December 2011/January 2012

intra

Newsletter of the Trinity River Authority of Texas

Burns repeats Trinity River photo contest win

December 2010/January 2011

intra

Newsletter of the Trinity River Authority of Texas

LRWSS treatment capacity to increase

The Livingston Regional Water Supply System entered the next stage of planning for expansion when the Trinity River Authority's board of directors recently approved a contract to have engineers design improvements and upgrades to increase the system's capacity.

TRA began the planning process last year by contracting with an engineering firm to provide water demand projections and evaluate expansion alternatives for the system. The engineers found that community development projects, coupled with changes in the water supply resources in the city of Livingston, the system's primary customer, had led to an increase in water demand that they anticipate to increase in the future.

"According to projections based on historical consumption and future plans, the need for potable water will exceed the plant's current capacity in 2014," said Southern Region Assistant Manager Robert Stevens. LRWSS has taken several steps to meet its customers' growing water needs in recent years. The plant has steadily increased hours of operation, eventually going to a 24-hour schedule in 2009. To accommodate additional water volume in the high-service pipeline that transports treated water to Livingston's elevated storage tank, crews recently installed a 20-inch pipeline next to the original 12-inch line.

Engineers recommend increasing the system's capacity from 3.0 to 5.0 million gallons per day as the next step in continuing to meet customer needs.

LRWSS originally was constructed to supply up to 2.0 MGD of treated water to the city of Livingston. The system was enlarged to 3.0 MGD in 1992 to supply water to the Texas Department of Criminal Justice's Polunsky Unit. Service was extended to the IAH Detention Facility, a privately run prison, in 2006. In addition, Livingston now requires more water after decommissioning four groundwater wells that previously served as an emergency backup supply.

After reviewing engineering recommendations in October 2011, the Livingston City Council voted to expand LRWSS to a firm capacity of 5.0 MGD.

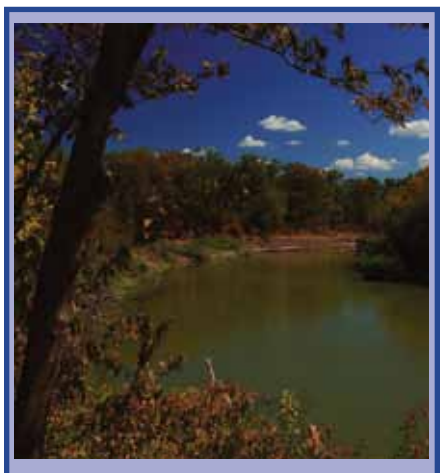
"Livingston is thinking proactively and preparing wisely for its future water needs," said Dewayne Coburn, manager of Southern Region support services.

The system will need extensive changes to its raw water and treatment plant components to increase potable water production. To bring more raw water from Lake Livingston to the plant, engineers recommend a completely new raw water pump station including intake lines, three 2.5 MGD pumps with variable frequency drives and electrical switch gear. Approximately 5,000 linear feet of 16-inch diameter raw water pipeline will be installed next to the existing 12-inch line.

At the plant, plans call for retrofitting the two existing clarifiers with new internal workings and constructing a new clarifier.

Engineers propose significant improvements to the plant's filtration processes by constructing four new filters to replace the existing package filters.

Continued on page 5. See LRWSS.



On the cover: The Trinity River reflects bright blue skies and rust-colored leaves burnished by drought and cool fall nights. Charles Burns, TRA information systems analyst, captured this scene at the Trinity River Audubon Center in South Dallas. Burns used a polarizing lens and adjusted the color saturation in Photoshop. He submitted this photo, along with several others, to the third annual Trinity River photo contest. For the second year in a row, he won honorable mention. See his winning photo on page 5.

TRA board elects new officers

The Trinity River Authority's 25-member board of directors recently elected board officers. Harold L. Barnard of Waxahachie was elected president. Kim C. Wyatt of Corsicana was named vice president and Linda D. Timmerman, Ed.D., of Streetman will serve as executive committee chairwoman. Board officers are elected to two-year terms.

Former Texas Gov. George W. Bush originally appointed Barnard to represent Ellis County on TRA's board of directors in 2000. He was reappointed by current Gov. Rick Perry in 2008 and again in 2011.

Barnard has enjoyed a rich history of committee service throughout his time on the board, highlighted by his long tenure on the executive committee starting in 2003. During his time on the committee, he fulfilled several leadership positions including serving as chairman of the resources development, legal and utility services committees. He has also served as chairman of the Central Regional Wastewater System right-of-way committee, and in 2009, he was elected vice president of TRA's board of directors.

Gov. Rick Perry originally appointed Vice President Wyatt to represent Navarro County on TRA's board of directors in 2004. He was reappointed in 2009.

During his time at TRA, Wyatt has served on numerous committees and was elected to the executive committee in 2005. His committee leadership positions include serving as chairman of the utility services, resources development and legal committees.

Gov. Rick Perry originally appointed Executive Committee Chairwoman Timmerman to represent Freestone County on TRA's board of directors in 2002. She was reappointed in 2008.

Timmerman has demonstrated sound leadership throughout her tenure with TRA in various officer positions and on numerous committees. She served as board president from 2009 to 2011 and as vice president from 2007 to 2009. She has been a member of the executive committee since 2005. Timmerman has also served as chairwoman of the administration committee.

Every two years, TRA's board of directors elects a president, a vice president, an executive committee chairman and four officers; together they compose the executive committee.

Look for more information, along with photos of other directors elected to the executive committee, in the February/March 2012 issue of *inTRA*.

Inside:

TMCRWS wet-weather storage basin 2
TRA permits call for *E. Coli* testing 3
Divers examine TCWSP structures 3
General manager looks forward 4
New employees tour plants 4
TRA adopts electrical design standards 6
PID wins Gold MarCom Awards 6
Wolf Creek Park clears, replants trees 7
TRA, Ft. Worth, Hurst join in emergency repair .. 7
Employee service recognition..... back page
CReWSers go for 15th championship.. back page

Visit www.i-nigma.com *to download a free QR Code reader for your smartphone. Then open the app and hold your phone over the QR Code to go directly to the information it holds.*

See more stories online in Current News.

TMCRWS to benefit from new wet-weather storage basin

Construction on the Trinity River Authority's Ten Mile Creek Regional Wastewater System wet-weather storage basin is proceeding according to schedule. This new 27 million-gallon capacity basin will allow TMCRWS to temporarily store excess influent in advance of treatment during times of extraordinary peak flows. The basin will enable the plant to better serve its customer cities of Cedar Hill, DeSoto, Duncanville, Ferris and Lancaster; improve plant operations; and allow TMCRWS to continue maintaining permit conditions.

The wet weather storage basin is one aspect of an ongoing process-enhancement project at TMCRWS.

The system formerly pumped excess water to two storage basins. The new basin fills and drains via gravity, and will therefore reduce electricity costs associated with pumping.

To construct the new wet-weather storage basin, crews are revamping one of three lagoons that stored anaerobic digested sludge prior to 2009. These lagoons, located along the south end of the plant, were constructed in the mid-1980s. The plant used the lagoons for storing excess water from 1985 through 1988 on a temporary basis. Engineers designed the plumbing so that once the water level in one basin reached a certain level, it would automatically divert into the adjacent lagoon via a culvert. If necessary, all three lagoons could be used to store excess influent. Once flows slowed, treatment plant operators drained the lagoons, leaving solids behind. The effectiveness of these lagoons depended totally upon the elements – sunshine, wind and high temperatures. Operators performed no additional processes, such as the addition of polymers to cause the solids particles to coagulate and drop out of suspension.

The sludge lagoons remained an effective means of storing and drying solids until TMCRWS' permit changed to require ammonia removal.

The aerial view above shows the ongoing construction on TMCRWS' wet-weather storage basin. Crews are pouring concrete in the portion that will serve as a holding tank for the first flush of excess influent during wet-weather events. The large pile of earth near the top of the picture is soil that has been excavated from the basin.

"This gave the sludge a completely different characteristic," said TMCRWS Project Manager Ed Mach. "It became difficult to decant the water off the solids."

A solution arrived in 2009 when TMCRWS built a solids dewatering facility. Crews removed the remaining solids from the lagoons for transportation to landfills or beneficial land-application projects and began converting the solids lagoons into wet weather storage basins.

The massive new wet-weather storage basin is 19 feet deep and capable of holding approximately 27 million gallons of influent with a two-foot freeboard. One-quarter of the basin is concrete and will serve as a temporary holding tank for the first flush of excess influent. The other three-quarters is earthen and will be utilized once the concrete portion is filled to capacity.

Influent may enter the basin at two different points, either the controlled diversion structure or the emergency diversion structure. During wet-weather events, when flows are too high for the plant to treat immediately, operators perform a controlled diversion by routing influent from the plant's perforated plate screens into the concrete portion. In an emergency diversion, operators route influent through the emergency diversion structure, also called a fail-safe mechanism, where a manual rough screen removes large debris from the influent before flows proceed to the concrete portion of the basin. The emergency diversion structure is reserved for catastrophes, such as a plant shutdown or a major equipment malfunction. In either case, operators direct the stored influent to the plant for treatment as soon as flows have diminished or equipment is restored.

Construction on the basin began in January of 2011 and is set to be complete by August of 2012.

"If we have another long, dry spell, I believe it will be complete sooner," said Mach.

Contractors have poured four hundred yards of concrete and work on the controlled diversion structure is under way. Crews are currently building the center levy that separates the concrete portion of the basin from the earthen portion and putting the underdrain in place.

Mach looks forward to the completion of the basin, which will ease operations during wet-weather events, help the system comply with its permit limits and, ultimately, save money for TMCRWS customers.

"It's going to help us significantly and increase our treatment options. Storing excess influent in the basin will prevent bulking in the final clarifiers associated with hydraulic overloading and prevent sanitary sewer overflows," he said.

In the future, TMCRWS plans to remove solids from the center and east lagoons to create additional wet-weather storage basins. Eventually, engineers will design a means of linking all three basins together, so that water can easily be transferred from one basin to another.

Once the new wet-weather storage basin is complete, TMCRWS operators will be able to divert excess influent to a controlled diversion structure or an emergency diversion structure. Construction on the controlled diversion structure in the northwest corner of the basin is nearing completion. Pictured from left to right: meter box, diversion box, drain box.

The center lagoon at TMCRWS' treatment plant reflects blue sky as well as the sizable mound of earth excavated from the west lagoon during construction of the new wet-weather storage basin. Eventually, TMCRWS will convert this lagoon, as well as the east lagoon, into additional storage basins.

TRA implements *E. coli* bacteria testing in response to changes in permit requirements

The Texas Commission on Environmental Quality now requires *Escherichia coli* bacteria testing for wastewater treatment plants with 5.0 million-gallon-per-day, or greater, rated capacity. Texas Pollutant Discharge Elimination System wastewater permits issued or renewed after November 2009 include effluent bacteria limits and monitoring requirements.

Permits issued prior to December 2009 require wastewater operators to address effluent bacteria in one of two ways depending on their method of disinfection. Plants that use chlorine disinfection processes report chlorine residual levels in treated water as an assurance of pathogen reduction. Treatment processes remove chlorine prior to discharge. Plant operators who use ultraviolet disinfection analyze for the presence of fecal coliforms.

TCEQ, prompted by the U.S. Environmental Protection Agency, adopted bacteria limits as a more direct, and possibly more accurate, measure of pathogen reduction in wastewater effluent. *E. coli*, one species of the coliform group, is always found in feces, and while not all *E. coli* is harmful, its presence indicates fecal contamination and the possible presence of other pathogens. According to TCEQ and EPA studies, *E. coli* is a better indicator of human illness caused by water contamination than the fecal coliform group.

Four of TRA's five regional wastewater systems are currently engaged in renewing or upgrading their discharge permits and will soon be required to test for *E. coli*. Denton Creek Regional Wastewater System, one of three TRA plants that disinfect with UV, upgraded to a rated capacity of 7.0 MGD in June of 2010 and has already changed from fecal coliform to *E. coli* testing.

"Operators prefer testing for *E. coli* over fecal coliform," said DCRWS Chief Operator Mike Roser. "It is easier, faster and more accurate."

Analyzing for the presence of fecal coliforms involves many time-consuming steps and a long list of equipment and materials. Operators filter the effluent sample, transfer the filter onto a growth medium in a Petri dish, incubate the solution for 24 hours and then count fecal coliform colonies under a microscope. Each step and piece of equipment or material requires at least one quality control procedure and is a possible point of contamination.

"The quality control procedures are more time consuming than preparing the sample and counting the fecal coliform colonies," said Cathy Sieger, Central Regional Wastewater System quality assurance coordinator.

Even with the control measures, fecal testing is still vulnerable to errors. For example, if the incubation temperature is either too warm or too cold, fecal coliforms might die or show no growth.

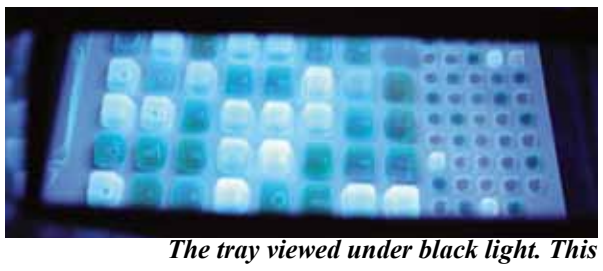
In contrast, *E. coli* testing requires less equipment and fewer steps. DCRWS operators collect three 100-milliliter samples daily: one just before the water has been exposed to UV light for disinfection and two after exposure. Back in the laboratory, operators mix each post-UV sample with a medium that causes the water to fluoresce if *E. coli* is present. The sample is then poured into a plastic tray bubbled with 49 large wells and 49 small wells. Operators insert the tray into a machine that applies enough heat to seal the package but not disinfect the water.

The sealed trays are placed in an incubator and held at 35 degrees Celsius for 18 hours.

The pre-UV disinfection sample is handled in much the same way with one important difference: A much smaller volume, one-one hundredth of the sample, is used in the test. This is necessary because the pre-disinfection sample will have a significantly greater concentration of *E. coli*, enough to overwhelm the test. The results will be multiplied by 100.

After incubation, operators view the tray under long-wave ultraviolet light, sometimes called black light, and count the wells, both large and small, that glow with blue fluorescence.

***DCRWS Operator II James Mallory pours treated effluent into a plastic tray with bubbled wells. Once the tray is sealed and incubated for 18 hours, operators will view it under black light and count the number of wells that fluoresce, indicating the presence of* E. coli.**



The tray viewed under black light. This sample was taken prior to UV light disinfection.

Finally, operators consult a table with small well numbers running along the horizontal axis and large well numbers along the vertical. The number at the intersection of the small- and large-well counts is the measure of *E. coli*, expressed as the Most Probable Number.

DCRWS pathogen reduction results are impressive.

"There is no doubt that UV disinfection works," said James Mallory, DCRWS operator II. "Generally *E. coli* measures approximately 3,000 MPN/100mL before UV and less than 10 after. This is a reduction of 300 percent, with the final number less than a tenth of the 126 MPN/100mL limit stipulated in our permit."

DCRWS is not only the first of TRA's regional wastewater systems to test for *E. coli*, it is one of the first in the Dallas/Fort Worth Metroplex to do so. As other agencies and municipalities prepare to implement testing, they look to DCRWS for guidance. So far, DCRWS staff have trained wastewater treatment operators from Grapevine, Dallas, Denton, Weatherford, Decatur and Aledo.

"They have all been impressed with how much easier and accurate *E. coli* testing is over counting fecal coliforms," said Eric Blackmon, DCRWS operator II.

Interesting note: wastewater treatment processes remove 99 percent of *E. coli* prior to disinfection. Raw wastewater contains millions of *E. coli* bacteria. After treatment, but before disinfection, only thousands remain.

Divers examine TCWSP underwater structures

In the latest effort to address taste and odor issues at TRA's Tarrant County Water Supply Project, divers recently plunged below the surface of Lake Arlington to examine the project's raw water intake structures.

TRA management hopes to add additional raw-water intake points at various levels along the vertical structures in order to harvest the best possible quality of raw water for treatment at the plant.

"Improving the quality of the raw water would go a long way toward producing better tasting water," said TCWSP Senior Biologist Gary Smith.

Currently, TCWSP draws raw water from two separate intake towers, with intake points at elevations of 528 feet above mean sea level in the west intake and 529 msl in the east intake. The bottom of Lake Arlington is at 511 msl, and the surface fluctuates around 545 msl, plus or minus five feet. This puts TRA's intake points about 17 to 18 feet below the surface of the lake and about 17 to 18 feet above the bottom of the lake.

TCWSP experiences occasional taste and odor issues associated with manganese and blue-green algae inherent in Lake Arlington. Both tend to occur more often at lower levels in the lake. The project would like the ability to pull water from various depths depending on water quality.

"With more flexibility to take water from different levels, we could take the best water available at any point in time," said Smith.

Divers examined the condition of both raw water intake towers and will submit underwater video recordings, as well as a report summarizing their findings, to TRA management. Once the structural integrity of the towers is confirmed, TRA can move forward with plans to add additional intake points.

TCWSP provides drinking water to Bedford, Euless and Colleyville, along with portions of Grapevine and North Richland Hills. Raw water is pumped from Lake Arlington to the project's 87-million-gallon-per-day treatment plant where it undergoes a series of treatment processes to remove particles and organic compounds. The water is disinfected with a combination of ozone and chlorine. Water quality, including taste and odor, is closely monitored.

General Manager's Message

Busy, exciting year in store for TRA

General Manager J. Kevin Ward

Happy New Year! The greeting may be belated, but here we are at the beginning of a new calendar year and three months into a new fiscal year for TRA. I hope everyone had a wonderful holiday season and that 2012 brings joy and prosperity. As I look ahead to my first complete fiscal year as general manager of TRA, I'm heartened by the many opportunities that lie ahead. I now have almost a full year as general manager under my belt, and I'm eager to continue building the internal and external relationships that began over the past several months.

TRA accomplished a great deal over the course of FY 2011. With the support and confidence of our board members, customers and partners, we began 11 construction projects totaling more than $77 million, and we completed seven construction contracts worth more than $36 million. The need for our services continues to grow throughout the Trinity River basin as population growth remains in an upward trend – and we are on a solid path for continued development and a continued commitment to service.

In October, the TRA board of directors approved a $201.8 million budget for FY 2012. It feels like quite an accomplishment to have this round of budget planning behind us, and we're hitting the ground running with 20 construction projects throughout the Trinity River basin scheduled to begin during FY 2012. It is particularly gratifying to see growth and expansion in the lower portion of the basin, with both the Huntsville Regional Water Supply System and the Livingston Regional Water Supply System preparing for their first expansions in many years. And construction and expansion remain a day-to-day normality at many facilities.

To maintain a methodical approach amid this momentum, during January and February TRA has hosted a series of customer advisory committee meetings designed to apprise our customers of progress regarding capital improvement plans for each treatment facility. Our goal is to gather appropriate feedback as we begin putting more emphasis on long-term, strategic planning for each of our operating projects. We want our customers to be partners in that process, and we want to continue deepening those relationships – particularly we want to ensure that our customers have input into how these facilities develop to best meet the needs of their citizens. We must function as a team to execute careful consideration of population projections, regulatory requirements and rehabilitation needs so that we ensure continuous process improvement and well-timed expansions as needed. I am confident that a consistent commitment to strategic planning and forethought will afford us the means to do this.

TRA, its customers and partners play a tremendous role in the overall health and vitality of our state. In support of that role, I am pleased to have been named a member of the board of directors for the North Texas Commission. This organization, with its goal of encouraging an economically healthy region, is an appropriate fit for TRA as a provider of services that are vital to the health and well-being of the entire Trinity River basin. At times, the presence and expansion of our facilities have served as direct catalysts for economic growth in North Texas.

For TRA to play more of a formal leadership role in the economic development of North Texas is both an honor and a privilege. Involvement in NTC programs will afford TRA the opportunity to participate in the development and implementation of regional strategies that directly affect our customers and our services. I look forward to learning from my colleagues within the organization, and to sharing TRA's outlook for developing and maintaining a quality of life that will attract further development opportunities.

In addition to these newly forged external relationships, we begin FY 2012 with changes to the TRA board of directors – Harold L. Barnard is the newly elected president of the board, and Kim C. Wyatt has been elected vice president. Linda D. Timmerman, Ed.D., has been elected chairwoman of the executive committee, and its newly elected members are Ronald J. Goldman, John W. Jenkins, Jess A. Laird and Kevin Maxwell. I look forward to working with each of them in their new positions, and I encourage our readers to keep an eye out for more information in future issues of *inTRA* as executive committee members are appointed to lead TRA's functional committees.

At its regularly scheduled December meeting, the TRA board of directors also approved the formation of a six-member special committee to investigate, report and recommend matters to the board of directors concerning the following: TRA policies on water sales; prospective water sales and commitments; water availability and regional planning; water rates; contracts that affect TRA water supplies in Lake Livingston; and interbasin transfers. The purpose of the committee is two-fold: its formation allows TRA periodically to review its water sales policy before considering major commitments, and since water policy and sales cross boundaries among TRA's existing resources development, legal and utility services committees, these questions can best be addressed by a group that draws from the expertise of the three committees that will ultimately take action on policies, contracts and rate levels. Director Michael Cronin will lead the committee, and Christina M. Crain will serve as its vice chairwoman. Additional members of the committee include Ronald J. Goldman, John W. Jenkins, Kevin Maxwell and Manny Rachal.

All things considered, we have a busy year ahead of us, and I can't wait to get started. I offer my most sincere gratitude to our readers for the confidence and trust you have placed in our organization – with your continued support, we will press forward to create new opportunities for establishing and protecting the quality of life for residents throughout the Trinity River basin.

New employees tour Northern Region projects

Five new Trinity River Authority employees recently visited all six Northern Region operating projects – the first in a bi-monthly program of tours designed to better acquaint personnel with TRA's business.

"Although each regional system operates independently, it is part of a larger agency," said Northern Region Manager Fiona Allen. "It is important for employees to see all the essential services TRA provides and how their project relates to the others."

The group started its whirlwind day of tours at the TRA general office with a brief overview of TRA's history and purpose throughout the entire Trinity River basin. Each participant also received fact-filled handouts to reference during the project visits.

At 8 a.m., everyone boarded a van headed for the first project with Cynthia Belvin, Northern Region manager of technical resources, serving as tour guide – transporting the group and answering questions.

At each project, the employees were greeted by the project manager and treated to a 30-45-minute tour of the plant's treatment units and processes. The group visited the Tarrant County Water Supply Project and the Denton Creek Regional Water Supply System in the morning before heading to the Central Regional Wastewater System, where they enjoyed lunch while Project Manager Bill Tatum gave an overview of the massive system, one of the largest wastewater plants in Texas. Lunch was followed by a 30-minute tour of the plant. After leaving CRWS, the group visited the Ten Mile Creek Regional Wastewater System, the Red Oak Creek Regional Wastewater System and finally, the Mountain Creek Regional Wastewater System, before returning to the general office.

"It was a long day, but they were an enthusiastic group, thoroughly engaged," said Belvin. "They compared the different projects and processes and asked a lot of questions."

ROCRWS and MCRWS Project Manager Billy Hill explains processes at MCRWS. Seen here from left to right are Lucas Janiszewski, CRWS biologist; Hill; Patrick Wagnon, DCRWS maintenance mechanic II; Juan Avila, CRWS operator I; Debra Davis, TCWSP operator I and Jacob Cribbs, CRWS operator I.

New CRWS Laboratory Biologist Lucas Janiszewski said it was beneficial to see how CRWS fits into the whole system. He was especially appreciative of the informative tours.

"The managers were passionate about their industry and knowledgeable about every aspect of their projects," said Janiszewski. "It was obvious they are proud of the service they perform."

Northern Region management has scheduled new employee tours for the first Wednesday of every other month. The next one is scheduled for March 7.

Employee Milestones

New Hires

CRWS welcomes **Matthew Quate** and **Jacob Cribbs** as operators I.

TCWSP is excited to have **Debra Davis** as operator I.

SRSS is glad to welcome **Christa Wood** as accounting clerk.

Promotions

Louis Morrow was promoted to chief operator at CRWS.

Eric Jones was promoted to field technician II at CRWS.

Sam Thomas was promoted to clerk/typist at GO.

Danny Smith was promoted to operator II at MCRWS.

Marion Tims was promoted to chief operator at TCWSP.

Gus Rivas was promoted to operator II at TCWSP.

Current Events

Mike Moore, TMCRWS instrumentation technician, recently earned an associate's degree in petroleum technology from Navarro College.

Planning and Environmental Management Assistant Hong Wu's daughter, Suzanne Wen, is seen here in Times Square. Suzanne recently traveled to New York City with the Martin High School Chorale to perform at Lincoln Center.

Karen Stafford Brown, manager, engineering services, won the Northern Region's inaugural Christmas Door Decorating Contest with her snow-themed composition featuring a snowman constructed of paper snowflakes.

LRWSS. ***Continued from page 1.***

In addition, the system's electrical and electronic components will be dramatically upgraded with new controls, electrical switch gear, SCADA instrumentation and a 750-kilowatt emergency generator.

Finally, new chemical feed rooms will aid operators in producing the highest possible water quality.

"These plans will increase the system's reliability in addition to its capacity," said Coburn. "Long term, the improvements will be more economical for the city of Livingston because maintenance costs will decrease tremendously."

Engineers anticipate that designs will be complete by July 2012. Once the Texas Commission on Environmental Quality has approved the plans, TRA will select a contractor and issue bonds to fund construction.

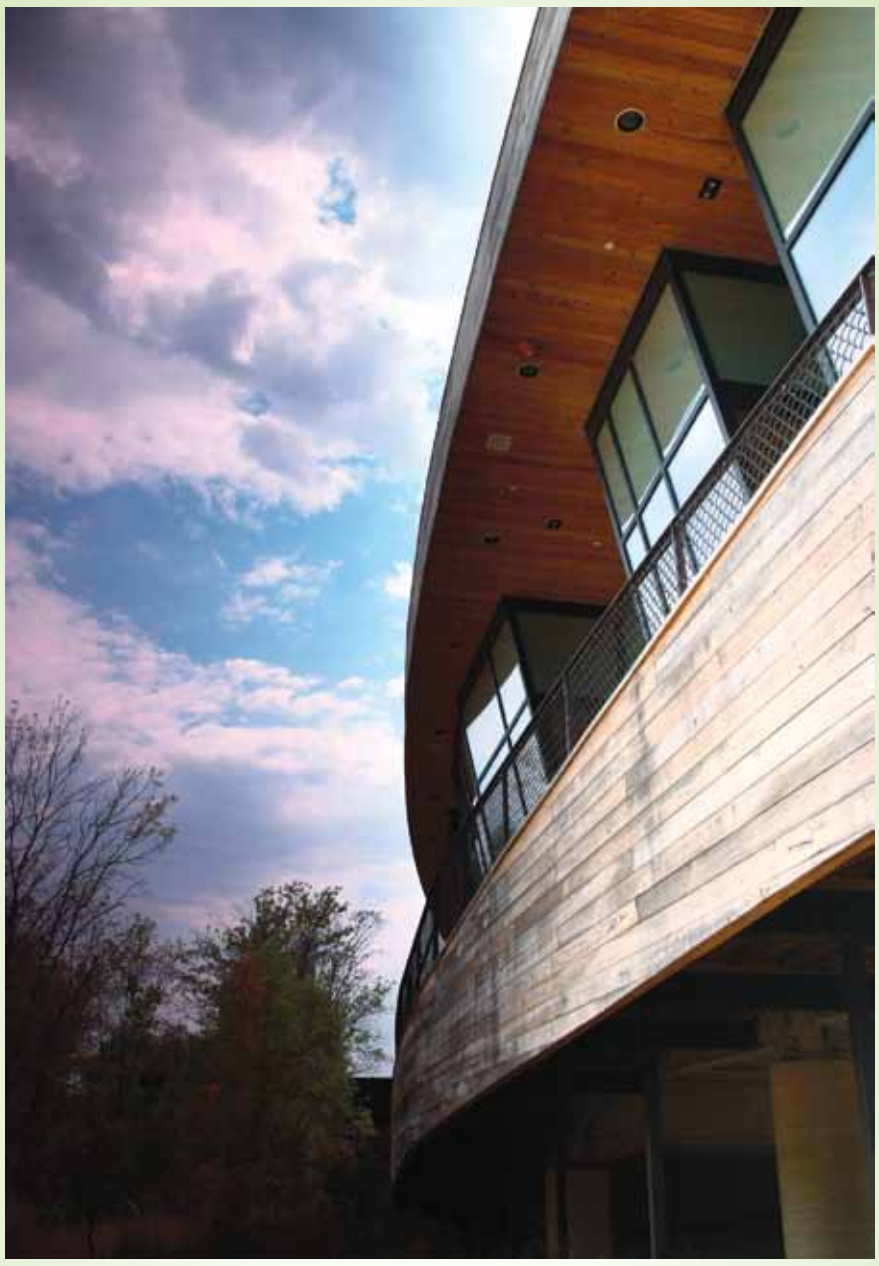
TRA estimates costs will be approximately $12.2 million.

Anthony Chavarria, CRWS maintenance mechanic II, and his wife, Lorrie, are seen here at the Dallas Cowboys football game against the Tampa Bay Buccaneers Dec. 17, 2011, in Tampa, Fla.

Debra Wright, TCWSP clerk/ messenger, welcoms her first granddaughter. Amanda Pearl Wright was born Dec. 10, 2011, weighing 6 pounds, 14 ounces and was 19 inches long.

This group participated in the 2012 Jiggle Butt Run on Jan. 7 at the University of Texas at Arlington to raise funds for Safe Haven of Tarrant County, a shelter and support service for victims of domestic violence. Northern Region Manager Fiona Allen placed fourth in her age group and 64th overall with a time of 27:09. Seen here from left to right are Taylor Huynh, manager of personnel services; Allen; Michelle Clark, public information officer; Angela Kilpatrick, Clean Rivers program coordinator; Connie Jones, executive secretary for Executive Services and Alison Mackey, executive project manager.

Burns snaps winning photo



Charles Burns, TRA information systems analyst, won Honorable Mention with this photo in the amateur division of the architecture/structures category of the Third Annual Trinity River photo contest sponsored by the city of Dallas. Judges reviewed 700 professional and amateur entries in categories of architecture/structures, forest/prairies, river/ponds and wildlife.

Winning photographers were honored at a January City Council meeting.

This is the second year Burns has submitted a winning entry. He won Honorable Mention in the amateur, river/ponds – high water category in 2010. His photo, along with other winning entries from the 2009 and 2010 contests, is on display at the Dallas Museum of Nature and Science at Fair Park through May 2012. For more information, check out Natureandscience.org.

Natureand science.org

The photo contest seeks to document the natural beauty of the river as well as components of Dallas' Trinity River Corridor Project, the largest and most complex public works and urban development project in the history of Dallas, and one of the largest of its type in the nation.

TRA adopts electrical design standards

The Trinity River Authority electrical work group recently completed the first edition of an electrical design standard document to guide the design and construction of electrical components at TRA projects. The standards were subsequently approved and adopted by the TRA construction standards committee.

The electrical work group is composed of maintenance, operations, electrical, electronics, engineering and construction inspection staff, with representatives from all Northern Region water and wastewater projects. Ten Mile Creek Regional Wastewater System Electronics Technician Tim Morgan serves as the facilitator of the group.

"We wanted to develop a standard to make sure electrical components are designed and built the way TRA needs them. This would save everyone time and save money for our customers," said Morgan.

The group started by gathering specifications from previous TRA construction projects and other agencies that have produced their own design standards. These standard specifications were then modified to fit TRA's needs as well as the unique water and wastewater treatment environment.

"System and equipment components that are exposed to wastewater have to be able to withstand hydrogen sulfide corrosion," said Morgan. "For that reason, we specify corrosion-resistant materials, such as stainless steel bolts to hold control panels in place."

Starting in January 2011, the group met several times to generate a set of documents that govern the design and construction of electrical equipment from preliminary design through final acceptance and startup.

"We produced two documents to address construction of electrical systems, power distribution, lighting, telecommunications and controls systems," said Morgan.

The *Electrical Design Guide* serves as a template that engineers can use as a starting point when beginning a design project. It contains general guidelines for designing projects, selecting and installing equipment, and working within existing structures at TRA projects.

The larger *Electrical Specification Guide* describes in detail the equipment, relevant components and installation required for TRA projects. It lists applicable standards, codes and references and specifies review requirements for equipment and systems prior to contractor purchase. The document also stipulates specific installation methods.

In addition, the electrical design standards include startup and acceptance procedures, usually in the form of checklists, to confirm that new systems and equipment function properly before signoff. For example, if a new variable-speed blower is installed, the checklist instructs the user to turn it on and then adjust speed to verify that it operates at all available settings.

"Making sure electrical components are designed suitably, constructed correctly and function properly will save time and money and ensure the safest possible work environment," said Morgan.

The electrical design standards are the first set of construction standards developed completely in-house by TRA personnel.

Electrical Work Group

James Swords, TCWSP, chief maintenance mechanic
Calvin Waller, TCWSP, chief electronic technician
David Holquin, CRWS, electrical/electronics division chief
Mark Hrabal, MCRWS, chief operator
Richard Dennie, ROCRWS, chief operator
Steven Hodges, DCRWS, senior electronics technician
Rudy Hinkle, CRWS, chief electrician
Mike Querry, CSS, inspector supervisor
Clyde Thomas, TCWSP, electrician II
James Williams, CSS, inspector II
Jake Burwell, CSS, inspector II
David Terrill, manager, engineering services, Northern Region

TMCRWS Instrument Technician II Jessie Arteaga checks new electrical equipment to verify that it operates correctly.

PID wins Gold MarCom Awards

The Trinity River Authority's public information division has recently garnered two gold MarCom Awards as well as two Honorable Mention certificates.

The MarCom Awards is an international creative competition for marketing and communication professionals involved in the concept, writing and design of print, visual, audio and web materials and programs. The awards program, administered and judged by the Association of Marketing and Communication Professionals, is the largest of its kind in the world, attracting entrants from Fortune 500 companies, advertising agencies, PR firms and freelancers. More than 6,000 entries from throughout the United States, Canada and other countries competed for the 2011 MarCom Awards.

Judges are communications professionals who look for projects that exceed a high standard of excellence and serve as a benchmark for the industry. They grant Gold Awards to entries that exceed industry expectations, a feat only 18 percent of applicants typically achieve. Honorable Mention certificates are granted to those entries that meet expectations of professional standards. Approximately 10 percent of entries receive Honorable Mention.

TRA won Gold Awards for the *2010 Annual Report* and the August/September 2010 issue of the *inTRA* stakeholder newsletter.

TRA's annual report details its fiscal year financial status and summarizes developments for its operating projects. The 2010 version featured vivid, high-resolution satellite imagery of the Trinity River basin, plus photographs of scenes taken along the entire length of the river. The narrative included a brief description of each operating project followed by facility developments and notable events. Colorful charts conveyed financial figures along with wastewater and water flow data.

The August/September 2010 issue of *inTRA* focused on two significant events in TRA history: the retirement of longtime General Manager Danny F. Vance and an unprecedented river survey.

A two-page layout of historical photos illustrated major events that occurred during Vance's tenure, including one of Vance with President George H. W. Bush during the 1990 flooding in the southern part of the Trinity River basin.

Another two-page section featured narrative and photos of the TRA Clean Rivers Program's epic summer survey of the main stem of the Trinity River – the first such survey in many decades. The story detailed conditions along inaccessible reaches of the river and showcased photographs of previously unseen geological formations.

The judges awarded an Honorable Mention certificate to *Source to Tap*, an animated presentation that illustrates the source of Tarrant County Water Supply Project's raw water, its transportation to the treatment plant, the treatment processes and the distribution of potable water to the plant's customer cities. The presentation uses a combination of aerial and ground photography, video, maps and animation; it runs continuously on a 42-inch video screen in the lobby of the TCWSP administration building. An earlier version of the presentation, without video, won a 2010 Watermark Award from the Water Environment Association of Texas and the Texas Section of the American Water Works Association.

The cover of the June/July 2011 *inTRA* newsletter, featuring a graphic depicting widespread drought in Texas, also won Honorable Mention.

Other 2011 MarCom Award winners included notable companies such as Aetna Inc., Aflac, HBO, J.P. Morgan Retirement Plan Services, Lockheed Martin, Monsanto and Better Homes and Garden Real Estate.

Wolf Creek Park replants trees, readies for the season

The National Weather Service has officially declared 2011 as the driest and the second hottest on record in Texas. The Texas Forest Service reports that the extreme heat and drought have killed approximately 10 percent, or about five million, of the state's trees.

Wolf Creek Park Supervisor Charles "Eddie" Knight says the park has lost hundreds of trees.

"We lost a third of our trees, more than 350," said Knight. "Both pine and hardwoods died."

Knight and his maintenance crew have been busy removing dead wood over the winter while the park is closed to visitors.

"Dead trees can pose a hazard in strong winds," said Knight. "By the time the park opens on March 1, we'll have it cleaned up and ready for our guests to enjoy safely."

Even though a portion of trees is gone, Wolf Creek Park, located deep in the East Texas piney woods next to Lake Livingston, remains verdant.

"We still have an abundance of trees to beautify the park and provide shade for our visitors," said Knight.

Nonetheless, he is already making plans to replace many of the trees lost to the drought once dry conditions ease.

"We'll start planting close to the shore so we can water newly planted trees if we go through another dry spell," said Knight.

While forecasters expect the drought to last through at least June, Lake Livingston is one of the few lakes in Texas that is nearly full. According to the Texas Water Development Board, Lake Livingston is more than 95 percent full, while the combined storage capacity of all Texas reservoirs is at only 61.8 percent.

Over the winter months, while Wolf Creek Park is closed to visitors, Knight and his crews have been busy making improvements.

Crews placed cement-stabilized sand along most of the shoreline bulkhead. Once storm water or wave action moistens the area, it will harden to form a wide walkway next to the lake. Visitors will be able to stroll along the water front or relax in chairs next to the lake to fish or just enjoy the view.

In addition, crews improved drainage at a perennially water-logged site near the picnic area.

Knight and his staff also applied fresh coats of paint to several park buildings, including the bathroom/shower facilities.

Interested parties can follow park happenings and improvements on Facebook.

By "Liking" the page, visitors can receive updates from Wolf Creek Park through their individual Facebook news feeds.

The 2011 drought claimed hundreds of trees at Wolf Creek Park. Park staff spent the winter removing trees and making other improvements to prepare the park for the 2012 season opening on March 1.

The park will open for the 2012 season on March 1. Reservations are already being accepted through TRA's website and by phone at 936-653-4312 and can be made as far as 60 days in advance. Wolf Creek Park is one of the few campgrounds in Texas where visitors can reserve their favorite campsites. Reservations for specific campsites are only available by phone.

Scan the QR code below and to the right with your smartphone to go directly to TRA's website where links to park information and reservations are available on the home page.

Those who want to stay apprised of the water level in Lake Livingston can visit the home page of TRA's website for continuously updated information on lake level and discharge from the dam.

This same discharge and lake level information is also available via the micro blogging service, Twitter. Users can sign up to follow @LivingstonDam on Twitter and, by clicking the cell phone icon on the dam's Twitter profile, arrange for tweets to be sent directly to their cell phones as text messages.

Twitter

Wolf Creek Park Facebook page

Trinity River Authority home page

TRA, partners respond quickly to repair pipeline

Besides the obvious dry lake beds, wilting vegetation and blistering temperatures, 2011 made it clear that drought conditions can harbor other unexpected challenges – especially once the rain begins to fall.

In early December, creek bank erosion related to a sudden influx of rain in a drought-parched area of Walker Branch Creek undermined a concrete-encased 27-inch RCP interceptor that serves as part of the Trinity River Authority's Walker-Calloway Branches Outfall line. This line is a 4.7-mile wastewater transportation interceptor that TRA built, owns and operates to deliver wastewater from North Richland Hills and Hurst to a discharge point in the Fort Worth wastewater system for further transportation and treatment. The resulting encasement cracking allowed wastewater to leak from the Walker Branch Outfall Trunk Sewer. The discharge flowed into Walker Branch Creek, which runs southeast into a lake system south of Trinity Boulevard in Fort Worth.

TRA collection system repair and line surveillance crews, along with members of the Central Regional Wastewater System maintenance team, immediately dispatched to the area, placing an earthen berm downstream of the outflow to contain any possible contaminated water. "Our main concern at that point was to contain the leak and get any associated wastewaters pumped back into the treatment system," said Bill Tatum, project manager for CRWS. "As a precautionary measure, we were able to add a second pump about a quarter-mile south of the leak, which pumped additional water into the city of Hurst's wastewater system."

Cleanup crews used existing Walker Branch Creek water to dilute and flush any spilled wastewater into the downstream pumping systems – a second earthen berm approximately 200 feet downstream of the outflow also augmented this effort. Using power washers, brooms, rakes and water from the city of Hurst, crews flushed the area immediately adjacent to the leak and pumped the water back into the treatment system. Once all waters were returned to the system, the berms were removed, and the natural drainage through the creek returned to normal flows. Throughout the process, TRA's pretreatment division undertook sampling, field monitoring and lab analysis to monitor cleanup progress.

To prevent recurring damage, TRA construction services crews worked with a contractor to remove the bend in the pipeline from service and relay the pipe approximately five feet to the west of the creek within the existing easement and behind the old concrete encasement – which will serve as additional protection for the new pipeline. Crews also completed extensive site restoration and erosion protection work, which has since been inspected and approved by the Texas Commission on Environmental Quality.

This concrete encasement next to Walker Branch Creek cracked after supportive soils underneath eroded in early December. Although a wastewater pipeline within the encasement leaked into the creek, crews immediately built an earthen berm downstream to contain any possible contamination. Pumps returned escaped water back into the wastewater collection lines. No public drinking water supplies were threatened or contaminated.

No public drinking water supplies were threatened or contaminated during this overflow. Its impact was minimized by TRA following its established emergency response protocol. In particular, TRA's construction services division and CRWS repair and maintenance teams acted swiftly and effectively to control the leak. Cooperation and assistance from the cities of Hurst and Fort Worth also helped tremendously. The cities stepped forward to offer everything from pumps and hoses to fresh water for diluting and flushing spilled wastewater. "We couldn't have contained the leak and repaired the problem as quickly and efficiently as we did without assistance from both cities," said Tatum. "It was a tough few days, and a lot of work, but everyone pulled together to protect the area around the leak and to get the pipeline repaired and back in service as quickly as possible."

Trinity River Authority of Texas
P.O. Box 60
Arlington, Texas 76004
(817) 467-4343

CHANGE SERVICE REQUESTED

PRSRT STD
U.S. POSTAGE PAID
FORT WORTH, TX
PERMIT # 1359

inTRA is published by the Trinity River Authority's public information division for the Authority's valued employees, directors, consultants and other interested individuals. To request or submit information for publication, contact editor Debbie Bronson, public information assistant, at 817-467-4343 or bronsond@trinityra.org.

Anniversaries

35 Years
Frank S. Garcia Jr., chief accountant, GO

25 Years
David R. Harris, chief operator, TCWSP
James B. Coleman, interceptor systems specialist, CRWS
Jim Swords, maintenance chief, TCWSP

15 Years
Lisa Lantrip, permit administrator/receptionist, LLP

10 Years
Tony M. Walker, senior electronics technician, CRWS
Marion T. Tims, chief operator, TCWSP

5 Years
Melody B. Cannon, purchasing/warehouse supervisor, CRWS
Candi Nash-Trautmann, accountant, GO
David A. Woodcock, Jr., inspector II, CSS
Barclay J. Hager, Jr., inspector I, CSS
Cody King, senior chemist, CRWS
Charles R. Carder, inspector II, CSS
Charles R. Burns, information systems analyst, GO
Huong Le, GIS manager, GO
Jerry Holland, operator II, TCWSP

3 Years
Vannessa Liu, information systems analyst, GO
Hector J. Garcia, maintenance mechanic II, CRWS
Danny D. Smith, operator I, MCRWS
Michael H. Ricketson, maintenance mechanic II, LLP
Anson M. Suarez, operator I, CRWS
Charles R. Rankin III, operator I, CRWS
Kevin Condra, maintenance mechanic II, TCWSP

Good luck to the CReWSers!

Don't miss the exciting Operations Challenge Competition at Texas Water 2012 as the TRA CReWSers attempt their 15th consecutive state championship.

See the laboratory event on Wednesday, April 11, from 1-4 p.m. in the Exhibit Hall.

Watch the collections repair, safety and pump maintenance events on Thursday, April 12, from 9 a.m. to 1:45 p.m.

TCWSP Project Manager Gerald Null, center, presents Maintenance Chief Jim Swords, left, and Chief Operator David Harris with 25-year service awards.

TCWSP Project Manager Gerald Null, second from the left, presents Operator II Jerry Holland, left, with a five-year service award, while Electrician II Clyde Thomas, second from right, and Maintenance Mechanic II Kevin Condra, right, both received three-year awards.