

# IRON STRONG INSIGHTS<sup>®</sup>

SPRING 2025



**McWANE  
DUCTILE**

BUILDING IRON STRONG UTILITIES FOR GENERATIONS<sup>®</sup>

## Resilience to Disruptive Events Part 2 — DI Pipe and Fire

PG. 4

### ALSO IN THIS ISSUE

- How To Secure Green Project Reserve Sustainability Incentive Through State Revolving Fund Funding Using Ductile Iron Pipe
- Project Profiles





**McWANE  
DUCTILE**

Contact Us: [McWaneDuctile.com](http://McWaneDuctile.com)

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IRON STRONG INSIGHTS®

*McWane Ductile has been an industry leader in the manufacture of water distribution and infrastructure products since 1921. With three U.S. foundries, McWane Ductile offers superior service while supplying Ductile iron pipe across North America and beyond, all while maintaining an unwavering commitment to safety and quality. Through continued innovation, it is our goal to meet the customer needs and industry demands of the future in order to Build Iron Strong Utilities for Generations.*

## Resilience to Disruptive Events Part 2 — DI Pipe and Fire

PG. 4

CONNECT WITH US ON





# Welcome to Iron Strong Insights®

Dear Readers,

**Welcome to the Spring edition of our quarterly magazine. For many of us, the chill of winter could not pass soon enough. We all look forward to warmer weather and longer days. Spring is a time for renewal and new beginnings. I recently read that spring is nature's way of telling us, "It's time to party." So, go out and celebrate life with friends and family.**

At McWane Ductile, we welcome new beginnings with the onboarding of some new employees. As tough as it is to see the old guard retire and move on, these fresh, young faces help energize our company with new ideas and enthusiasm. Hopefully, they will be the seeds of growth for years to come.

Already in 2025, our staff have been deeply engaged in trade shows and conferences. They have also conducted numerous training events with customers that help build their knowledge and expertise. If you would like to learn more about these educational initiatives, please visit our Learning Center on our website at [McWaneDuctile.com/LearningCenter/](http://McWaneDuctile.com/LearningCenter/).

Looking ahead, please be sure to visit our spacious kiosk at ACE25 in Denver. Our entire waterworks group will be at Booth #2949 ready to engage with fellow waterworks professionals.

As we celebrate this season of growth and revitalization, let us take a moment to appreciate the small wonders around us. Welcome, spring — a time to grow and embrace the warmth of new beginnings.



**Stuart Liddell**  
Sales Operations Manager  
Sales Operations Department

## CELEBRATING 2024 PERFORMANCE ACHIEVEMENTS

McWane Ductile (MD) recently held its National Sales Meeting in Fort McDowell, Arizona, featuring sales training and updates from various departments. Guest speakers included Richard Kerr and Tim Hallmark from Consolidated Pipe and Supply and David Cole from DIPRA.



**Kim Christensen** was honored for her retirement after over 30 years as Inside Sales Manager. MD also recognized top sales achievements, with **four regional Salesperson of the Year winners**:



**Recipients, pictured left to right, were:** Jeff Houser — Northeast, Ben Johnson — West, Cole Mitcham — Midwest and Tyler Phillips — South.

**Jeff Houser** also received the Terry Lynch National Sales Professional of the Year Award for excellence in customer service, account management, training and leadership.

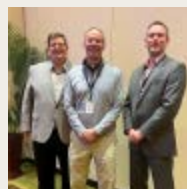


Five employees were recognized for outstanding blog and video contributions:

- Most Engaged on Social Media — **Dan Flaig**
- Best Fake It 'Til You Make It Video — **Cole Mitcham**
- Most Engaged Blog & Video Participant — **Jerry Regula**
- Most Instructional Blog & Video — **AJ DeMatteo**
- Top Performing Blog Published in 2024 — **Bill Kleczka**



**Recipients, pictured left to right, were:** AJ DeMatteo, Bill Kleczka, Dan Flaig, Jerry Regula and Cole Mitcham.



**The Photo Contest winners were:**

1. Mike Palermo
2. Scott Rhorick
3. Chris Howe



# RESILIENCE TO DISRUPTIVE EVENTS PART 2 — DI PIPE AND FIRE

**BY JACOB LOVIN, ENV SP,**  
**MCWANE DUCTILE**  
**REGIONAL ENGINEER**

The landscapes and environments we live in are forever changing, and ensuring that resilient infrastructure is in place to support local communities is something all cities should prioritize. In regions where natural disasters occur and pose significant threats, such as wildfires and earthquakes, and as seen most recently in areas such as Lahaina and the Palisades, Ductile iron pipe has proven to be a durable and reliable choice for water infrastructure. This article will discuss why selecting the proper material for underground infrastructure is critical to combat natural disasters and allow communities to respond more effectively

with a reliable source of potable water and vital fire protection.

## **RESILIENCE**

The strength of Ductile iron pipe, combined with the most conservative design for pressure pipe applications, enables DI to provide the highest levels of resilience to environmental hazards, such as wildfires, and the everyday stresses from pipeline traffic and internal pressure demands. The National Infrastructure Advisory Council defined infrastructure resilience as “the ability to reduce the magnitude and/or duration of disruptive events. The effectiveness of



infrastructure depends upon its ability to anticipate, absorb, adapt to, and/or rapidly recover from a potentially disruptive event” (NIAC, 2009).

## WILDFIRES AND PIPE RESILIENCE

Changing weather patterns have significantly impacted water and wastewater utilities. One of the greatest threats is the increased chance of wildfires, which have caused an average of 62,277 wildfires annually and resulted in an average of 7.02 million acres lost

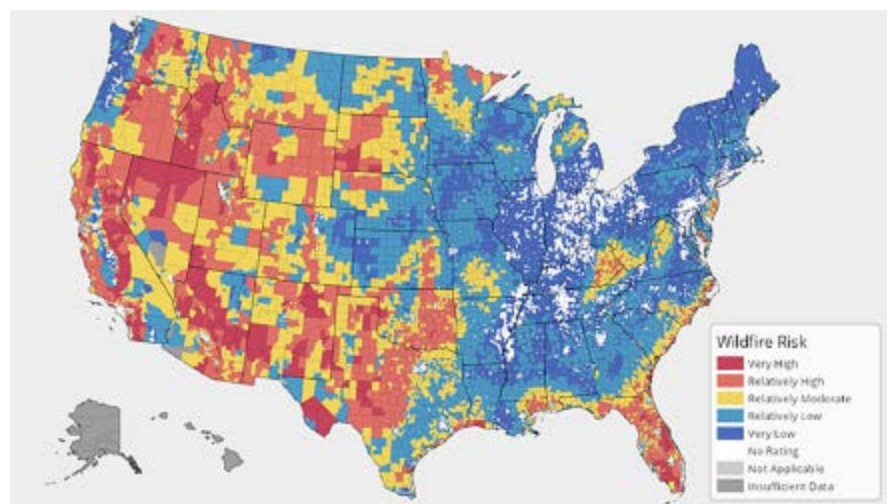
Wildfires present substantial challenges to plastic pipes, directly and indirectly, due to excessive heat. The heat generated in wildfires often hampers firefighting efforts while also creating temperatures that exceed the melting point of buried plastic pipes, causing water contamination and pipeline failures.

Thermoplastics located downstream that have been structurally affected by heat but have not been completely melted are susceptible to failure when pressure is reintroduced. In addition, polyvinyl



materials—especially plastics—are only beginning to be fully understood. As homes and buildings burn, so do the plastics inside them. These materials release a cocktail of chemicals linked to a plethora of health issues, such as cancer, respiratory problems, organ damage, and water contamination.” (DIPRA Minute 2025)

When PVC pipe is exposed to high temperatures, its tensile strength decreases, reducing its performance and pressure rating. Extreme heat from wildfires can cause warping, expansion, contraction, joint buckling or even melting of PVC pipes. In contrast, manufacturer tests have shown that Ductile iron pipe remains stable and fully functional when subjected to direct flames and temperatures exceeding 2,000°F.



each year. These wildfires have devastated communities, contaminating drinking water and destroying infrastructure and homes, forcing emergency evacuations.

chloride, of all plastic polymers, has been implicated primarily in causing the most severe problem in firefighting today because PVC plastic pipe releases

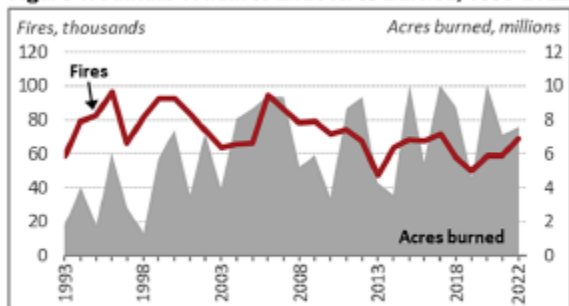
hydrogen chloride gas as it melts in a fire. Similarly, many plastics produce large volumes of pulmonary irritant gases when burned, putting firefighters and residents at fatal risk.

“While the immediate danger of flames is evident, the long-term health effects of burning

## CASE STUDIES: STRENGTH AGAINST WILDFIRES AND REGULATORY CONCERNS

Recent research from Purdue University has focused on the impacts of wildfires on buried pipelines, revealing that drinking water has become contaminated by PVC, HDPE and CPVC plastic pipes. This adds to years of studies documenting the environmental impact, lack of sustainability, shorter design life, higher pumping costs and reliance on petrochemical resins over natural elements. Additionally, there is a risk of drinking water contamination through permeation from plastic pipes.

**Figure 1. Annual Wildfires and Acres Burned, 1993-2022**



**Source:** NICC Wildland Fire Summary and Statistics annual reports.  
**Note:** Data reflect wildland fires and acres burned nationwide, including wildland fires on federal and nonfederal lands.



Following the Palisades and Lahaina fires, Professor Andrew Whelton criticized public utilities for not sharing water testing results post-disaster, highlighting the absence of federal or state laws mandating such transparency. Recently, utilities in both the Eaton and Palisades fire areas detected benzene carcinogens in water supplies. This prompted the Los Angeles Department of Water and Power to create an online dashboard informing residents of restoration progress under “Do Not Drink” advisories. Increased federally mandated drinking water testing after disasters is hoped for.

Furthermore, the Environmental Protection Agency's ongoing investigation into vinyl chloride, a known human carcinogen linked to serious health risks, will likely lead to stricter regulations. As this research progresses, continued testing for contaminants in PVC systems, including microplastics and benzene, is expected.

## LAHAINA, PALISADES AND OTHER CRITICAL EVENTS

Lahaina's recent wildfires emphasize the need for fire-resistant infrastructure. Unlike plastic pipes, which can melt at low temperatures (PVC at 212°F, HDPE at 275°F), Ductile iron pipes can endure temperatures over 2,048°F, safeguarding critical water supply and infrastructure for residents and first responders in wildfire-prone areas.

Similarly, the Palisades — primarily associated with seismic activity — has also experienced devastating fires. Ductile iron pipes and hazard-resilient



joints can absorb seismic shocks while ensuring serviceability, reducing the risk of catastrophic water system failures.

Lahaina and the Palisades need infrastructure that can withstand environmental challenges and minimize costly repairs. With a lifespan exceeding

100 years\*, Ductile iron is a cost-effective choice for sustainable water systems. Its strength and proven performance in harsh conditions make it essential for building resilient infrastructure.

As climate challenges grow, specifying and installing robust materials like DI ensures that water systems remain operational. Investing in such infrastructure today leads to a safer, more reliable future for regions like Lahaina and the Palisades.

Events like the 2018 Camp Fire and 2017 Tubbs Fire have linked harmful chemicals like benzene to plastic distribution pipes. Contamination can linger for months, as seen in the Tubbs Fire, where it persisted for nearly 11 months, showcasing the risks of plastic piping in wildfire-prone areas (DIPRA).

## SUMMARY

Pipelines are vital infrastructures that provide potable water and fire protection, and ensuring you have selected the best, strongest material when designing critical infrastructure is the first step in prioritizing communities health and safety. It's not a matter of if but a matter of when.

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A blue-tinted night photograph of the Denver skyline, featuring several illuminated skyscrapers and the Arch Bridge in the foreground.

# *See you at* **ACE25** **DENVER**

Visit us **June 8-11** at **ACE25 Booth 2949** at the **Colorado Convention Center Exhibit Hall** and learn why McWane Ductile continues to be a trusted industry leader in water distribution and infrastructure products.



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# How To Secure **GREEN** PROJECT Reserve Sustainability Incentive Through State Revolving Funding Using Ductile Iron Pipe

**BY COLE MITCHAM, P.E.,  
MCWANE DUCTILE SALES  
REPRESENTATIVE**



The town of Chandler, Indiana, needed to improve its water supply to end users, particularly to elevated storage tanks within its system, and to provide redundancy for several critical medical and educational facilities. Utilizing 41,000 feet of 24-inch Ductile iron pipe enabled the town of Chandler to secure preferred Green Project Reserve financing through Indiana's State Revolving Fund, as DI pipe is predominantly made from recycled materials, including scrap steel from salvaged cars and trucks. In fact, DI pipe is among the few construction products that score highly in pre- and post-consumer recyclability percentages. Chandler and its engineer built a business

case to justify why this project qualified for the GPR because a significant portion of the project costs were associated with DI pipe, which is an environmentally innovative material. According to the American Waterworks Association's "Buried No Longer" Report, it has a successful service life in the Midwest if properly installed and protected for 110 years versus 55 years for PVC. Using DI pipe helped Chandler secure the preferred GPR incentive. Here's why:

## **DUCTILE IRON PIPE IS RECYCLED AND RECYCLABLE**

The U.S. Environmental Protection Agency Green Project Reserve Guidance (SRF.IN.gov) has details of eligibility and defines in GPR categories as:

- Green infrastructure
- Water efficiency
- Energy efficiency
- Environmentally innovative; examples of ineligible projects; categorical projects and those that require business cases

Ductile iron pipe is primarily made from recycled iron and scrap steel, including shredded engine blocks, brake rotors, metal frames and appliances. This

example is specially listed on SRF's checklist in Section IV — Environmentally Innovative, Item 3 — Example Projects Requiring a Business Case.

The water improvement project would require the town of Chandler and its engineer to submit a business case to qualify for the GPR incentive, showing an innovative system that improves environmental conditions and is consistent with the decision criteria for environmentally innovative projects, such as using recycled materials or reusing materials on-site.

Using DI pipe also reduced the carbon footprint by utilizing recycled materials and allowing the reuse of native soils for backfilling. Thus, the need to haul select materials for bedding and backfilling was eliminated, and emissions from dump trucks were reduced.

The initial design also considered alternative pipe materials, including PVC, HDPE and steel. Another advantage of using DI pipe is that it has the largest inside diameter among all other pipe materials that could be considered. Since larger inside-diameter pipes can accommodate greater flow rates





with lower friction losses, pumping systems can be optimized for efficiency. Pumps operating at a lower pressure can achieve the same flow rates, or higher flow rates can be achieved with the same pump size. This can result in energy savings by using pumps more efficiently. The reduced energy consumption associated with lower friction losses and optimized pump operation can lead to lower operating costs for the water distribution system. DI pipes with larger inside diameters offer greater flexibility for future expansion and upgrades of the water system. If you anticipate increased water

## COMPONENTS NEEDED TO SECURE FUNDING

Using a budget quote from a Ductile iron pipe supplier to estimate the cost of the material only and adding contingency and engineering costs, Chandler's engineer could show that the GPR components were proportional to the overall project cost. They included this as an appendix in their final Preliminary Engineering Report, which they submitted to SRF before bidding on the project.

Indiana's SRF agreed with the business case and confirmed that the project would qualify for its GPR incentive. SRF required Chandler to include forms in the bidding documents that the contractor and engineer had to fill out and submit to SRF, demonstrating that the actual GPR costs were consistent with the original submittal. As part of the submittal, they were required to provide a GPR bid breakdown along with the documents that met the program requirements. Below is an example of the form that had to be completed by each bidder:

GPR Component Description (completed by engineer)	GPR Component Price (completed by bidder)
8" DI Pipe (Material Only)	
12" DI Pipe (Material Only)	
14" DI Pipe (Material Only)	
24" DI Pipe (Material Only)	
DI Pipe Fittings, all sizes	
Mob/Demob, erosion control, MOT for DI Pipe	

demand due to growth or development, having pipes with larger inside diameters already in place can eliminate the need for costly pipe replacements or system modifications in the future.

## HOW THE INCENTIVE WAS APPLIED

Once the contractor's bid was in hand, the GRP incentive ultimately reduced

the interest rate for the SRF loan. The approximate project costs were \$8.7 million. GPR projects may be eligible for a reduction of up to 0.5% if the interest rate floor remains above 2%. The town of Chandler's rate for the project was already very low when the loan was secured in March 2023, so the GPR



incentive reduced its rate by at least 0.2%, resulting in significant debt service savings for the project.

The engineer continued to provide SFR with GPR summaries with each payment application so it knew how much Ductile iron pipe had been installed or shipped to the site. As of August 2024, 97% of the GPR materials have been installed or are on-site.

## NEED ASSISTANCE WITH YOUR WATERWORKS PROJECT?

If you have questions about your water infrastructure project or want to learn more about securing GPR funding, your local McWane Ductile representative is well equipped to assist you. Many of our team members have managed small and large water utility systems, served in engineering consulting firms, and bring decades of experience solving field issues involving pipeline construction and operation. Contact us at [McWaneDuctile.com](mailto:McWaneDuctile.com).



**DEAR DITCH DOCTOR,**

Spring is in the air, and construction season is ramping up. It's probably too late to schedule installation training, as everyone's calendars are filling up. We continue to struggle with high employee turnover rates, and I'm not comfortable taking on major projects this year. I have good people, but with tight budgets and competitive bidding, one less thing to worry about would be a good thing. Can I schedule training? Is it too late? How much will this cost?

Sincerely,  
Anxious in Alexandria

**DEAR ANXIOUS,**

You sound stressed, bro; that is not good. We could all use a little stress relief from time to time. Your concerns are justified. Your anxiety may be reduced if just one of the many things you mentioned could be relieved. You did not mention that with

spring comes rain, which may seriously hamper schedules and the ability to meet deadlines, creating potential for liquidated damages. The good news is that all your training questions can and shall be answered. In the short term, McWane Ductile offers a wide range of training materials on our website at [McWaneDuctile.com](http://McWaneDuctile.com), under the Learning Center tab — everything from installation guides, step-by-step videos and helpful blogs to get your crew started. Additionally, there are a multitude of professional trainers willing and able to conduct a site visit, including hands-on installation training. Oh, and not one of these recommendations comes at a cost to you. Your thoughts will go from stressing about getting started to the sweet sound of an excavator moving dirt. Now don't hesitate. Make the call and schedule a visit.

Sincerely,  
The Ditch Doctor



**DEAR DITCH DOCTOR,**

I recently had the opportunity to attend a technical presentation at a conference. The presenter mentioned that current advancements in restrained joints make the use of thrust blocks obsolete. I just encountered a situation where a connection was made to an existing line. The number of restraint joints in the existing line was unknown, and there was insufficient space to add restraint footage to meet the requirements, given the pipe's size and the angle of the fitting. An executive decision had to be made at once, so I took it upon myself to install a thrust block behind the new fitting. I'm catching flak from some folks about my decision-making and the cost of the "old-school" technology. I just felt it was the right thing to do. What say you?

Sincerely,  
Trusting in Thrust Blocks

**DEAR TRUSTING,**

Well, you are correct in a couple of ways. First, boltless restraint options for Ductile iron piping and fittings have effectively eliminated the use of thrust blocks in new installations.

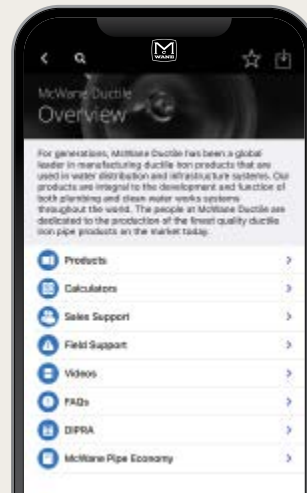
Second, thrust blocks have been used with success to restrain waterlines for generations. What worked 50 years ago still works today. You had a rare situation that required a quick decision, and your gut instinct told you to go with what has been a trusted method. There's no shame in that. You have obviously made the connection with success. If I may add one piece of advice for next time. When you are in the field and need to make a quick decision, the McWane Pocket Engineer provides an excellent thrust restraint calculator. Access the site via your cellphone at [PE.McWane.com](http://PE.McWane.com) or download the app now for free through the App Store or Google Play. You may be surprised by the restraint distance and the potential to replace an adequate amount of existing line.

Sincerely,  
The Ditch Doctor

**The McWane Pocket Engineer™ is the one tool you never want to be without.**



**POCKET ENGINEER**  
Available for iOS + Android or  
online at [pe.mcwane.com](http://pe.mcwane.com)







# West

## PROJECT PROFILE

Texas Instruments (TI) recently announced the largest economic investment in Utah history at \$11 billion for the construction of its new 300-millimeter

**"This project demonstrates our commitment to delivering American-made, high-quality Ductile iron solutions."**

semiconductor wafer fab. The Lehi, Utah project required solid and dependable infrastructure to match the advanced chips it would produce. McWane Ductile stepped in, providing over a mile of waterline materials to meet the water needs of this significant development.

McWane Ductile has supplied 5,994 feet of 24-inch TR Flex® Pressure Class 350

restrained joint Ductile iron pipe. This solution was picked to ensure the facility's water system could support the demands of a modern semiconductor plant. McWane Ductile's TR Flex restrained joint pipe is designed for strength and

adaptability, making it an excellent fit for projects of this size.

The 24-inch Ductile iron pipe provides

the capacity and toughness necessary to meet TI's increasing water demands as it ramps up the production of analog and embedded processing chips.



**Sales Region:** West  
**Sales Representative:** Chris Howe  
**Project Location:** Lehi, UT  
**Project Name:** Texas Instruments 2600 N to SR92 Water Line  
**Project Engineer:** Hansen, Allen & Luce, Inc.  
**Project Contractor:** BD Bush Excavation  
**Project Distributor:** Core & Main Provo

### Types of Ductile iron pipe used on the project:

DIAMETER	JOINT	CLASS	FOOTAGE
20"	Tyton®	350	18
24"	Tyton®	350	18
24"	TR Flex®	350	5,994

**Sales Region:** Midwest  
**Sales Representative:** Dan Flaig  
**Project Location:** Normal, IL  
**Project Name:** Rivian Automotive Manufacturing Plant Expansion  
**Project Owner/Utility:** Rivian Automotive  
**Project Engineer:** Clayco  
**Project Contractor:** MVP Plumbing  
**Project Distributor:** Underground Pipe & Valve

Types of Ductile iron pipe used on the project:

DIAMETER	JOINT	CLASS	FOOTAGE
4"	Tyton®	52	162
6"	Tyton®	52	162
10"	Tyton®	52	7,596
12"	Tyton®	52	630



Rivian Automotive is launching a project that will add 208,000 square feet to its existing plant, along with the construction of a new 1.14 million-square-foot facility. Expansion and new construction are necessary to support the growth of Rivian’s electric vehicle offerings.

The expansion is supported by a \$1.5 billion investment from Rivian and an

\$827 million incentive package from the state of Illinois, which will be distributed over the next 30 years. In return, Rivian has committed to hiring at least 550 new full-time workers, adding to the approximately 8,000 employees already working at the Normal plant. (DCEO.Illinois.gov/news/press-release.30480.html).

Clayco, a Chicago-based construction and engineering firm, is the general contractor for the expansion project, with MVP Plumbing, based in Montgomery, Illinois, installing all site utilities.

PROJECT PROFILE

# Midwest







## PROJECT PROFILE



Over three years, McWane Ductile's Senior Sales Representative Jeff Houser, Technical Services Specialist Cory Humphreys and National Product Engineer Ken Rickvalsky played key roles

On January 28, 2025, the pipeline was floated into position and carefully submerged into a pre-dredged trench below the riverbed. Despite challenging conditions, the expertise of skilled tradespeople and the use of resilient Ductile iron pipe ensured a successful installation, securing a vital freshwater connection for years to come.



**Project Distributor:** F.W. Webb, Malden, MA

DIAMETER	JOINT	CLASS	FOOTAGE
16"	TR Flex®	52	576
20"	TR Flex®	52	342
20"	MJ/TJ	52	54

**Sales Region:** South  
**Sales Representative:** Tyler Phillips  
**Project Location:** Oxford, MS  
**Project Name:** SR-7 Water Distribution Section C  
**Project Owner/Utility:** city of Oxford, MS  
**Project Engineer:** Daniels & Associates  
**Project Contractor:** Axis Site Work  
**Project Distributor:** Consolidated Pipe & Supply — Tupelo

**Types of Ductile iron pipe used on the project:**

DIAMETER	JOINT	CLASS	FOOTAGE
8"	Tyton®	350	527
16"	Tyton®	350	8,443



John Crawley, the head of the engineering department for the city of Oxford, Mississippi, contracted David Daniels of Daniels & Associates, a local engineering design firm, to design a 16-inch waterline going south of Oxford that was needed for a redundancy water feed loop. This new line will maintain stable water flow levels



for fire lines and also supply clean drinking water to the citizens who are flocking to Oxford's south side. Section C for the SR-7 expansion, highlighted in this article, was carefully installed along a power line through a forested area.

In speaking with David Daniels, it became clear that this line would face some challenges. "The primary challenge during the design phase was ensuring that the waterline could accommodate the foothills, which have varying elevations in the terrain. With the five degrees of deflection

utilized from the push-on Tyton Joint, this was not an issue for our Ductile iron pipe," said Daniels.

The other half of this project is still under construction from a different contractor but is also using McWane Ductile iron pipe to ensure a long-lasting, sustainable waterline is being installed for the city of Oxford. These new water distribution lines are going to provide the south side of Oxford, with clean drinking water and fire protection for many decades to come.

PROJECT PROFILE  
**South**







# We're heading South!

We'll be at the WaterPro Conference in New Orleans and UESI Pipelines Conference in Tampa and we want to see you! Stop by the McWane Ductile booth to find out how McWane Ductile is **Building Iron Strong Utilities for Generations.**



**August 9-13, 2025**

**Tampa Convention Center**  
333 S Franklin St  
Tampa, FL 33602



**September 15-17, 2025**

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