND CONTINENTAL BREAKFAST</b>			
8:30 - 9:10	Central Valley Water Reclamation Unveils New IASP Composting System <i>Pete Deligt (Central Valley)</i>	3P Visual: Using Mapping Technology to "See" What the Public is Saying <i>Kasey Hansen (Gateway Mapping)</i>	Young Professionals Forum	Collection Systems
9:20 - 10:00	Challenges to Biosolids Composting <i>Tania Datta (CH2M HILL)</i>	Non-Structural Seismic Bracing <i>Stephen Cohen (Calder Richards Consulting Engineers)</i>	Young Professionals Forum	Collection Systems
10:00 - 10:20	<b>BREAK</b>			
10:20 - 11:00	Advances in Anaerobic Digestion: New Technologies and Changing Conventional Wisdom <i>Drury Whitlock (CH2M HILL)</i>	Welcoming the Builder to your Project Team- Using CM/GC to Expand Design Expertise <i>Mike Worrall (J-U-B Engineers)</i>	Biosolids management through its reduction at source - results from a lab scale study <i>Pei Huang (U of U)</i>	Collection Systems
11:10 - 11:50	Upgrading Existing Treatment Systems to Include Biological Nutrient Removal <i>John Richardson (Westech)</i>	Design Build Considerations for Utah Wastewater Facilities <i>Glen Perry (Alder Construction)</i>	Nutrient Recovery at source - a new direction towards nutrient management in wastewater treatment <i>Ksheeraj Yakkala (U of U)</i>	Collection Systems
12:00 - 1:20	<b>LUNCH AND KEYNOTE SPEAKER</b>			
1:30 - 2:10	The journey of pharmaceuticals through wastewater and what duckweed has to do with it <i>Jon Farrell (WesTech)</i>	What is Water Worth: Assessing Economic Benefits of Maintaining and Improving Water Quality <i>Nicholas von Stackelberg (UDWQ)</i>	Jordan River TMDL- contribution of internal organics and nutrients to river water quality <i>Mitch Hogsett (U of U)</i>	Collection Systems
2:20 - 3:00	Wastewater PPCP Removal Using Chemical Pre-Treatment <i>Theodore Marcus (Earth Renaissance Technologies)</i>	Cyanobacteria, Friend or Foe and When Do We Care <i>Leland Myers (Central Davis)</i>	Operator Training; State Point Analysis <i>Paul Krauth (UDWQ)</i>	Collection Systems
3:00 - 3:20	<b>BREAK</b>			
3:20 - 4:00	ODOR CONTROL: Design Considerations, Technology Options and Sustainability <i>Raymond Peat (ANUA)</i>	"N vs P; Is the Jordan River Nitrogen Limited and What Does it Mean?"	Operator Training; State Point Analysis <i>Paul Krauth (UDWQ)</i>	Collection Systems
4:10 - 4:50	A Multi-Function Technology for Nutrient Removal, Energy Savings and Managing Wet Weather <i>Mark Boner (WWETCO)</i>	The use of structural and functional indicators to develop numeric nutrient criteria for Utah's Wadeable streams <i>Mike Shupryt (UDWQ)</i>	Operator Training; State Point Analysis <i>Paul Krauth (UDWQ)</i>	Collection Systems



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# WATER'S WORTH...



**YOUR  
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## Communities are Built on Water

Unlike people in many parts of the world, Americans have access to safe and clean water and sanitation services. Our water and wastewater treatment systems are world-class. Every community is literally built on top of this infrastructure and wouldn't be possible without it. You may not give it a second thought, but now's the time to stop and think about water and how essential these services are to your life.



**YOUR  
EFFORT**

## Clean Water is Everyone's Responsibility

We all consume water and create waste. In fact, the average American uses 176 gallons of water a day<sup>1</sup>. Every drop that enters your home or business is treated and discharged back into the water cycle. Water is a finite resource; it must be managed well. Everybody uses water. Everybody is responsible for it.



**YOUR  
HEALTH**

## Water IS Life

Up to 60% of the human body is water, the brain is 70% water, and the lungs are nearly 90% water. We are made of water and we can't survive without it. But the water we need also must be clean. Water and wastewater treatment has changed the lives of millions of Americans—all but eliminating fatal diseases like cholera, typhoid, dysentery, and hepatitis. America has some of the cleanest, safest drinking water in the world and it must be preserved. Your life depends on it.



**YOUR  
FUTURE**

## Dealing with an Aging Infrastructure

Turning on the tap or flushing the toilet is as simple as turning a knob or pushing a handle. What you don't see is the vast infrastructure—800,000 of miles of water pipe and 600,000 miles of sewer line<sup>2</sup>—that takes over from there. These systems have worked silently for years, in some cases more than a century, without major interruptions, but now they need your attention. Your investment is needed to keep infrastructure functional for current and future generations.



**OUR  
PASSION**

## Finding Solutions for the 21st Century

The water sector constantly seeks innovative solutions to community and water system challenges. Undertaking efforts, such as reclaiming water for reuse and generating energy from wastewater, enable the sector to adapt to our changing environment and be good caretakers of our water resources. Water professionals have dedicated their careers to providing clean and safe water to protect everyone's health, planet, and quality of life. Water is our passion.

## YOU NEED WATER. WATER NEEDS YOU.

We all have something at stake when it comes to water. Each of us also has a valuable contribution to make. But first we need to understand the issues. That's where WATER'S WORTH IT comes in.

WATER'S WORTH IT is a messaging campaign that will help answer the questions about how our actions, attitudes, and the things we most value are so closely connected with water. And it will help you to be as good to water as water's been to you. To learn more, visit [www.WatersWorthIt.org](http://www.WatersWorthIt.org).



<sup>1</sup> United Nations Development Programme, Human Development Report 2006 (March 2006), p. 34. <http://hdr.undp.org/en/reports/global/hdr2006/>

<sup>2</sup> General Accounting Office, Water Infrastructure: Comprehensive Asset Management Has Potential to Help Utilities Better Identify Needs and Plan Future Investments (March 2004), p. 14. <http://www.gao.gov/new.items/d04461.pdf>



# MARKET TRENDS THAT AFFECT YOUR BOTTOM LINE

BY STEVE RICHEYSON

Global trends are like a river. Sometimes they are powerful, sometimes they are weak and sometimes they are so mellow your business can glide along them like a leisurely, summer afternoon pontoon boat ride. Right now there are three big and scary trends that are NOT going to be a leisurely pontoon business boat ride. Prepare your life vests; we are headed into the rapids.

## 1 RESOURCE ROULETTE

The stress that global supply chains are under continues to make resource availability and access precarious and unpredictable. This in turn, makes it incredibly difficult for businesses to set prices, determine shipment dates, establish baseline costs, or create 'just in time' (JIT) delivery timelines if those conditions exist. If energy costs fluctuate wildly, if product shipments are held up thanks to global unrest or catastrophic weather events, or if resources we need for production dry up, it creates chaos and this affects your bottom line. There are examples of this all around us.

Coca-Cola is a soft drink; its predominant ingredient is clean water. If the company that makes it (Coca-Cola) cannot get or does not have access to clean water (thanks to a drought or pollution, or some other factor) they cannot make something as simple as single can of Coca-Cola. No clean water

# IF YOUR BUSINESS IS GOING TO RIDE THE ROUGH WATERS IN THE 21ST CENTURY, YOU MUST INTEGRATE SUSTAINABILITY INTO THE WAY YOU DO BUSINESS.

means no Coke. Many southern states have had severe drought conditions for the past several years and this condition is being echoed around the globe. Resource roulette, however, extends well beyond clean water.

Many global fisheries (thanks to overfishing and pollution) are depleted. Fishery depletion may not affect your business directly. You may never even think about global fisheries, but if you are a fisherman, restaurateur, boat manufacturer, or if you supply materials for boats, transportation to fish markets or any other global connection to that industry, it will affect your business. We have always lived in one globally connected biological eco-system; we are now living in a globally connected economic system as well. From water to energy to raw materials, the impact seven billion people and a short-term vision for how we use resources increases scarcity and unpredictability.

## 2 AMPED EXPECTATIONS

Modern consumers want their products to be quality, affordable and readily available, but they have now extended product expectations to the actual company itself. Consumers want the companies they do business with to be responsible for how they treat the environment, how they treat their local community and how they treat their own employees.

It seems that consumers around the globe have a hunch that seven billion people cannot survive and thrive doing business the way it has been done in the past. As a result, they are demanding changes in the products they buy and the companies they choose to do business with.

## 3 GLOBAL CONNECTIVITY

We know that 21st century communication is decentralized, personal, fast, cheap and capable of becoming exponentially viral. For businesses, this connectivity is a blessing and a curse. The blessing: we can connect directly to customers all over the world via digital technology quickly, easily and inexpensively. The curse: those same customers can do the same thing if they are not happy with our performance. They can do this quickly at no cost and if we are not careful, its negative impact can grow exponentially and harm our company's reputation.

In the modern world, reputation harm can mean financial catastrophe for companies. Technological advances have made computers, a Wi-Fi signal, portable computers, inexpensive video cameras and smart phones available to mass audiences at a very low cost all over the globe. This has pushed an enormous amount of centralized message control away from corporations and toward consumers. There was a time when networks controlled the only mass message pipeline. This is no longer true. If a company is doing a poor job according to the customer, in a matter of minutes they can shoot a complaint video, start a Facebook page, share a Tweet and before you know it, the bad news is everywhere.

### Navigating the waters

The best hope to navigate these treacherous waters is to reorient your business focus from a 'profits only' bottom line approach (which has served us well, but no longer meets the needs of shareholders AND stakeholders) to a 'triple bottom line: people, planet, and profits' approach. Why? Because it meets these three trends head-on. Is

this approach easy? No. Is it important? Yes. Will it succeed? Probably, although there are no guarantees; but there is no guarantee that any business strategy you pursue will be successful. To do nothing almost guarantees failure; the trends are too huge.

You can get started by asking a simple question: "Is this business decision good for the (1) Profits (2) People (3) the Planet?"

Many companies around the globe have already begun moving in this direction (others have jumped right into the river) and it is paying off for their 'bottom line' profits. These companies have seen the rough waters ahead for global business and have committed to taking the smart and courageous steps to preserve their triple bottom line: people, planet and profits.

If your business is going to ride the rough waters in the 21st century, you must integrate sustainability into the way you do business because it is what consumers want and it is the path for true long-term business success. [DRI](#)

## ABOUT THE AUTHOR

Steve Richerson is a nationally recognized speaker and consultant. Steve utilizes his distinct presentation style to speak on the importance of sustainability and actionable guidelines to enact eco-friendly practices in business. As a member of the U.S. Green Building Council, National Recycling Coalition and the North American Environmental Education Association, Steve is spearheading the campaign to reduce wasteful corporate procedures and promote environmentally sound business methods. To learn more about Steve's speaking, please visit [www.greenbizspeaker.com](http://www.greenbizspeaker.com), call 256-710-7216 or email [steve.richerson@gmail.com](mailto:steve.richerson@gmail.com).

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# Obituary: Marilyn Mae Krauth



Marilynn Mae Krauth 1924 - 2012

**M**arilynn Mae Krauth, age 88 passed away peacefully on August 15, 2012 in Salt Lake City after a fall.

She was born January 16, 1924 in Salt Lake City to Al Rupp and Lorraine Dale


Rupp. (later divorced). Her mother then married Fred Krauth (her father). She was a proud graduate of East High School. She was excited to be able to recently attend her 70th High School reunion. After graduation she began a career in book keeping, working for private industry, Salt Lake City and the State Government. On September 4, 1959 she married Carl B. Krauth in Salt Lake City. On October 19, 1960 she began her greatest career as mother to her son Paul. She loved traveling, which she was able to do throughout her life. In August of last year she had the joy of visiting our Nation's Capital for the first time. She was a lifelong member of St. Paul's Episcopal church where she was a member of the St. Martha Guild, and a Sunday school teacher for many years. Socializing was her greatest strength later in life, accompanying her son on his frequent conventions. She was

lovingly known as 'Mom' to the Water Environment Association of Utah, Rural Water Association of Utah, Utah League of Cities and Towns and many others.

Survived by her son, Paul, of Salt Lake; also by her sister-in-law, Larey West; niece, Elissa Maughan and her children. Preceded in death by her father, mother, sister and husband.

Following cremation, a memorial service was held on August 23, 2012 at St. Paul's Episcopal Church. Contributions to the American Cancer Society, or the charity of your choice, are suggested by the family.

I would like to thank the staff at Holladay Healthcare, Salt Lake Cancer Clinic and Dr. John Luras for their care and comfort of my mother. And a fond goodbye from her to all her great friends and neighbors, and her special friends at her favorite restaurant Hires.

Goodbye Mom, I love you – Paul 

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# Member spotlight: Clifton E. Specht



**C**liff has been in the wastewater industry for a long time - we think he started right after the invention of water. In more recent history, he worked in the United States Air Force taking care of wastewater generated at remote missile sites and later for the North Davis Sewer District, first as an operator at the treatment plant then as a collection system operator and Collection System Superintendent, with a short stint as the District's first Industrial Pretreatment Coordinator where he was instrumental in setting up the original program. He is currently serving the District as Environmental Systems Superintendent with responsibilities for supervising both the collection system and industrial pretreatment program.

Cliff actually started out life in New York State, the youngest of four children. When he became a teenager he found a job working for a local farmer. This kept him busy and gave him some spending money. However, when he turned 18 years old his father, wanting him to 'do something with his life,' took him down to the local Air Force recruiter and signed him up. So, in 1971 he joined the Air Force and was assigned to Davis-Monthan Air Force Base in Arizona working in the water shop. He has worked in the water and wastewater field ever since - 42+ years and counting.

While in Arizona, Cliff began dating a young woman he met. When he had to fly home for a family emergency he made arrangements for her to pick him up at the airport after the trip back home to New York. However, while he was

“Cliff joined the Water Environment Federation in 1978 and has been a member ever since.”

gone she decided not to continue the relationship and sent her sister Pam to the airport instead. They started dating and were married later that year. He and Pam are now the parents of two children, a son and a daughter, and have five grandchildren.

Cliff loves doing genealogy and has written a family history. He has done much research into his roots and continues his work whenever he gets time.

Cliff joined the Water Environment Federation in 1978 and has been a member ever since. He holds a Grade 2 Operator certificate and a Grade 4 Collection System Operator certificate. He was awarded the Outstanding Operator award for plants over 5 MGD in 1983. He was a member of the Century Club in the Trapper Trails Council of the Boy Scouts of America for donating over \$100 every year for 12 years. He loves Scouting and cherishes the time he spent as Cubmaster. He is now helping his grandsons progress in the scouting program.

He is good with a shotgun (he says it was a gift for his wife but she never uses it) hitting 100 birds in a row at a trap shoot.


He is very involved in the Mason organization and held numerous positions including Klunker President (Klunkers are those little go cart-sized cars running around at parades), eventually serving as Master of his lodge. His favorite candy is gummy bears (he does not like chocolate), he drinks regular Pepsi, not diet, likes sushi (and just about any other kind of food), has never had a traffic ticket, knows how much money he has made in his lifetime – to the dollar – and can probably tell you where each one was spent. He is an unbelievable record keeper. He can find things he filed 20 years ago just as easily as he can find the ones he filed yesterday.

Earlier this year Cliff had open-heart

surgery to repair an aortic aneurism and to replace a valve in his heart. After the surgery he remarked, “I guess the Big Guy Upstairs just didn’t want me yet.” We are glad He did not. Cliff spent the next 10 weeks recuperating at home under the care of his sweet wife Pam.

The valve used to replace the bad one was from a pig’s heart. This has not curbed his love for bacon, ham, sausage, or pork chops. Incidentally, despite being 1/1000th pig he says he is not including them in his genealogy. “It is just way too much work.”

Cliff has a great sense of humor and loves joking around with his crew. They throw jabs at him and he throws them right back, but all in good fun.

The next time you see Cliff congratulate him for his 1,000,000,042 years in the wastewater business and maybe add a pat on the back for a great job. Maybe even pause for a moment of silence for the pig that donated the valve. We are glad Cliff and his heart are in good shape and that he is back with us. Retirement is on the horizon but not here yet. 



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# Member spotlight: John Marteliz

Every once in a while you find someone who is extraordinary like my dear friend John. John works for Cottonwood Improvements District and has been there since December of 2001. He now suffers from tunnel vision; of course John never was all there. He took the job because they told him he could look at dirty pictures on the TV all he wanted. He never got the joke, he is still waiting for something exciting to happen on the TV.

John loves sports. I think John has played every sport on the planet. Soccer, football, tried baseball; you name it he has played it. Now his kids follow in his footsteps and he either coaches their team or he is the referee in their league. He has been not only a mentor to other kids but has lent out a helping hand to his siblings kids and took one or two under his wing in particular. Of course John does not know the meaning of the word NO. He spends most of his day in service of someone else. I cannot remember a time that we talk that he is not helping someone from work, someone at church, someone in the neighborhood, or his family.


Although John is an amazing man, I have some things that everyone should



“If you want to see something funny, watch his face when he sees a new lawn mower.”

know about him, for instance; in his 7th grade English class John did his book report on Bambi. Of all the people in the civilized world he could write about it was Bambi. Not a president, or a world leader, no dictators, world wars, civil rights, although I heard that Winnie the Pooh ran a close second. Sorry John this is like TMZ

and it is going to hurt. One time John was asked to come help move some buffalo. This kid showed up in shorts over the top of sliders, the typical black armor shirt, tennis shoes, heck, all he needed was some makeup and he would have made every rodeo clown in the PBR proud. If you want to see something funny, watch his face every time he sees a new lawn mower. He is not allowed in lawn and garden at Lowes anymore. Some guys look at *Sports Illustrated*, Hot Rod magazines, *Time* or *Forbes* magazine, not John he has got the *Sears Catalog*. Some guys have pictures of models in their locker John has a picture of the newest Toro weed eater in his. It is kind of sad really but we love him he is special and I do mean special as in needs. He needs a fashion counselor. I think he wears the orange to bed at night. You can see John on Google maps for heck sake. John walks across the street and people think he is blocking it off.

John, I just wanted to have some fun with you and to thank you for all you do. You are an amazing friend with a huge heart and the world needs more like you, just without the lawn equipment fetishes and face the fact that Bambi either was shot or died because of a winter kill, sorry Bro. 



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# Certification Training in Collections



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At the Collections College your employees will receive valuable certification training at the lowest possible cost **free**. All your student needs is the latest Kenneth D. Kerri manuals, which can be purchased on line at [http://www.owp.csus.edu/training/courses/waste\\_water/index.php](http://www.owp.csus.edu/training/courses/waste_water/index.php).

The 12-week course covers each chapter in the Ken Kerri manuals, plus extensive math sheets are given each week to sharpen math skills. The combination of chapter tests and math work sheets will help your employee(s) get prepared for the certification test. The classes are usually taught on Wednesdays from 12:30 PM to 3:30 PM. If you want to see a sample of the curriculum please e-mail me [lonn@utab.gov](mailto:lonn@utab.gov).

If you want the training but cannot attend the classes, arrangements can be made to get the material to the

student they can fill it out and return it for grading. If this is the case there is no need to wait the student can start at any time. The timing for the start of classes depends on the test date, which will not be set until July. Check the State Training Calendar for the start of classes <http://www.calendarwiz.com/calendars/calendar.php?crd=uwwtccal&PHPSESSID=e6f5f8dad756fab2354285ad5cc705e9&jsenabled=1&winH=902> or email me the first of August. Any questions please call Lonni Rasmussen (801) 943-7671 



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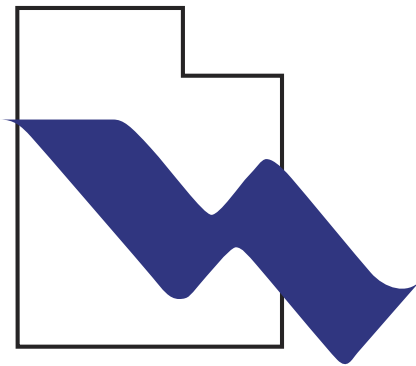
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# WEAU Treatment Training

All classes will be held at CVWRF from 1:15 pm until 3:15 pm. The dates are on Wednesdays. There is no charge for the class. Attendees are responsible for their own manuals. We will be utilizing volume 1 of the Ken Kerri manuals for grades 1 and 2 and Advanced Waste Treatment for grades 3 and 4. Please bring a calculator, paper and pencil. Please have the corresponding chapter read for the week attending. Class is designed to help operators prepare for their exam. The schedule outline is subject to change. Please refer to the training calendar for the most up to date schedule.



## GRADES 1 AND 2

### Volume 1

WEEK	DATE	COURSE DESCRIPTION
1	July 18, 2012	Chapters 1 and 2 – The operator and treatment
2	August 1, 2012	Chapter 3 – Treatment Facilities
3	August 15, 2012	Chapter 4 – Racks, screens, comminutors, grit
4	August 29, 2012	Chapter 5 – Sedimentation and floatation
5	September 12, 2012	Chapter 6 and 7 – Trickling filters and RBCs
6	September 26, 2012	Chapter 8 – Activated sludge
7	October 17, 2012	Chapter 9 – Stabilization Ponds
8	October 31, 2012	Chapter 10 – Disinfection
9	November 21, 2012	Review

## GRADES 3 AND 4

### Advanced Waste Treatment (previously known as Volume III)

WEEK	DATE	COURSE DESCRIPTION
1	July 25, 2012	Chapter 1 – odor control
2	August 8, 2012	Chapter 2 – Activated Sludge
3	August 22, 2012	Chapter 3 – Residual Solids Management
4	September 5, 2012	Chapter 4 – Solids Removal (secondary)
5	September 19, 2012	Chapter 5 – phosphorous removal
6	October 10, 2012	Chapter 6 – Nitrogen Removal
7	October 24, 2012	Chapter 7 – Enhanced Biological Control
8	November 7, 2012	Chapter 8 – Reclamation and re-use
9	November 14, 2012	Chapter 9 – Instrumentation
10	November 28, 2012	Review

Exam date December 3, 2012.

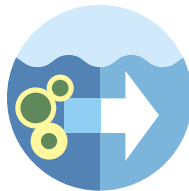
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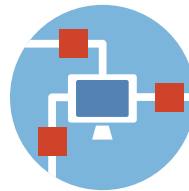
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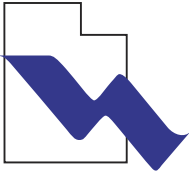


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## Dear Wastewater Professional:

You are invited to attend some valuable training. The CCE (Combined Committee Effort) is pleased to offer some insight into the fields of Pretreatment, Collections, and Biosolids. Included with the training is a delicious lunch and the opportunity to share experiences with your colleagues. Please take the time to complete the registration form and return it with your check made out to WEAU. Payment is due at the time you register. We look forward to seeing you there!

**DATE:** November 28, 2012  
**TRAINING TITLE:** A Little of This and A Little of That  
**CEU'S OFFERED:** .6  
**INSTRUCTOR(S):** Eppie Trujillo, Central Valley  
 Brian Nielson, Utah County Health Dept.  
 Brad White, Safety West  
 Mike McFarland, Utah State University

**AGENDA:**  
 07:30 to 08:00 Registration  
 08:00 to 09:00 Illegal Discharges  
 09:00 to 09:10 Break  
 09:10 to 10:10 Illegal Dumping/Septic Haulers  
 10:10 to 10:20 Break  
 10:20 to 11:20 Confined Space Entry & Fall Protection  
 11:20 to 11:30 Break  
 11:30 to 12:30 Confined Space Continued  
 12:30 to 01:30 Lunch  
 01:30 to 02:30 Maintaining Quality Biosolids through Pretreatment  
 02:30 to 02:40 Break  
 02:40 to 03:40 Maintaining Quality Biosolids through Pretreatment

**LOCATION:** 56 North Main, Orem City  
**COST:** WEAU Members - \$30.00  
 Non-members without membership - \$45.00  
 Non-members (including a one year PWO membership) - \$60.00

**RESERVATION DEADLINE:** Please make your reservations by November 16th, 2012 Limited to the first 100

Call Chris Brown @ 801-943-7671 with any questions.

*(Detach bottom portion and mail with payment)*



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 \_\_\_\_\_ (If no number, please pay the non-member price)

Company Name: \_\_\_\_\_ Phone No.: \_\_\_\_\_

Please indicate amount paid: \$ \_\_\_\_\_

You may register online at [WEAU.org](http://WEAU.org) and pay by credit card or mail checks (payable to WEAU) and completed registration form to:  
**Chris Brown**, Cottonwood Improvement District, 8620 S. Highland Drive, Sandy, Utah 84093



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**Thursday, November 1, 8:30 – 3:30** at the Central Valley Board Room.

There'll be a lively panel discussion with Lab Gurus – Ken Burgener (NDS), Anthony Daw (CVWRF), and Lee Rawlings (SVWRF). Ask questions and take in nuggets of information to help you prepare for the exam.

There are tons of acronyms used around the lab so we'll play the Name Game to get you familiar with the terms.

We will talk sampling procedures, holding times, preservations.

We will talk glassware, instrumentation, and safety.

We can even take you on a tour of the laboratory if you would like to put names and concepts to their actual uses.

Bring your questions or email us ahead of time so we can have the answers ready when you get here.

Hope to see you in November!

Tiffini Adams [adamst@cvwrf.org](mailto:adamst@cvwrf.org)

Sherry Sheffield [ssheffield@svwater.com](mailto:ssheffield@svwater.com)

Shellie Turnbow [shellie.turnbow@slcgov.com](mailto:shellie.turnbow@slcgov.com)

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# Family Fun Night



**W**EAU celebrated a Family Fun Night at the Salt Lake Bees baseball game on August 3. 82 WEAU members and their families attended, including 22 people from South Davis Sewer District! A great time was had by all. Dinner was provided, but the highlight was a raffle for \$1,000 in

prizes during the 7th inning stretch. Jeter, whose father is Clint Rogers of Carollo Engineers, was the grand prize-winner of a Lenovo Tablet PC. Make sure not to miss out on any future WEAU events, and sign up for the email list by sending an email to [membership@weau.org](mailto:membership@weau.org). Thank you

to the Young Professionals Committee for organizing this wonderful event!

Also, the WEAU Young Professionals and Students Group (YPS) has an email list. Please sign up using the form at: <http://www.weau.org/who-we-are/young-professionals>. 

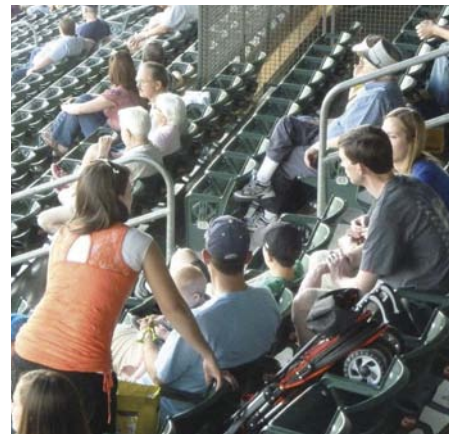


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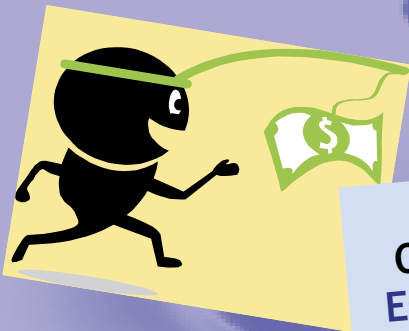




## STUDENTS – Are you a WEAU member?

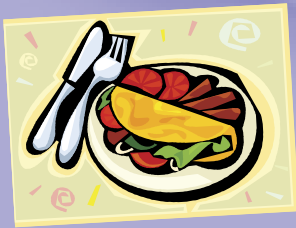
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- Learn about WEF Student Design Competition



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**WHEN: THURSDAY, NOVEMBER 15, 2012**

**TIME: 8:00am–5:00pm**

**WHERE: UTAH CULTURAL CELEBRATION CENTER  
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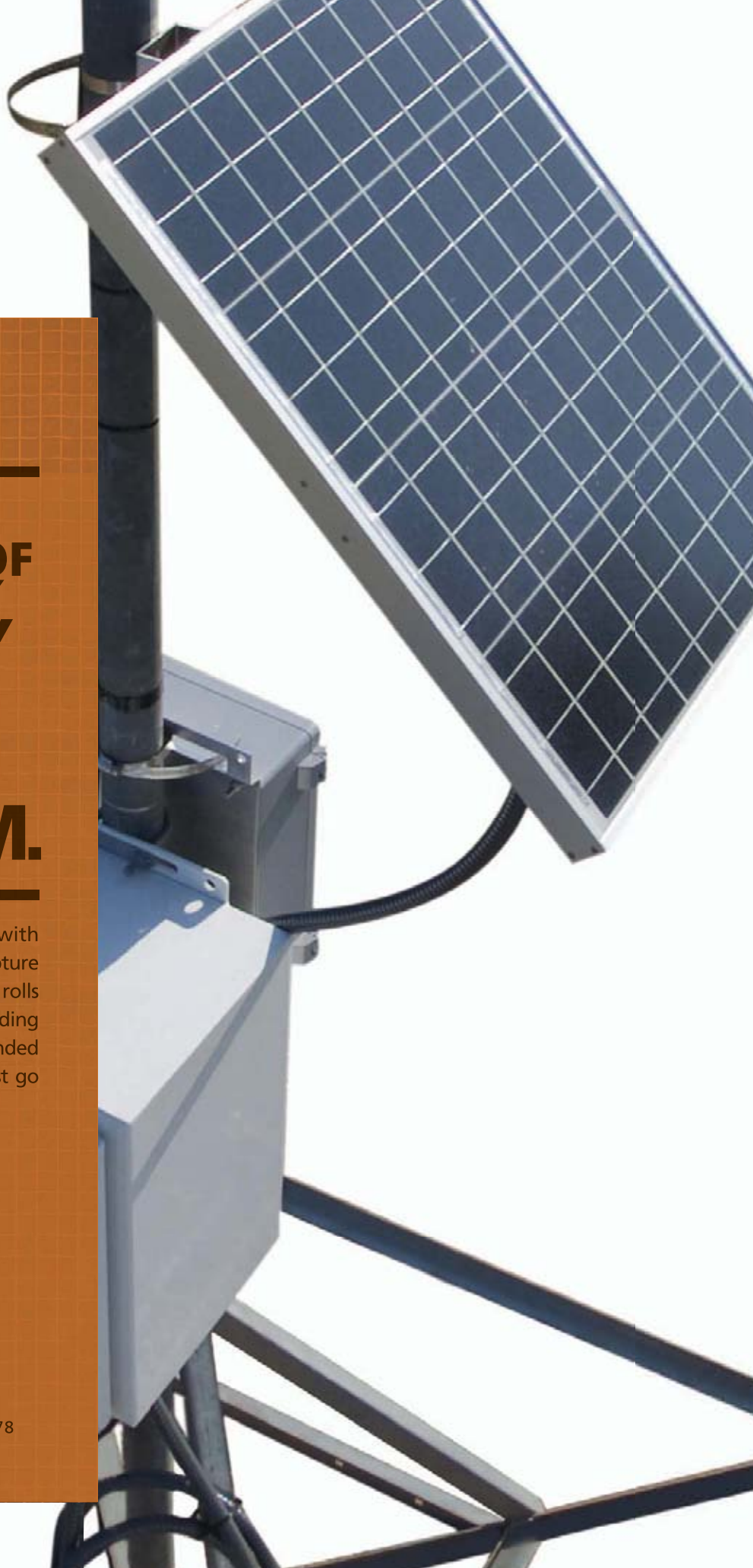
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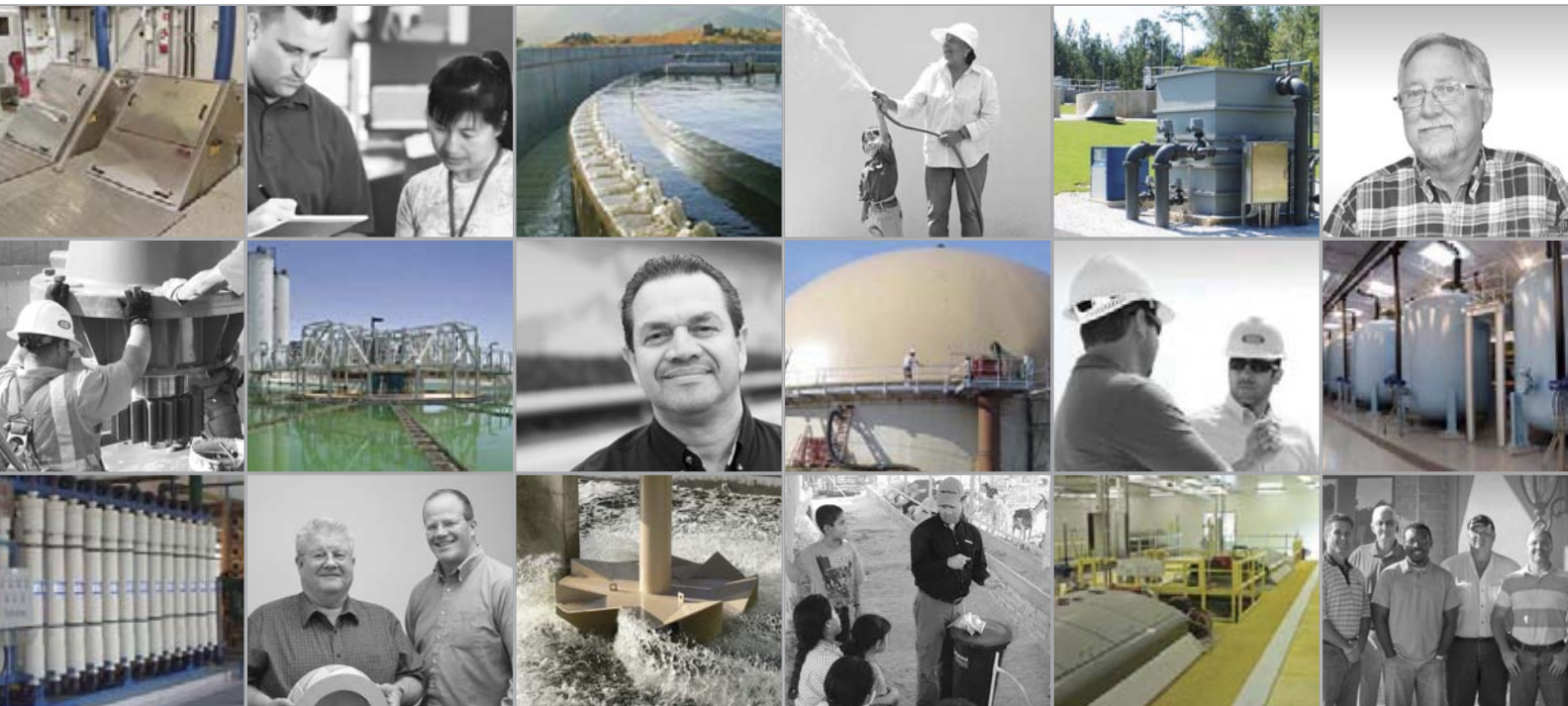


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