

# of mutual interest

A MONTHLY NEWSLETTER PUBLISHED BY THE ASSOCIATES OF CH2M HILL OMI FOR THE ASSOCIATES OF CH2M HILL OMI

June<sup>2007</sup>

## In this issue

Pages 2-3

### Awards and accolades

Read the latest kudos from across the company

Pages 4-5

### Key West shows off vactor truck

### This and more in Project News



Children get a first-hand look at the vactor truck.

## Ready for Top Ops? Take the quiz and find out!

CH2M HILL OMI is sponsoring the Top Ops competition at the American Water Works Association's annual conference this June.

Called the "college bowl" of the water industry, Top Ops tests the everyday know-how of water treatment operators, with questions approved by the Association of Boards of Certification (ABC).

Test your knowledge by taking the quiz below to see how you stack up.

1. Why are so many sources of water not directly suitable for drinking?
2. How is electrical energy commonly converted to mechanical energy?
3. An electrical motor usually consists of four parts. Name three parts.
4. Name two differential-pressure sensing devices, using generic terms.
5. What must be the immediate concern of the operator if contamination of a water supply is discovered?
6. What is the difference between the amount of chlorine added and the amount of residual remaining in a sample known as?
7. What are the units by which the quantity of electrical current is measured?
8. What is a sample called that is taken at a specific time on flowing water?
9. What is the term for the difference between the static water level and the pumping level of a well?
10. What term describes water that is suitable to drink?

Source: American Water Works Association

Find the answers on Page 8.

## New HR VP passionate about associate development

Shelie Gustafson joined CH2M HILL OMI as Vice President of Human Resources earlier this year. In the following interview she reflects on our strengths, our challenges, our culture and where we're headed.



Shelie Gustafson

**Q Tell us a little bit about what you did prior to coming to CH2M HILL OMI.**

**A** Most recently I worked for McDATA Corporation, where I was the director of Human Resources. During that time, we went through several mergers and acquisitions, both domestically and internationally, and we worked to integrate systems, processes, tools and people. A big component of that was building a new culture from two companies. When companies come together, it's an opportunity to take the best of the best. It's similar to how we're using Shared Services here at our company now. We're bringing people together for a common goal, and it's an opportunity to capitalize on our resources and talent while ensuring that we maintain the uniqueness that makes CH2M HILL OMI so great.

I have a quality background from when I worked at Amoco, where we used quality processes and tools in our field operations. I know quality is at the core of our culture and who we are here at CH2M HILL OMI.

Also, I worked for a mutual fund company, OppenheimerFunds, where I headed up employee training and development.

**Q You've been here for several months now. Give us your perspective on our Human Resources department.**

**A** We have a great group of people working in Human Resources. It's a terrific team with a willingness to do whatever it takes. They have positive attitudes and go above and beyond to get the job done right. The HR leadership team recently went through an evaluation to assess projects on our plate and compared those items to the company's Strategic Initiatives. Through this process and talking to CH2M HILL OMI associates, we have developed our objectives for the balance of 2007 and into 2008. We will continue to talk to associates to find out if we're doing the right thing, and if we're delivering the best in terms of our associates and our external customers. We're implementing changes where they make sense to ensure CH2M HILL OMI continues to attract and retain talented associates.

**Q Let's talk a little bit about finding associates and keeping them. That's a big focus for us right now.**

**A** When you look at the demographics of the entire workplace population, a large percentage of our associates will reach retirement age in the next five to ten years. There will be a shortage of employees over the next decade as employees age and fewer people enter the workforce. We must focus on attracting talent to our line of business. The challenge we have is differentiating ourselves from others, but we can do it because we have a great story to tell—we just have to get the message out. When you look at CH2M HILL OMI's history, what we're doing now and our potential, we can attract the right talent. But this isn't just HR's job. We're all responsible. No one can tell our story better than the people who work here.

With regard to keeping associates—that's a key focus for our managers as well. We want to retain talented, committed associates, and HR will be working with managers to ensure a high level of retention. One retention factor that we must consider is ensuring that associates have the opportunity to grow and develop. I think this is another advantage that associates have at CH2M HILL OMI if they choose to accept the opportunities available to them.

**Q You had a chance meet a lot of associates recently at PM Summit 2007. What's your overall impression?**

**A** I found that our associates are incredibly dedicated to our company. I saw a lot of pride in who we are, what we do and the impact we can make on the communities where we serve. Our work directly impacts people's lives and the communities in which we live and work. It's a tangible, visible service that we deliver, and that's different from other places I've worked. There's a strong desire from our associates to do the right thing for our customers.

**Q What challenges do we have?**

**A** We're growing our business, and we have to be able to change quickly and effectively to take on new challenges and meet customers' needs. This means finding a balance between taking the good things in our culture and making improvements

where they are needed. Another challenge we've already talked about is attracting and retaining talent. If we don't do it right, we'll be our own worst enemy.

**Q Let's talk about opportunities. What are your thoughts on career development?**

**A** The growth and development of our people is so important, and associates have a great opportunity here at CH2M HILL OMI. As a company, we have a responsibility to help our associates look at their job, evaluate their career and help them grow. This could mean an associate wants to continue to develop in his or her current position or maybe develop in a new area. Managers have to have good conversations with our associates to help them identify ways in which they can develop. But associates have to play a part in development, too. It's a partnership between the associate and the company. Associates own their careers and should be willing to learn and apply new skills. They should set a path in partnership with their manager in terms of where they want to go and what they want to do. It's ultimately up to each one of us to continuously improve and learn. It's such a gift to be able to do that here, whether it's through taking on challenging assignments, reading, mentoring or being on a team.

**Q You also have responsibility for Everyday Excellence, Corporate Services and Information Technology. Tell us about these groups.**

**A** Like Human Resources, the associates on these teams take a great deal of pride in their work. Everyday Excellence is the continuation of quality and is about every associate integrating quality in every aspect of our work. Quality is not a program; it is who we are. Corporate Services is a group of people that do an incredible job with meeting and event planning. We are very fortunate to have them within CH2M HILL OMI, even though they provide their services to the entire enterprise. And IT, as most people know, has gone through a lot of changes as many of our day-to-day IT needs are filled through the Technical Assistance Center. We are fortunate to have one person within our company who still focuses on our specific, strategic IT needs.

All of these groups are about supplying associates with information, tools and resources to ensure we are successful as an organization and to help bring out the best in very individual.

**Q How about life outside of work? What are your interests?**

**A** I have a great husband, Rick, and a Labrador named Orvis. Rick and I enjoy traveling to unique places, and we've been learning photography. I'm also a runner, and I enjoy entertaining and cooking for my guests.

**Q What else should people know about you?**

**A** I invite input and feedback from associates—both compliments and critics. I welcome e-mail or calls from associates because we are here for them and the business. I look forward to getting to know more people and always welcome ideas and input from others.

Thanks, Shelie.



## Heinz associate named Operator of the Year

The Pacific Northwest Clean Water Association named Heinz Operator Bob Caswell as its 2006 Eastern Oregon Region Operator of the Year in April.

Bob was nominated by his peers for the award. He started at Heinz in March 1995 as a Utility Worker and advanced to operations. Bob also assists the Laboratory Technician.

“Bob is the first person to go help someone that needs a hand and he treats everyone with respect,” says Heinz Project Manager Wade Wall. “I am happy to see him receive this award.”

The Operator of the Year Award represents outstanding job performance of regular duties and individual or collective accomplishments of an experimental, developmental or innovative nature. Bob is the second CH2M HILL OMI associate at the Heinz facility to receive this award.

“Bob is a key player in our organization, as well as a mentor and leader. He’s also a pretty good elk hunter,” compliments Wade. “We are all proud to be Bob’s friends and associates.”



Bob Caswell (left) receives the Operator of the Year Award. Pictured with Bob is Heinz Project Manager Wade Wall.

## Another Oregon city partners with CH2M HILL OMI

CH2M HILL OMI entered into a three-year agreement to provide management oversight for Oregon’s city of Dallas wastewater plant in February.

The agreement stems from providing monthly management support at the wastewater plant since last November. The Dallas project is operating as a satellite of Lebanon, Ore., and is supervised by Operations Supervisor Pat Kavan.

Associates Doug Atkinson, Brian Helliwell and Mike Re helped assist city staff with schedules and work plans. In addition to their day-to-day contact, associates Jim Nail and Rusty Schwarz also helped assess plant conditions and needs.

“CH2M HILL OMI’s ability to bring in a variety of resources to assist Dallas, Ore., is what truly impressed the city and helped evolve the monthly agreement into a longer term commitment,” says West and Central Regional Director of Operations Gary Young. “This job would not have occurred without the assistance of those CH2M HILL OMI associates that have been on site, especially Mike Re, who has been on site for two months providing assistance.”

Dallas, Ore., has been a long-term client of CH2M HILL for its engineering needs, and now CH2M HILL OMI will be providing management oversight of its wastewater system for the next three years. “It’s a great example of the enterprise meeting the needs of its customers,” adds Gary.

## Key West brings home three

Key West won three awards from the Florida Water Environment Association in March and April: the Utility Operational Performance Excellence Award, the Earle B. Phelps Award for highest removal of pollutants and the first-ever Collection System of the Year Award in the 10,000 – 50,000 Connections category.

“Key West associates strive to maintain all of CH2M HILL OMI’s internal standards and processes, as well as those of regulatory agencies and our client. A pleasant by-product of this is qualifying for awards,” says Project Manager Greg Smith. “Our associates work hard to safely operate and maintain Key West’s wastewater treatment plant and collection system, and our client provides us state-of-the-art equipment to accomplish our mission. They both truly deserve statewide and companywide recognition.”

In 1999, Key West began a five-year wastewater collection system rehabilitation plan and completed it in less than three. All publicly and privately owned service laterals were located and tested for leaks. Those that failed have been repaired or replaced, while the testing process continues so future leaks can be prevented. The city of Key West is completely dedicated to eliminating all controllable sources of nearshore water contamination, and this award recognizes its efforts.

The Utility Operational Performance Excellence Award recognizes outstanding Operational Programs, and the Key West Team won for populations of less than 50,000.

The Earle B. Phelps Awards are given annually to wastewater treatment facilities that have maintained the highest removal of pollutants and the highest standards of facility and systems operations and

maintenance. Key West won first place in the Advanced Secondary Treatment Category.

Finally, the Collection System of the Year Award recognizes Key West’s exceptional effort to properly manage, operate and maintain the wastewater collection system. This is the first time that this award has been given out, and Key West won for medium-sized facilities.

Key West received the awards at the 2007 Florida Water Resources Conference in Orlando in April.

“These are incredible accomplishments for Greg and his team, and I thank Greg for his outstanding leadership,” says Regional Vice President, Project Delivery Herb Washington. “The CH2M HILL OMI team in Key West takes pride in delivery of quality service to our client. This award recognizes that commitment, and I congratulate the entire team.”

“We have known the Key West team does extraordinary work, and that was confirmed when the team learned it was being honored with three awards,” adds Regional Director of Operations John Beall.

“This is definitely a demonstration of a combined team effort between the City of Key West and CH2M HILL OMI. Our staff has done a fantastic job at diligently working toward bringing that system up to standard, but the City also has contributed very large amounts of money to capital improvement efforts in the collection system,” compliments Southeast Regional Business Manager Mike Green. “Greg Smith and his team in Key West have done an outstanding job in working toward bringing that collection system up to standard and documenting everything so these awards are possible.”



Key West Project Manager Greg Smith (left) presents Key West Mayor Morgan McPherson with the awards.

## BD&P team makes changes

CH2M HILL OMI’s Business Development & Planning team has restructured to help the company better pursue and capture work in target markets and to solidify the company’s market leadership position in each sector. Here’s an overview of the changes.

### Municipal services

Sales Directors Wally MacKinnon and Pete Cohlma co-lead the company’s business development efforts in our new and emerging municipal services (city operations) market. Wally and Pete will work closely with Project Delivery and the Commercial team to enhance our overall market position and achieve our expectations for strong growth and exceptional customer satisfaction.

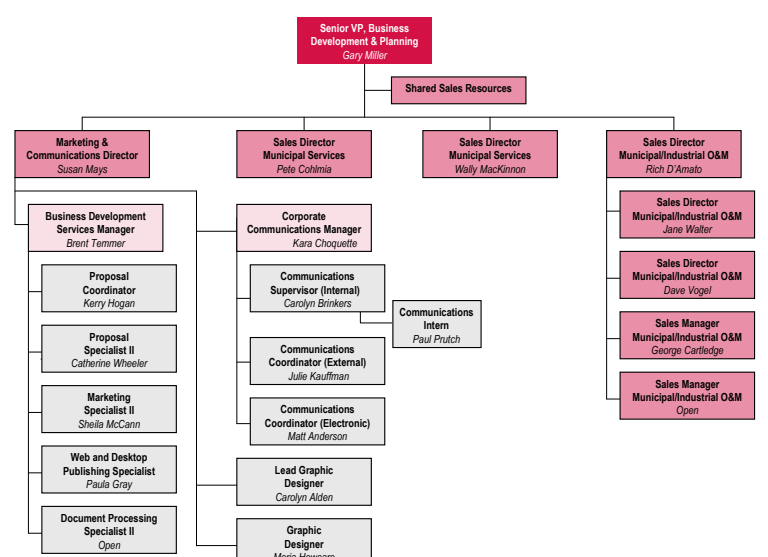
### Water, wastewater and public works

Sales Director Rich D’Amato leads a combined sales force that will develop municipal and industrial operations and maintenance opportunities, including water, wastewater and public works. The company expects to continue to be a leader in the municipal contract O&M market while further growing a very strong industrial O&M portfolio. The team also will work closely with the Technical Services Group to develop and pursue O&M consulting opportunities. Rich’s team includes Dave Vogel, Jane Walter and George Cartledge.

### Organizational structure

As shown in the updated organizational chart, Wally, Pete and Rich continue to report directly to Senior Vice President, Business

Development & Planning Gary Miller, along with Marketing & Communications Director Susan Mays.



## Kansas City wins two

The Honeywell FMT project located in Kansas City, Mo., won two awards from the Missouri Water Environment Association at its 78th Annual Meeting held March 25-28.

The site won the Silver Industrial Wastewater Pretreatment Compliance Award for environmental compliance and the Industrial Water Quality Achievement Award for re-use of industrial wastewater in cooling towers.

“Our clients and the CH2M HILL OMI staff have a strong, shared commitment to helping the environment and continuously improving the water treatment operations. We are honored to have our efforts validated by these awards,” says Project Manager Robert Hughes.

Silver Award winners must be in major compliance with wastewater discharge and reporting requirements, with no more than minor violations, must have an industrial wastewater treatment facility or pollution prevention program, and must have a history of good relations with the nominating city or sewer district.

For the Quality award, the program had to demonstrate a significant achievement in design, operation, or process change resulting in demonstrated long-term water quality improvement.

MWEA (which has approximately 720 members from sewage agencies, industry and consulting firms throughout Missouri) is an organization dedicated to the advancement of practical knowledge in the technology, design, construction, safe operation and management of water quality control systems and facilities.

CH2M HILL OMI operates and maintains three facilities at the site: groundwater remediation, industrial wastewater pretreatment and reverse osmosis process water treatment.

*Please note this information is intended for internal use only as this project involves a confidential client.*

## CH2M HILL OMI is golden among AWWA advertisers

OMI may have been easier to remember but our new name offers so much more.

That’s the headline that announced the addition of CH2M HILL to OMI’s name and grabbed the attention of the American Water Works Association. In March, AWWA’s Manufacturers/Associates Council selected CH2M HILL OMI’s name change ad as the Gold Winner in the “Best in Advertising Award” for 2006 advertising in *Journal AWWA*.

“Adopting the CH2M HILL brand was a major milestone for our company, and this ad was one of the ways we announced our new name to the industry,” says Marketing & Communications Director Susan Mays. “Whenever we invest in advertising, we want to make sure we stand out from the crowd, so it’s a real honor to have the Council recognize us for that.”

“This is a very nice tribute to the efforts of our Marketing & Communications team, which works hard behind the scenes to ensure we have solid brand and name recognition with our clients and in our industry,” says Senior Vice President Gary Miller.

The award will be presented at a reception during ACE07, AWWA’s annual conference, in Toronto, June 24 – 28. The company also will be recognized in an ad in the June *Journal AWWA*.



CH2M HILL OMI's award-winning name change ad.

## Lehigh County wins laboratory excellence award

Lehigh County has been awarded a Laboratory Excellence award from the Eastern Pennsylvania Water Pollution Control Operators Association.

Laboratory Director Sandy Weiss and Laboratory Analyst Carlos Silva accepted the award during EPWPCOA's annual awards banquet.

“This award is well deserved because of the immense work that our laboratory performs each day,” says Lehigh County Project Manager William Haberstroh. “Many, many congratulations to the Lehigh laboratory staff.”

The Lehigh laboratory performs more than 1,000 tests annually from an outside laboratory contract and performs tests for five smaller wastewater treatment plants to comply with their own individual NPDES permits.

“This work and the large amount of laboratory work that is done just to monitor the liquid waste haulers and plant process samples show the excellent process and standards that the laboratory staff maintains,” adds Bill.

This is the third time that Lehigh County has won the Laboratory Excellence award. CH2M HILL OMI has performed O&M services for Lehigh County since 1995.

## Georgia projects, people earn 17 awards

CH2M HILL OMI’s tradition of excellence and compliance in water and wastewater management was recognized and honored in April by the Georgia Association of Water Professionals.

At GAWP’s annual spring conference, it awarded CH2M HILL OMI facilities and personnel with 17 awards.

Four projects earned Plant of the Year Honors for their outstanding operation during 2006, according to GAWP. The sites were visited by volunteer inspectors and some of the evaluation categories included permit monitoring, treatment processes and safety.

Two operators, Chuck Chute and Joseph Molock, were named Top Ops in their region. Additionally, 11 plants received Gold Awards for perfect compliance with NPDES and SDWA regulations in 2006.

“The Global Leadership Team commends the Southeast Region management and project staff for achieving these prestigious GAWP awards. This demonstrates to the outside world what we already know—CH2M HILL OMI is the best in the business!” says Senior Vice President, Project Delivery Roger Quayle.

“What an outstanding accomplishment by these members of our team,” compliments Regional Vice

President, Project Delivery Herb Washington. “Undoubtedly, this recognition epitomizes our commitment to excellence and devotion to the communities where we live and serve.”

The GAWP is a non-profit professional association founded in 1932 and has grown into a membership of more than 5,000 operators, owners, contractors, manufacturers’ representatives, engineers, elected officials, industry representatives, and others concerned with Georgia’s water resources.

### Ground Water Plant of the Year Awards

- Houston County Henderson System (Less than 1,000 customers)
- South Lowndes County (2,500 to 10,000 customers)
- Houston County Feagin Mill System (Greater than 10,000 customers)

### Wastewater Treatment Plant of the Year Award

- Americus Mill Creek (1.1 to 10 MGD)

### Gold Awards for Perfect Compliance – Water

- Americus
- North Lowndes County
- South Lowndes County
- Swainsboro

### Gold Awards for Perfect Compliance – Wastewater

- Americus Mill Creek
- Augusta
- Fulton County – Big Creek
- Fulton County – Johns Creek
- Fulton County – Little River
- Fulton County – Little River Land Application System
- Swainsboro

### Top Operator Awards

- Chuck Chute, Operator, Barnesville – Water (District 4)
- Joseph Molock, Operator 1, Augusta – Wastewater (District 6)

### Career opportunities

CH2M HILL OMI has a variety of positions open. One of them may be right for you!

Need a location change? We’re looking for certified Water and Wastewater Operators and Project Managers at locations across the country. And we’re looking for Regional Business Managers in the West and Central Region.

For more information, contact Human Resources in Denver, or look at a current list of job opportunities at [www.careers.CH2M.com](http://www.careers.CH2M.com).

To view jobs specific to our company, select "CH2M HILL OMI" in the **Company** field after you access the **Search Openings** page.



## Project News

### Rio Rancho

The Rio Rancho barbecue team of Jim Johns, Cliff Leeper, Paul Romero and David Sohns captured the fifth place trophy at the 2007 New Mexico Pork & Brew BBQ State Championship in late March.

The oversized trophy recognized the team's exceptional ribs. The team prevailed despite 48 hours of frigid weather and sleep deprivation. Even the cold temperature and lack of sleep couldn't keep Rio Rancho Project Director David Sohns from shouting a big "yee haw!" when the team's victory was announced.

Also participating in the event and supporting the Rio Rancho BBQ Team was the Duck Blind Chili Team from the corporate office. Associates Keri Henley, Gary Hunt, Steve McNicol and Megan Snyder also garnered recognition when their national award-winning chili earned second place in the Anything But category.

"This is a great event in which the community and associates have a great time together, and it truly is one of the highlights of the year for us," says David. "The event was even better this year than last for us because we were joined by the Duck Blind Chili Team."

The two teams had such a fun time competing together that they are making plans to reunite at future area competitions.



From left to right: associates Cliff Leeper, Jim Johns, David Sohns and Paul Romero show off their award.

### Johns Creek

One of CH2M HILL's newest municipal services clients, Johns Creek, Ga., held its first Mayor's Ball in April to benefit the newly incorporated city's Ocee Arts Center and Autrey Mill Nature Preserve & Heritage Center.

The sold-out event was held at the Atlanta Athletic Club, which is located in the new city. The ball featured the first screening of "The Spirit of Johns Creek," a video salute to the grass roots volunteers who helped create the city. The video was produced by Communications Manager Rosemary Taylor and Cool New Media.

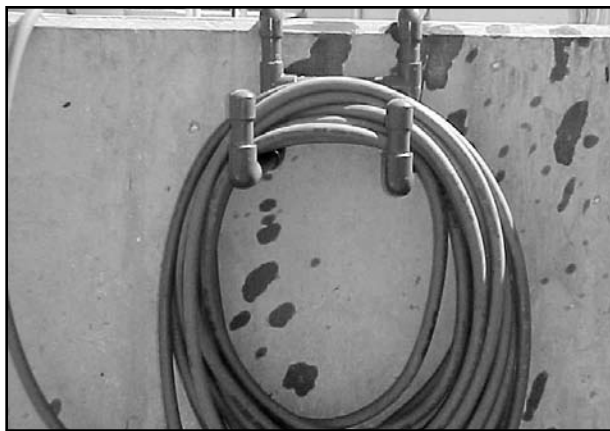


Georgia Representative Wendell Willard, second from left, and his wife, Vicky, left, visit with CH2M HILL OMI Program Director Don Howell and his wife, Sherry, at the first Johns Creek Mayor's Ball.

### San Marcos

Here's a handy tip from San Marcos Maintenance Technician Rick Barboza. You can easily and

inexpensively make garden hose hangers for any location in your treatment plant. For about \$8, you can create just about any shape you need. Rick made his out of glued one-inch PVC and one-inch PVC fittings.



The garden hose hanger that Rick Barboza built is shown here hanging over a concrete wall. Rick painted it purple to denote non-potable water.

### DuPont Spruance

CH2M HILL OMI's DuPont Spruance team and specifically, associate Tabb Justis, were recognized by DuPont for their support of Spruance's certified wildlife habitat initiatives. DuPont Spruance associates participate in stream cleanups, assist with bird house monitoring and repair projects and are active at the site's Wildlife Habitat Committee.



DuPont Spruance associate Tabb Justis (top photo, left) and Project Manager Rick Wolf (bottom photo, left) receive awards from wildlife committee chairman John Green.

### Hoboken

Associates in Hoboken make the holidays a little brighter each year for the children at St. Mary's Hospital. This is the tenth year the team has brought stuffed animals, bringing smiles to the children as well as themselves.



From left to right: one of the children is pictured here with Project Director Gary Fournier and associates Steve Hudock, Alexis Benavides and Angel Rios (as Santa).

Also in Hoboken, associates dined with members of the Edward A. Dalton Hoboken Boys and Girls Club to support its annual steak and burger dinner. The dinner gives kids a chance to dine with some of the community's most respected civic and business leaders. Adults purchase tickets for two dinners—one is for

them and the other is for a member of the Boys and Girls Club.

Adults and kids meet at the Hoboken Boys & Girls Club, get acquainted, dine together and enjoy the entertainment and awards ceremony. Associates Alexis Benavides, Richie Acosta, Herman Darden, Stephen Hudock and Phil Reeve volunteered their to sponsor a child and had a great time learning about the Boys and Girls Club.



From left to right: associates Phil Reeve, Steve Hudock, Alexis Benavides and Herman Darden are pictured with their dinner partners.

### Twin Oaks

The first 2007 Operations Managers Meeting hosted by the San Diego County Water Authority (SDCWA) for its 27 member agencies was held at the Twin Oaks Valley Water Treatment Plant construction site. The operators, who are responsible for delivering treated water to customers throughout San Diego County, were able to see the progress on the new treatment facility. The facility will begin providing the agencies with water next April. Participants heard brief presentations about the DBO selection process from San Diego County Water Authority Project Manager Tim Suydam; project construction progress to date from CCI Construction Manager Dennis Nelson; and the treatment plant's processes from CH2M HILL OMI Project Manager Brian MacDonald. A walking tour provided views of the construction activities of the 100-mgd facility that will deliver treated water to approximately 2.5 million customers in San Diego County.



A view of the plant construction.

An additional item for discussion during the meeting was the internship partnering program between SDCWA member agencies and both Palomar and Cuyamaca Community Colleges. The internship program provides an opportunity for individuals enrolled in the water/wastewater technologies programs at those institutions to receive working experience in the water and wastewater industry. CH2M HILL OMI contributed to the development of the program's Web site and also will host interns when the Twin Oaks Valley Water Treatment Plant is completed.

### Key West

Key West associates recently volunteered at a truck day, which was sponsored by the Key West preschool co-op. Associates Michael Martinez and Richard Estevez drove the vector truck to the preschool campus for the children to admire.

Also in Key West, associates work with the Salvation Army each year buy items such as toys and clothing for underprivileged children.





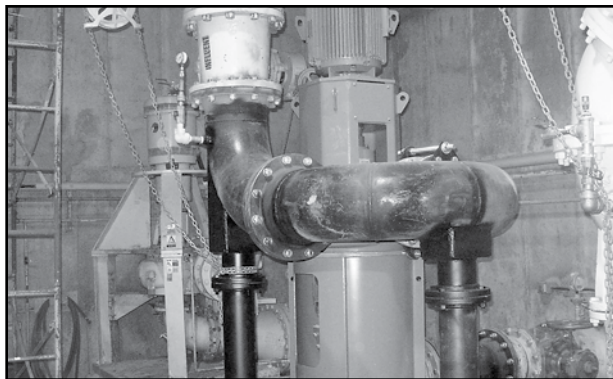
Children get a first-hand look at the vacor truck.



Pictured here, from left to right with the donations, are associates Nick LeCouppte, Pam Phelps and Ricky Collins.

## Lehigh County

Associates in Lehigh County recently completed a large capital improvement task that saved our new client more than 50 percent in installation costs. Associates installed a second influent pump and performed the corresponding electrical work. This second pump replaced the original four pumps and is 10hp larger than the original pumps, so a new variable speed drive and electrical supply cabling had to be added.



A view of the new influent pump.

## Richmond Hill

Associates in Richmond Hill helped sponsor a Toys for Tots fundraiser for the Bryan County Police Department, collecting nearly 70 toys for those in need.



Associates William Roberts and Mary Simpson are ready to deliver the toys.

## Oak Ridge

Oak Ridge's community involvement team held a food drive for the YWCA's battered women and children's shelter. The YWCA's shelter is a safe haven for families who suffer from domestic violence. It's open to all women and children from across the country and is usually filled to capacity. CH2M HILL OMI team members weren't the only ones to donate. Our client CROET, and many East Tennessee Technology Park ETTP tenants also chipped in.



Pictured with the donations, from left to right, are associates Toby Fitzgerald, Jaci Taylor, Michael Lloyd and Blake Anderson. Standing next to Blake is YWCA director Jackie Jackson.



Also in Oak Ridge, nearly 25 associates donated their time for the annual highway cleanup effort, collecting two truck loads of trash across the two-mile area in front of the Heritage Center, which has been adopted by Oak Ridge associates.

Finally, the Oak Ridge community involvement team is always looking for ways to assist those in need. At the start of each project year, the CIT team has a budget from which it operates. Recently the team figured out a way to get even more cash. They are now collecting empty aluminum cans throughout the building, turning the cans into cash and making donations with the money. The team notes that it's surprising how quickly this small effort makes a big difference. In December, the team raised \$120, which was matched and donated \$400 to the Michael Dunn Center. CROET added a donation of \$250.



Oak Ridge's CIT team includes, from left to right, Garry Lovely, Michael Lloyd, Danny Estes, Roger Richman (of the Michael Dunn Center), Jaci Taylor, Toby Fitzgerald and Mark Farme.

# CLIPP Notes...

By CH2M HILL OMI's Compliance and Reporting Group

## Changes to the Federal Register

I've seen a lot of e-mails lately concerning the changes to the Federal Register. I will try to explain what I know and how it may affect you.

On April 11, 2007, a Final Rule went into effect that changes the guidelines for sampling and testing at both wastewater and drinking water plants. You might know these guidelines as 40 CFR Part 136 for wastewater, and 40 CFR Part 141 for water. Most importantly, these include lists of the test methods that are approved by the U.S. Environmental Protection Agency for regulatory reporting. Tables for sample preservation and holding times also are available.

As part of the April 11 changes, many methods formerly approved have been withdrawn from the list. Many of these are the EPA methods themselves, as found in its manual, "Methods and Guidance for the Analysis of Water." Here are some examples:

- EPA 150.1 for pH
- EPA 405.1 for BOD
- EPA 160.1 for TSS

If you look at CH2M HILL OMI's bound bench books, you will see that they reference these very methods. In other words, these books are saying that you use test methods which are *no longer EPA approved!* But don't panic. You don't have to change the way you do the tests; you just have to change the way you reference them.

- **For pH:** EPA 150.1 becomes SM 4500-H+B
- **For BOD:** EPA 405.1 becomes SM 5210 B
- **For TSS:** EPA 160.1 becomes SM 2540 D

New lab books are now available from the corporate office that no longer provide method references. Instead, each page of the book has a space in which you should write in the reference

number of the test you are using. If you continue to use the old books, make a single line through the given method number and write in the method number you are using.

You may be asking if there are any procedural differences between the EPA Methods and the Standard Methods. You will find a few small differences in the BOD and TSS tests. It doesn't mean you have to do your tests differently, but you should document the discrepancy in your site-specific lab manual. You do have a site-specific lab manual, don't you?

- For TSS, the EPA method says to "shake the sample and pour it into a graduated cylinder" for filtering," while Standard Methods wants you to "stir it on a magnetic plate and measure it out into a pipet while stirring." Most lab people I know prefer to shake and pour, especially if it's effluent. If you reference Standard Methods but you *shake and pour* rather than *spin and pipet*, footnote this in your lab manual.
- For BOD, the new Temperature and Holding Time Table allows up to 48 hours after the sample is removed from the autosampler or, in the case of manual composite, after the last aliquot is collected. Standard Methods says to analyze as soon as possible, no longer than 24 hours after sample collection. If you run your BOD tests any longer than 24 hours after sample collection, footnote this in your lab manual and reference the new table in 40 CFR Part 136.

I will explain additional changes that we have made in future issues of *Lab Letters*, so keep reading! As always, if you have any questions, please feel free to contact me or your Regional Coordinator.

Jim Nail  
CH2M HILL OMI Companywide  
Laboratory Coordinator





## From dyed out to Lowe's

Cross-business group technical expertise from CH2M HILL OMI, CCI, Environmental Services and Water allowed the enterprise to develop a programmatic approach for rapid remediation and redevelopment of a 6.5 acre former Rohm and Haas dye manufacturing facility in Paterson, N.J.

Rohm and Haas began manufacturing at the Azo Dye Facility in 1945. In 2001, Rohm and Haas awarded CH2M HILL a sole-source, at-risk contract to prepare the site for redevelopment within five years, while proactively managing long-term risk, public relations and regulatory issues.

Working with CCI, CH2M HILL OMI began operations and maintenance services for Rohm and

Haas in August 2003. The company staffed the project with Project Manager Art Liming and two additional associates, Industrial Technician Justo Rosado and Operations Supervisor Les Bruner, to operate and maintain the existing groundwater remediation system.

CH2M HILL OMI operated the system until the property was sold and the facility was demolished to make way for a new Lowe's with a vapor extraction system installed around the property.

During approximately two years of demolition and construction activity, the CH2M HILL OMI team served in construction-related roles as the old plant was demolished and the new remedial system was

installed. The Project Manager served on site as the construction safety manager and the Industrial Technicians served in construction management and related duties.

Once the new system was installed and commissioned this spring, CH2M HILL OMI and CCI each have one associate on site to operate and maintain the remedial system.

From inception to date, there have been no OSHA-recordable or lost time accidents on the project. CH2M HILL OMI always was in compliance and exceeded safety and financial goals for the project, and still continues to be.

## Associate saves life

Georgetown Project Manager Gene Chisum presented Temple Project Manager Chris Parker with an award for Exemplary Service in Heroism at PM Summit 2007 in April.



Associate Chris Parker (left) receives the TWUA Exemplary Service in Heroism Award from Associate Gene Chisum at PM Summit 2007.

The award, from the Texas Water Utility Association, honored Chris for his volunteer work with the Little River Fire Department. In September 2006, the fire department, where Chris has been the Chief for the past five years, was dispatched to a "man down" situation.

While Chris is not trained as a medic or an EMT, he and his wife nonetheless administered "old fashioned" CPR (without mechanical assistance) to a man who was unconscious and not breathing. When medical assistance arrived, the patient was then transported to the hospital, where he was released 10 days later with no apparent medical deficiencies or mental damage. That's especially impressive considering approximately only four percent of heart attack victims fully recover from such an event.

"Chris went above and beyond in his service to his community, which reflects well on the enterprise's desire to be excellent community stewards," says Gene. "Good job, Chris."

Gene presented the award to Chris at the Summit because he's been involved with TWUA for more than 15 years in many capacities, including instructor, interim executive director and state training director.

TWUA was founded in 1919 and, with more than 9,500 operators, it is the largest operator organization of its kind in the world. The Exemplary Service in Heroism award is given only after a fairly lengthy review process. Chris was nominated at the district level, then his nomination was forwarded on to a panel of peer operators at the state organizational level; this panel reviewed the nomination and verified the facts before voting on the award recipients. Annually, one to six nominations might be deemed suitable for the award. In 2006, two of the awards were presented.

As defined by TWUA, the award "recognizes members of the Association who have performed an exceptionally humanitarian act, whether on-the-job or in their private lives. The recipients are selected for their acts of endurance, civic concern, bravery, courage, nobility or other traits normally associated with heroism."

## Wild weather brings out our best

### Americus gets helping hand

A tornado swept through Americus, Ga., in March, destroying the hospital, many homes and leaving a trail of debris everywhere.

In a true show of helping a neighbor, six associates from nearby Swainsboro and Richmond Hill worked through the weekend to help clean up debris. Associates from Swainsboro included Equipment Operator Tony Haynes; Team Leader – Streets Brad Kirby; Equipment Operator Derrick Oglesby; and Equipment Operator Albert Smith. Joining them were Utility Worker Cyril Richards and Team Leader – Streets William Roberts from Richmond Hill.

"I'm not one to toot a horn, and to me this is just another example of the teamwork from CH2M HILL OMI," says Swainsboro Project Manager Mike Connolly. "But we knew that Americus had been hit hard and we wanted to offer any assistance we could."

The six associates, along with vehicles from their respective projects, removed nearly 700 cubic yards of debris to a FEMA landfill.



Associates help clear fallen trees after the tornado.

"We were glad we could help," says Richmond Hill Project Manager Rick Lauver.

"Everyone showed up ready to work, and it was greatly appreciated by me and the people of Americus," recalls Americus Project Manager Rick Leisner. "They did a fantastic job—all of them."

### Texas no stranger to destruction, either

A tornado caused severe destruction in a small community called Rosita Valley near Eagle Pass, Texas, in April, killing several people and destroying two schools and numerous homes.

Jorge Rojas, Project Manager in nearby Del Rio, quickly jumped into action. He and Lead Operator Alex Calderon traveled to Rosita Valley to offer assistance. While they could not help in the clean-up, their offer was received gratefully.

"I was able to talk to the major of Eagle Pass, and he appreciated the offer and said he would keep us in mind if they needed help," says Jorge.

Jorge then traveled to Eagle Pass' wastewater plant that had suffered damage in another tornado.

"The roof was blown off the office building and they lost power for about 15 hours. Luckily, no one was hurt," Jorge recounts. "They had a sludge spill that covered a large portion of the plant and they were in the process of cleaning it." He again offered his assistance to help the plant with operations if needed.

"Our thanks to Jorge for taking the time to offer his assistance to help those affected," says West and Central Regional Director of Operations Rock Raiford.

## Certifications

Name	Certification	Location
Christopher Huff	New Mexico Wastewater Systems Operator Class 2	Rio Rancho
Brandon Kepler	Texas Water Treatment Operator Class C	Lampasas
Paul Kiffe	Texas Wastewater Treatment Operator Class D	Mercedes
Teodoro Lara	Texas Wastewater Treatment Operator Class D	Donna
Brian Laudenslager	Oregon Wastewater Treatment Operator Class I	Roseburg
Brian MacDonald	California Water Treatment Operator Class 5	Twin Oaks
Felimon Martinez	New Mexico Wastewater Systems Operator Class 2	Rio Rancho
Adam McClymont	Arkansas Wastewater Treatment Operator Class I	Fayetteville
David McGaffigan	Arkansas Wastewater Treatment Operator Class I	Fayetteville
Arthur Mena	New Mexico Water Systems Operator Class 1	Rio Rancho
Velma Muniz	Texas Water Treatment Operator Class D	Weslaco
Travis Robbins	Arkansas Wastewater Treatment Operator Class I	Fayetteville
Edward Salazar	New Mexico Wastewater Systems Operator Class 2	Grants
Flavio Salazar	New Mexico Wastewater Systems Operator Class 3	Rio Rancho
Gerald Salazar	New Mexico Wastewater Systems Operator Class 2	Taos
Matthew Salazar	New Mexico Water Systems Operator Class 3	Rio Rancho
Stephen Sampson	Georgia Water Treatment Operator Class III	Warner Robins
Timothy Sanders	Oregon Water Treatment Operator Class 3	Lebanon
Tammi Slack	Iowa Wastewater Treatment Operator Class I	West Liberty
Robert Watts	Oregon Water Treatment Operator Class 2	Sandy
Brenda Wickham	Idaho Wastewater Treatment Operator Class II	Twin Falls
Billy Yokley	Washington Water Treatment Operator Class 3	Seattle Cedar



**New Hires**

Name	Position	Location
Jacqueline Bartelmo	Clerk Typist	Fulton County
Sheree Blackard	Operator-In-Training	Rio Rancho
John Bullman	Operator I	Fulton County
Bret Caneer	Mechanic	Fort Mojave
Sam Cherry	Operator I	Fulton County
Robert Crites	Utility Worker	Rio Rancho
Randall Delancy	Industrial Technician	Dow Marietta
Vera Delancy	Office Assistant	Dow Marietta
Joseph Deputy	Mechanic	Fulton County
Sam Durrance	Field Operations Superintendent	Johns Creek
Elizabeth Edwards	Operator II	Seattle Cedar
Robert Emery	Utility Worker	The Villages
Walter Fallstrom	Field Operations Superintendent	Milton
Mark Gerald	Operations Supervisor	Gilroy
Charles Gill	Operator-In-Training	Live Oak
Katie Gonyer	Utility Worker	The Villages
Tamara Hanlin	Program Director - Sandy Springs	Atlanta Municipal Services Office
Keta Hardin	Operator-In-Training	Swainsboro
James Harris	Operator-In-Training	Fulton County
Christopher Humbert	Collections Operator	Prescott Valley
Shawn Jennings	Maintenance Clerk	Norwalk
Karen Kovolo	Operations Specialist	Ohio
John Legendre	Lead Operator	Fulton County
Kurt Lind	Project Manager I	Turlock
Ben Lively	Operator-In-Training	Fulton County
Kimble McClymonds	Operator II	Prescott Valley
Kenneth McCortney	Meter Reader	Prescott Valley
Brian McGill	Operator-In-Training	Fulton County
Terry Morris	Budget Analyst	Atlanta Municipal Services Office
William Neelsen	Industrial Technician	Detroit Diesel
Danny Nichols	Lead Operator	Fulton County
Willie Parrish	Operator-In-Training	Fulton County
Terry Roberts	Operator I	Fulton County
James Roden III	Operator	Lebanon
David Schaffer	Industrial Technician Supervisor	Dow Bound Brook
Elizabeth Scott	Clerk Typist	Eldorado
Erichka Shadburn	Deputy Court Clerk	Johns Creek
Ron Smith	Operator II	Fulton County
Jose Zuniga	Operator	Weslaco

**Promotions**

Name	Position	Location
Korene Baldi	Buyer II	Denver
Robert Beasley	Heavy Equipment Operator - Sanitation	The Villages
Alpheus Brown	Heavy Equipment Operator - Streets	Hinesville
Dorothy Browning	Deputy City Clerk	Milton
Tomeka Cherry	Human Resources Generalist	Johns Creek
Stacy Crandall	Purchasing Manager	Denver
Timothy Decker	Sanitation Worker	The Villages
Juquitta Drieth	Lead Operator	Quincy
Thomas Glenn	Lead Mechanic	Warner Robins
Carolyn Grady	Project Assistant III	Sandy Springs
Randy Howard	Operator I	Live Oak
Christopher Huff	Operator I	Rio Rancho
Frederick Huff	Collections Operator-In-Training	The Villages
Lawrence Keith	Operations Manager - Large Projects	Effingham County
Marcus Kellum	Assistant Director of Code Enforcement	Sandy Springs
Vernon Knapp	Lead Operator	Effingham County
James Larson	Sanitation Worker	The Villages
James Mainus	Mechanic	Prescott Valley
Michael Martinez	Lead Collections Operator	Key West
Paul Morgan	Operator-In-Training	Eldorado
Dennis O'Brien	Heavy Equipment Operator - Sanitation	The Villages
June O'Brien	Office Specialist	The Villages
Larry Patton	Operator	Lebanon
Monica Peterson	Assistant Project Manager	Farmington
James Rosier	Streets Supervisor	Effingham County
Flavio Salazar	Operator II	Rio Rancho
Antonio Sanchez	Sanitation Worker	The Villages
Timothy Sanders	Lead Operator	Lebanon
Justin Shuman	Construction Inspector	Effingham County
Carlos Silva	Laboratory Analyst II	Lehigh County
Ronald Strauch	Operator	Las Campanas
Doyle Thomas	Operator I	Key West
Shaneka Tolbert	Human Resources Generalist	Sandy Springs
John Wessering	Chief Building Inspector	Sandy Springs
Harold Williams	Operator II	The Villages
Charles Yost	Customer Service Specialist	Lehigh County

**Service Awards**

Name	Location	Years	Name	Location	Years
<b>June</b>			<b>April</b>		
Joe Dodge	Hood River	20	Thomas Miles	Heinz	15
William Gierer	California	15	Nathaniel Alvin	Hinesville	15
Joseph Kelly	Hinesville	15	Thelma Anderson	Hinesville	15
Terry Dokken	Montana	15	Glynn Branch	Hinesville	15
Kevin Mullin	Topock	15	Michael Davis	Hinesville	15
Douglass Shaw	Ashtabula	10	Teal Denson	Hinesville	15
Jennifer Stetich	Laramie	10	Darrell Futch	Hinesville	15
Jeffrey Burkett	Prescott Valley	10	Robert Gilliard	Hinesville	15
Kathryn Purvis	Swainsboro	10	Terrance Gilliard	Hinesville	15
Darius Jenkins	Washington	10	Ligie Hampton	Hinesville	15
Charlene Sellers	Fort Mojave	5	James Hendry	Hinesville	15
Luis Morales	Hoboken	5	Harold Nolan	Hinesville	15
Paul Bulgrin	Laramie	5	Sharon Parker	Hinesville	15
Lynn Phillips	Alabama	5	Alexander Proctor	Hinesville	15
Patricia Weekley	Warner Robins	5	Edward Pugh	Hinesville	15
<b>May</b>			Eddie Roberts	Hinesville	15
Mike Ross	Central Region Office	20	Paul Ryals	Hinesville	15
James Oskins	Denver	10	Clarence Stewart	Hinesville	15
John Waynetska	Twin Falls	10	Ronald Taylor	Hinesville	15
James Hanners	Atlanta	5	Andre Thomas	Hinesville	15
Catherine Lang	Denver	5	Craig Tirrell	Hinesville	15
Brent Temmer	Denver	5	Lloyd Wells	Hinesville	15
Felipe Saldivar	Donna	5	Richard Wells	Hinesville	15
Richard Eglinton	Gilroy	5	Rodney West	Hinesville	15
Brandon Kepler	Lampasas	5	Franklin Wilson	Hinesville	15
Ronald Kirby	Swainsboro	5	Henry Wilson	Hinesville	15
			Cecil Hammack	Richmond Hill	15
			James Kenney	Fulton County	10
			Anthony Vialpondo	Laramie	10
			Harry Sellers	Traverse City	5

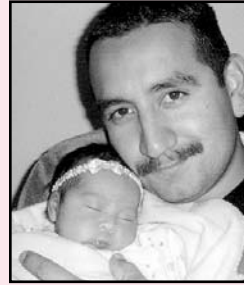
**New arrivals**

**Denver**

Regional Business Analyst Jenette Scheich and her husband, Ryan, welcomed their son, Austin Jacob, Sept. 22. Austin weighed 5 lbs. 6 oz and was 19 inches long.



Austin Jacob Scheich



Juan and his daughter, Adrianna Zepeda

**Gilroy**

Operator Juan Zepeda and his wife, Jessica, welcomed their daughter, Adrianna, Jan. 24. Adrianna weighed 8 lbs. 2 oz. and was 19 inches long.

**Grants**

Parks and Grounds Technician Delvin Garcia and his girlfriend, Nadine Smith, are the proud parents of Quanitilla, who was born March 7. She weighed 5 lbs. 13 oz and was 17 inches long.

**Orlando**

Southeast Regional Administrative Coordinator Barbara Robinson and her husband, Kevin, welcomed their son, Kevin, Dec. 12. Kevin weighed 9 lbs. and was 21 inches long.



Barbara and her son, Kevin Robinson II



Sierra Sky

**The Villages**

Meter Reader Amanda Ferrell welcomed her daughter, Sierra Sky, Oct. 31. Sierra weighed 8 lbs. 10 oz and was 20 inches long.

**Associate receives service awards**

Director of Consulting Services Douglas Miller was awarded the New England Water Environment Association's Clair N. Sawyer Award and the NEWEA Past President's plaque and pin, recognizing his many contributions to the organization.

Established in 1976 by the NEWEA, the Clair N. Sawyer Award acknowledges distinguished service to the association. The award honors Dr. Clair N. Sawyer, who helped propel the water pollution control profession to the high plateau it now occupies.

Douglas has been active in NEWEA since 1987 and has held numerous leadership positions including Vice President, President Elect, President and Past President.

NEWEA is a section of the national Water Environment Federation where Douglas also has served in many roles and has been very involved in the national Operations Challenge, first as a maintenance event judge, then as the maintenance event coordinator, then as the Vice Chair and ultimately Chair in 1992, 1993 and 1994.

Douglas also is a life member of the American Water Works Association and a Board Certified Environmental Engineer.

The awards were presented in January at the 2007 NEWEA Annual Conference, held in Boston.

NEWEA President Phyllis Arnold-Rand presents associate Douglas Miller with the Clair N. Sawyer Award.



Douglas receives the NEWEA Past President's plaque and pin.

## Mercedes preparing for plant expansion

The Mercedes, Texas, project will see some changes later this year.

The city of Mercedes secured funding to expand the 2.3 million gallon per day wastewater treatment plant to accommodate area growth. The plant is running at nearly 100 percent capacity, and Mercedes expects the need for sewer service to grow with the opening of a new outlet mall.

"I've been working on this for eight years," says Mercedes Project Manager Marcelo Cosme.

When plant capacity reaches 75 percent, the state of Texas requires municipalities to plan for expansions. While Marcelo and Mercedes officials have actively been planning the expansion, efforts to finance the project have fallen short until recently. The city will pay for the \$7.5M expansion using a \$1.2M federal grant and will borrow the rest from the Texas Water Development Board at a low interest rate.

The current wastewater treatment plant consists of two treatment trains that share a common lift station, headworks, dechlorination facility and outfall. The first train has a normal capacity of 1.3 mgd and was built in 1977. The second train has a normal capacity

of 1 mgd and was constructed in 1989. The expansion will more than double capacity, treating 5 mgd and handling a 14-mgd peak flow. Planned upgrades include new headworks, clarifier and chlorine contact chamber. Also, the aeration basin will be drained and cleaned, and new aerators will be installed.

The collection system is being expanded and upgraded as well. The City built eight new lift stations and is upgrading four lift stations with new gravity and force main lines. The new lift stations will add approximately 650 new connections to the system.

In anticipation of the construction, Marcelo and the Mercedes associates are monitoring Treatment Train 2 at the plant, trying to bring down solids. They also are talking with the City's engineering firm about possibly building a small closed loop reactor or sequencing batch reactor plant to assist with treating the anticipated increased plant flow during construction.

Engineering firm Guzman & Munoz is overseeing the project. They subcontracted Dannenbaum Engineering Corporation, from Houston, Texas, to perform design and construction services. Preliminary design was scheduled for completion by the end of March with final design plans and specifications to be finished near the end of September. Construction will begin in December, and it is expected to finish in December 2008.

## Associate's daughter shares art with city

Alexis Peterson, daughter of Fillmore Project Manager Matt Peterson, was recognized, along with a group of classmates, for their contribution to the city of Ventura's Streetscape Mural Project.

The Streetscape Mural Project supports community-participation in the arts and draws attention to buses as an alternative form of transportation. The event displayed artwork by professional artists, amateurs and local students.

Alexis and her classmates stayed after school for a month to work on their project titled "Under the Ventura Sun." They were responsible for choosing a concept, research and creation. They studied Ventura's native plants and surrounding environment before capturing the items in the mural.

They were one of 12 finalists selected out of hundreds of submissions and were honored at the Streetscape Mural Project awards ceremony March 23. Mayor Carl E. Morehouse presented the students with a copy of their artwork, a plaque from the city and lunch at a local restaurant. The mural will be displayed at a bus stop along with a plaque listing the students' names and date.

"The kids really enjoyed themselves and the City of Ventura made the event really special. My wife and I had no idea how big the event would be; we were caught off guard. I was pretty amazed with the effort the City placed into this event," says Matt.



Ventura Mayor Carl E. Morehouse presents Alexis' (right) and her classmates' artwork.

## WISE guide to water security

CH2M HILL, working with the American Society of Civil Engineers, the American Water Works Association and the Water Environment Federation, has recently developed and released the nation's first security standard guidelines for water and wastewater utilities.

The Water Infrastructure Security Enhancements guidelines, which were funded by a U.S. Environmental Protection Agency grant, are intended to protect the American public from potential malevolent acts and other threats by enhancing the physical security of the nation's water and wastewater infrastructure systems.

The three-phased guidelines provide utilities with practical information to help implement improved security measures in new and existing facilities. In addition, the guidelines address construction and design risks.

In Phase I, documents were created for security guidance at wastewater/stormwater utilities, designing an online contaminant monitoring system and security guidance for water utilities.

Phase II focused on a modular training program based on the above guidance documents.

Phase III, released in December 2006, set voluntary consensus standards for the physical security of water and wastewater/stormwater utilities.

Based on the WISE documents, here are five tips for establishing an effective security system for water and wastewater utilities:

1. **Establish a culture of security awareness.** An effective security system requires not only physical and electronic components, but also an effective human component. Management leadership is

required to institute a culture of security and security awareness. Employee acceptance often requires organizational and cultural changes, focused employee training, enhanced employee responsibility and accountability, and revised policies and procedures.

2. **Focus on critical assets.** The security system is most cost-efficient if it is focused on protecting the equipment, systems and staff that are key to accomplishing the utility's mission.
3. **Match security system to threat.** Understanding the capabilities of the target adversary (often termed design basis threat) is crucial to ensuring the physical and electronic security systems installed, in concert with the designated response force, are effective in preventing adversaries from accomplishing their objectives.
4. **Establish a system of protection-in-depth.** To the extent possible, the security system should consist of multiple layers of security measures employed around critical assets to detect and delay adversaries.
5. **Consider consequence mitigation.** For some assets, it may be more cost-effective to mitigate the consequences of a successful attack, such as repair or replacement of damaged equipment or facilities. Temporary workarounds and remote duplicate systems should also be considered as they may provide operational benefits in addition to security benefits.



To view the WISE documents in their entirety, visit [www.awwa.org/science/wise](http://www.awwa.org/science/wise).

## Top Ops quiz answers

From page 1.

Question 1:  
Pollution and/or contamination. Reference Source: SAC 1, p.4

Question 2:  
Electric motors. Reference Source: SAC 1, p.324

Question 3:  
1) Stator; 2) Rotor; 3) End Bells; 4) Windings.  
Reference Source: SAC 1, p. 324

Question 4:  
1) Venturi; 2) Differential Meters; 3) Flow Tube; 4) Orifice Plate. Reference Source: SAC 1, p. 358

Question 5:  
Safety of the public. Reference Source: SAC 1, p. 538

Question 6:  
Chlorine demand. Reference Source: Opflow

Question 7:  
Amperes. Reference Source: Opflow

Question 8:  
Grab sample. Reference Source: Opflow

Question 9:  
Drawdown. Reference Source: Opflow

Question 10:  
Potable. Reference Source: Opflow

# ofmutualinterest

A MONTHLY NEWSLETTER PUBLISHED BY THE ASSOCIATES OF CH2M HILL OMI FOR THE ASSOCIATES OF CH2M HILL OMI

**Editor:**  
Carolyn Brinkers  
[carolyn.brinkers@ch2m.com](mailto:carolyn.brinkers@ch2m.com)

**Contributing Editors:**  
Matt Anderson, Paula Gray,  
Kerry Hogan, Julie Kauffman,  
Susan Mays, Paul Prutch and  
Catherine Wheeler

**Layout and Design:**  
Moria Howsare

**CH2M HILL OMI**  
P.O. Box 6607  
Englewood, CO 80155

Office: 303.740.0019  
Fax: 303.740.6997  
[www.omi.ch2mhill.com](http://www.omi.ch2mhill.com)

**OMIZone:**  
[www.int.ch2m.com/omizone/](http://www.int.ch2m.com/omizone/)

