



Making Connections

The Official Publication of the Louisiana Ground Water Association
Volume 9 Issue 1 Summer 2024



Time Marches On . . . From the Executive Director's Desk

Good day everyone. This will be the last column I write for Making Connections as I am turning my responsibilities as your executive director over to younger minds, with new ideas of how to make the **LGWA** a better organization.

It has been a pleasure working

with everyone over the past years with all the ups and downs, struggles and successes, that come with making a great organization. **LGWA** has a way to go to fulfill its obligations to the water well industry, and I feel certain you all will do a fine job.

It is my intention to continue to work in the background, helping when and where I can, but from here forward there will be new leadership.

And now, I will allow the new team to introduce themselves, so here you go . . .

Joel

Joel Walton



WDR photo of Joel and Terry from the 2021 LGWA Convention and Trade Show.

Hello, my name is Terry Suire. This is a new role for me, and I appreciate the opportunity to work with you all for the continued success of our **LGWA**. My wife Kelly and I wish Joel and Linda all the joys retirement may bring.

Kelly and I own and operate Glenn Billeaud Pump and

Water Well Service in Lafayette. The company was started back in 1966 by Kelly's parents, Glenn and Carrie Billeaud. Kelly and I have been operating the company since 2004.

I am currently on the **LGWA** Board and the Louisiana Advisory Committee for Drillers.

Please feel free to call me with any suggestions at 337-654-4666, as we move forward.

Terry

Terry Suire

LGWA Executive Director

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Dillard University Becomes Groundwater Monitoring Site

Adapted from Information by Dillard University

Dillard University is partnering with the City of New Orleans and Deltares, USA, Inc. to monitor groundwater activity in the Gentilly area. Situated on Gentilly Ridge, Dillard's inclusion in the National Disaster Resilience Water Monitoring Network is a testament to its leadership in this crucial initiative.

Roelof Stuurman, Deltares's hydrogeological system analyst, spoke with faculty and students about the importance of groundwater awareness as his team installed the well on the campus's front lawn. To fight subsidence, flooding, and saltwater intrusion, a network of monitors will provide hourly data on groundwater levels. This will create an even more comprehensive picture of water levels observed during drought, rain, and extreme weather events.

Stuurman's message to the students was clear - you cannot manage what you don't know about. Dr. Samantha L. Gerlach, assistant professor of Biology, plans to incorporate Stuurman's published articles on subsidence in New Orleans from the *Hydrogeology Journal* into her Ecology lectures. Her students, who witnessed the well installation, are eager to use the data in their coursework next semester. This unique hands-on opportunity to analyze groundwater changes from a well they helped install is a testament to Dillard's commitment to proactive research and student engagement.



our community," Schrieber commented about the installation. "It presents a unique opportunity for our students to seek out data-driven solutions as they address the critical need for water management in New Orleans and for municipalities worldwide."



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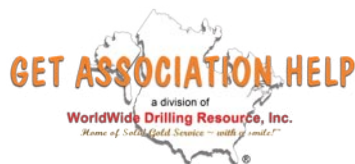
Christopher Lang from the City's Stormwater & Green Infrastructure Office explained the data from the entire network would be available on Deltares' website dashboard, specially designed for the City of New Orleans.

"We're thrilled to collaborate with Dillard as one of the host sites in this network of wells. We hope its placement on this campus supports preexisting . . . curricula, stimulates students' curiosity about the City's unique water challenges and opportunities, and helps build local groundwater expertise in and beyond the classroom," Lang stated. "We look forward to analyzing the data in the months to come!"

Dr. Casey Schrieber, associate professor of Urban Studies and Public Policy, as well as students from her Geographic Information System (GIS) course were present for the installation. They anticipated using the data in Dillard's Urban Water Management program. "This project is a great way to bridge academics and innovative technology to serve the needs of

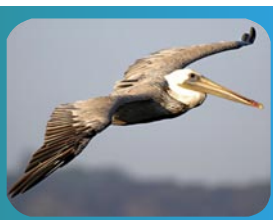
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Membership in the Louisiana Ground Water Association (LGWA) is open to water well and geotechnical drilling professionals. LGWA and its members are active throughout the State of Louisiana.

Branding Your Small Business

Submitted by Webtrol

Branding your business is a necessity. Your “brand” is how people see your business; it is your identity and reputation. People want to hire a company qualified to do a job and one they can trust. Customers associate strong brand recognition with trust. In fact, over 70% of people judge the credibility of a company by its website.

How do customers see your business? Before digging into your branding, decide who you are as a company and how you want customers to see you. Do potential customers view your company as dependable problem solvers? Friendly and family oriented? Traditional and knowledgeable? Out of touch?

Many times we are too entrenched in our own businesses to form an objective opinion. So, try to look at your company from the customer point of view.

Research other companies similar to yours. Analyze what makes good ones look so good, and what makes bad ones look so bad. Learn from their strengths and weaknesses. It will demonstrate why branding is a necessity.

Create a professional and memorable logo. The foundation of your brand is your logo; it needs to reflect who you are. Discuss ideas with a graphic designer and have it professionally designed. They will be able to execute a logo that can be displayed effectively on your vehicles, websites, brochures, business cards, etc. They will also create versions that read well when placed on light, dark, and complex backgrounds.

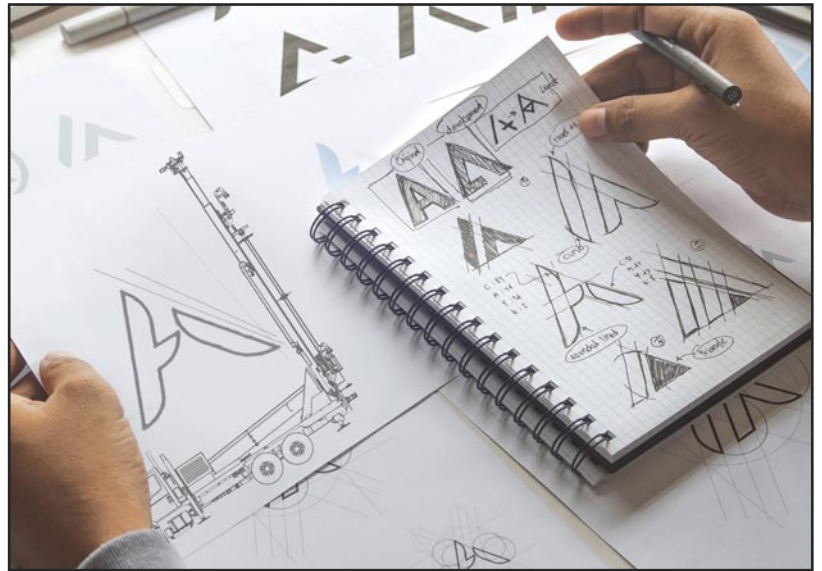
This will pay off in the long run. An amateur design created in the wrong format will cause sign shops and printers to spend time fixing and reformatting the art to work for their purposes, resulting in additional costs, and possibly appearing differently than intended.

Do you have an older logo that has already has brand recognition? Consider updating it to today's standards. Perhaps slight modifications or a refresh is all it needs.

Be consistent. Consistency is crucial to your brand. Your logo and message should always look the same in all places; on your trucks, business cards, flyers, website, signs, email, etc. Select and use coordinated visuals consistently:

- **Logo** - Always use your logo as it was intended. Never modify your logo to fit in awkward spaces or adjust colors to conform to a specific need.
- **Colors** - Using the logo colors for other graphics creates a strong and identifiable brand that is easily recognized. Integrate your main color wherever possible.
- **Fonts** - Select a font that is easy to read and use it on all your communications. Introducing multiple fonts for different occasions will only cause confusion.
- **Tagline** - If you have a tagline, or slogan, always keep the same size relationship between the logo and tagline. Never alter the size or font.
- **Tone** - Express your company with a consistent tone in text and in visuals. Use your branded colors, fonts, and imagery consistently in all your messaging. Avoid adding gimmicky fonts, colors, silly drawings, and alarming photos in an attempt to get attention.

Once you have successfully created your branded image, you need to put your brand to work. Your consistent look needs to be on your vehicles and printed materials. And since approximately 75% of people research a company online before calling, be sure your website reflects your new brand.



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Governor Creates Task Force to Address Issues

*Adapted from Information by the
Office of the Governor of Louisiana*

Widespread flooding and drinking water violations in New Orleans, led Governor Jeff Landry to sign an executive order to create the Governor's Task Force for the Sewerage and Water Board of New Orleans (SWBNO), earlier this year.



The 14-member task force, including public officials, industry leaders, and experienced experts, held public meetings in March. They heard from stakeholders, listened to public comment, and discussed solutions for long-standing problems amongst themselves and with the Technical Advisory Group. The work concluded with a report, delivered to the Governor, containing a description of the issues facing the Board as well as several recommendations for the Governor and legislators to consider.

The Sewerage and Water Board of New Orleans Task Force is comprised of the following:

Governor Appointments - Chair Paul Rainwater; Ryan Berger; Lynes "Poco" Sloss; William Vanderbrook, C.P.A.

The Louisiana Department of Transportation and Development - Secretary Joe Donahue

Coastal Protection and Restoration Authority - Chairman Gordon Dove

Department of Environmental Quality - Secretary Aurelia Giacometto

American Council of Engineering Companies of Louisiana - Nathan Junius, P.E., P.L.S.

Louisiana Engineering Society - Byron Racca, P.E.

Louisiana Associated General Contractors - Ken Naquin

Jefferson Parish Public Works - Mark Drewes, P.E.

Greater New Orleans, Inc. - Michael Hecht

Business Council of New Orleans - Paul Flower

New Orleans & Company - Walter Leger, III

The Technical Advisory Group - Roy Glapion, P.E.; David Gallo; Hilary Landry; Todd James; Chris Laishe; Mike Palamone; and Mike Pugh, P.E.

"Those who live in New Orleans are far too familiar with the frequent failures of the Sewerage and Water Board," said Governor Jeff Landry. "Through this executive order, we will determine ways to make the board run more efficiently and guarantee tax dollars are being put to proper use."



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Youngsville Seeks to Quadruple Water Production



In an attempt to keep up with rapid growth, the city of Youngsville in Lafayette Parish, is investing millions in infrastructure projects which will quadruple local water production and reduce reliance on the Lafayette Utilities System.

From 1990 to 2005, Youngsville was considered the fastest growing town in Louisiana. In fact, it grew so quickly, the town was officially declared a city in 2006, and has since become the fastest growing city in Louisiana.

The city's increased population has strained its infrastructure leading to the need for improvements to the current system, as well as the need for new plans. The projects are outlined in the city's ten-year master plan, adopted in January 2016.

Youngsville's existing water treatment plant can only produce about 250,000 gallons of water per day. The remaining 800,000 gallons of water

used by Youngsville residents and businesses every day is purchased from the Lafayette Utilities System.

In addition to upgrading its current wastewater treatment facility, the city is planning to build a new water treatment plant. Funding for the projects is coming from two \$5 million grants from Louisiana's Water Sector Program, established from the state's allocation of American Rescue Plan Act funding. Low-interest loans from the Louisiana Department of Health and the Department of Environmental Quality, will also be used.

The work includes construction of new water treatment facilities including four, eight-foot, six-inch-diameter greensand filters, air scour blower, chemical feed systems, filter and operations building, two high-service pumps, two backwash pumps, and other equipment associated with the water plant, plus a natural gas generator, electrical instrumentation and controls, as well as other equipment and construction-related items. The work also includes relocating the existing generator at Water Well #7 to nearby Water Well #9.

The city recently completed a deep-water well, the third to be constructed in the city since 2017. The three wells pump water from the Chicot aquifer, replacing six shallower wells which were abandoned because of high iron in the system.

The existing wastewater treatment facility at Railroad Street and Detente Road will also be updated with plans to upgrade the existing oxidation pond system to a sequencing batch reactor system. The new, more efficient system will use less land, which is important to the city's sugarcane farming community. The project is expected to be completed by 2026.



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Time to Celebrate!


The 2025 NGWA Groundwater Week Convention will be held in New Orleans!



To celebrate, LGWA is raffling a two-night stay at the Hilton New Orleans Riverside.

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lgwa.org



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Communities Gain Funding for Water Upgrades

Adapted from Information by the Office of Senator Bill Cassidy

U.S. Senator Bill Cassidy, M.D. announced the Environmental Protection Agency (EPA) will grant Louisiana \$12.4 million from his Infrastructure Investment and Jobs Act for Louisiana's Drinking Water State Revolving Fund (DWSRF) for fiscal year 2024 to upgrade drinking water and clean water infrastructure.

"Ensuring access to clean and safe drinking water for every Louisianan is essential," said Dr. Cassidy. "This investment in Louisiana's water infrastructure will boost economic opportunities and make our state a place where families want to stay and grow."

Funding for fiscal year 2024 includes the following projects:

The Milton Water System will receive \$6.6 million to support efforts to construct a new water treatment plant. The plant will consist of three water wells each designed to produce approximately 1000 gallons per minute (gpm), and construction of a new two million gallon-per-day (mgd) water treatment plant consisting of pressure filters, two 500,000-gallon ground storage tanks, high-service pumps, a backwash settling basin, administrative and operation buildings, and a 500-kilowatt generator.

The Bayou Liberty Water Association is using \$3.5 million of federal funding for the construction of a new water well capable of producing 500 gpm approximately 1900 feet in depth, installation of two 10,000-gallon hydropneumatic tanks, new chlorine gas disinfection equipment and enclosure, associated site work, as well as miscellaneous mechanical and electrical components.

The City of Lake Charles will use its \$2.3 million in federal grant money to replace approximately 1.5 miles of deteriorated distribution pipe and associated equipment.

The DWSRF provides grants and forgivable loans to improve drinking water treatment, fix water distribution, improve sources of water supply, and replace or construct finished water storage tanks. This funding accounts for fiscal year 2024. The Infrastructure Investment and Jobs Act provides additional funding each year through 2026, meaning Louisiana can expect to receive more funding for water infrastructure for the next two years.



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Declining Well Production

All wells experience performance declines over their lifespans, some wells more rapidly than others. For instance, wells in alluvial deposits, while generally more productive than bedrock wells, as a rule tend to be more prone to well performance issues and require more frequent rehabilitation. The major causes of reduced well performance over time are as follows:

Filter Pack Plugging: Wells typically have a one-way flow of groundwater into the well which, over time, results in the migration of fine-grained material such as silts and clays into the filter pack, the accumulation of which eventually impedes groundwater flow into the well. Smaller sand particles can often form sand bridges over time for the same reason. These situations result in increasingly inefficient flow of water into the well and even full plugging of sections of the filter pack in some instances, resulting in a decline in well performance.

Mineral Incrustations: Depending on the chemistry of the groundwater and well design factors, mineral incrustations can develop on the screen and even in the filter pack. Calcium carbonate, iron, and manganese deposits are the most common types of mineral incrustations seen in wells, but there can be other types, as well. Mineral incrustations can develop as a result of turbulent flow in the filter pack and at the well screen, velocity drops at the well screen, and oversaturation of minerals in the groundwater. There is evidence lower quality screens may be more subject to the development of mineral incrustations.

Biofouling: Biofouling is estimated to be involved in more than 80% of all well plugging cases. The usual suspect in biofouling situations is iron-reducing bacteria, which grows in the aerobic zone of the well. Iron-reducing bacteria form a protective biofilm which can often shield the bacteria from straight chemical applications, such as chlorine. In the aerobic environment of the well, iron-reducing bacteria can thrive and reproduce to the point it can completely plug well screens. Many times, sulfur-reducing bacteria can grow under the iron-reducing bacteria, and in anaerobic zones of the well. The danger of sulfur-reducing bacteria is less to do with plugging of well screens, rather they produce hydrogen sulfide gas, which is highly corrosive to the well. Indicators of iron-reducing bacteria are increased iron concentrations in the well water over time, and indications of sulfur-reducing bacteria are "rotten egg" odors from the hydrogen sulfide gas. Less common bacteria-related performance issues can also arise, so it is important to monitor the total bacteria trends in a well.

A Note on Open-Hole Bedrock Wells: Open-hole bedrock wells are not immune from developing well performance issues over time. Iron-reducing bacteria can still be an issue, for instance. Mineral incrustations usually take the form of deposits which can reduce the size and productivity of the fractures supplying water to the well. Over time, productive fractures can squeeze down due to overlying rock pressure, reducing groundwater flow through those fractures. Due to the volumes of water which can pass through the fracture and solution channels in karst areas, silt and clay accumulations can cause plugging to the point where flow can be reduced.



Photo courtesy of Cotey Chemical Corporation.

Some or all of these problem situations can occur in the same well, so it is important to use proper diagnostic tools to determine the full cause of reduced well performance before deciding on an appropriate course of action for well rehabilitation.

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Let's Discuss Feed Rate and Bit Pressure

Whether it's water well, geothermal, or geotechnical drilling, feed rate and bit pressure are two important drilling variables. The basic function of drilling is to advance the hole from the surface to a determined depth, and perform other required activities (well placement, foundation tests, etc.). Every drilling professional should have a firm grasp of the importance of feed rate and bit pressure variables.

Feed Rate: This is the rate the bit is advanced into soil or rock material. It can be expressed in inches per minute, inches per bit revolution, or the number of bit revolutions per inch of advance. You can visually time the movement because the feed rate is easily seen by the downward motion of the rig's piston rods within the hydraulic cylinders.

Bit Pressure: This is the weight or pressure applied to a bit during drilling operations and is expressed as the number of pounds or tons of weight applied. A gauge is used to monitor the bit pressure. Most drill rigs will have a bit pressure gauge installed somewhere near the primary drill rig controls.

The drill bit itself should be considered in terms of feed rate and bit pressure, so know the limitations of your drill bit.

Another consideration is the soil or rock materials being drilled. In soft materials, increasing the feed rate and bit pressure may cause the bit to become clogged, where the bit is actually forced into the material and not cutting through it. Sound judgment of the material is also needed from the person drilling.

Drill rig technology allows the operator to "dial" a specific feed rate and bit pressure during drilling, but a firm knowledge of these two essential drilling variables, along with sound judgment of the soil and/or rock materials being drilled, will ensure success in any type of drilling operation.

Watching the gauge and making sound material judgment calls are the final keys for the drill operator.



WDR photo.



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