

VOLUME 14  
ISSUE 4  
2023

# Excavation SAFETY

MAGAZINE™



2024 GLOBAL ESC  
SEE PAGE 24

# 50% UNDERGROUND BY 2040?

## PLUS:

- // Precision Locating Tips
- // Guidelines for Locator Safety
- // Defending Utility Damage Claims
- // Evolution of Technology in Land Surveying



**MAXIMIZE PRODUCTIVITY.**

**MAXIMIZE PERFORMANCE.**

**MAXIMIZE PAYLOAD.**

## **SAFE DIGGING MADE EASY**

TRUVAC FLXX™ is the safe digging machine that is perfect for a wide range of applications that simply are not as suitable, or as profitable, for a full-size truck. Manufactured by Vactor® Mfg., LLC, with a variety of training, service, and support options available.

**TRUVAC.COM**



**LEARN  
MORE  
TODAY**

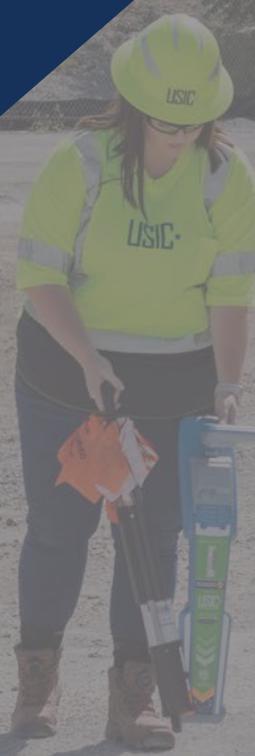


# USIC★ THE LEADER IN UNDERGROUND UTILITY DAMAGE PREVENTION

*PROTECTING AMERICA'S CRITICAL INFRASTRUCTURE*

## OUR MISSION

The nation relies on the communication, gas and electric power, water and sewer services transmitted across more than 20 million miles of underground infrastructure. At USIC, it is our mission to protect this critical infrastructure in service to our valued customers and the communities in which we work and live. It is a mission we carry out every day with an unmatched commitment to safety, quality and efficiency.



[USICLLC.COM](http://USICLLC.COM)



SCAN TO LEARN MORE

**LEADING FROM THE GROUND UP**

# Contents

WINTER 2023 // VOLUME 14 // NUMBER 4

**On The Cover:** Today, the electric distribution system in America is approximately 20% underground. Is it a realistic goal to achieve 50% underground by 2024? See page 18.

## SPOTLIGHT

New Technology & 2024 Global ESC



### 12 A Roadmap for Innovation

There is no escaping the Digital Revolution. For Surveying Practitioners, New Technology is transforming how Underground Utilities are Traced and Mapped.

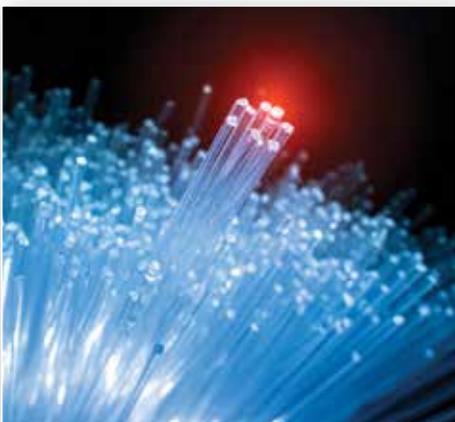
“Instead of providing physical locates, the system generates plans that are sent to users, often automatically within minutes of the request.”

### 14 One Call in Europe

The One Call Industry in Europe is quite different than North America. In the U.S. and Canada, Locators are responsible for Locating and Marking Assets, but that Practice is not common in Europe.

### 16 Streamlining Service Provider Operations

The Dynamic World of Fiber Optic Network Construction and Installation requires an Intricate Balance of Operational Efficiency, Accuracy, and Quality Assurance.



## FEATURES

- 18 / 50% Underground by 2040?
- 20 / API Provides a Clear Roadmap for Integrating Safety Programs.
- 22 / Defending Utility Damage Claims when the Excavator is “Not-At-Fault.”
- 28 / ESA Town Hall Recap: How Can we Improve Excavation Safety with Fair Enforcement?
- 38 / Essential Guidelines for Ensuring Utility Line Locating Safety.
- 42 / Proposal to Modify the APWA Color Code.

## STAKEHOLDER PERSPECTIVES

- 10 / Marine Safety Efforts Recognized by CAMO and CDMCS at 5th Annual Leadership in Safety Awards.
- 11 / From Dial Up to Digital – the Ongoing Evolution of Before You Dig Australia.

## DEPARTMENTS

- 8 / Damage Prevention Hero
- 30 / 2023 DP Hero of the Year Ballot
- 32 / Public Awareness
- 36 / Giving Back
- 40 / Calendar of Events

## COLUMNS

- 5 / From The Publisher  
- Scott Landes

Supporting Global Excavation Safety





Volume 14, Number 4

WINTER 2023

**PUBLISHER**

Scott Landes

Scott@ExcavationSafetyAlliance.com

**AD SALES**

Vicki Husome

Vicki@ExcavationSafetyAlliance.com

**CREATIVE DIRECTOR**

Brett Link

Brett@MyHappyPlaceDesignStudio.com

**PUBLISHING CONSULTANT**

Dick Hendricks

jdhendricks@comcast.net

**CONTRIBUTING AUTHORS**

James H. Anspach

Michael E. Beehler

Rock Eisenheim

M.G. Govia

Mell Greenall

Kelley Heinz

Matt Hill

Wayne Jensen

Laurie Knappe

Jan-Willem Nijman

Whitney Price

Mike Sovereign

Michael Twohig

Ken Warner

Published four times a year by

Excavation Safety Alliance

3800 American Boulevard West, Suite 1500

Bloomington, MN 55437

Phone: 866-279-7755

**ExcavationSafetyMagazine.com**

Excavation Safety Magazine

is a Trademark of Excavation Safety Alliance. All rights reserved.

Reproduction in whole or part without written permission of the publisher is prohibited.

The 811 Logo is a registered trademark of the Common Ground Alliance.

The Click Before You Dig.com logo is a registered trademark of Utility Safety Partners.

FROM THE  
PUBLISHER



BY SCOTT LANDES

# Like it or Not, the World has Gone Digital

**T**he digital world has created some preconceived notions that are not always based on facts. I am a big believer in reducing paper records whenever possible, but like more than 60% of our readers I do not want to read a digital magazine. Reading one article in a digital format works for me, but not an entire magazine. Some advertisers see the benefits of a combined program comprised of both print and digital, but many will not entertain the idea of print advertising regardless of what readers prefer.

There is no right or wrong answer on which is better, a print or digital magazine, nor can I say definitively which form of advertising is better. However, the reality is that it is extremely expensive to print and mail a magazine. With rising costs, print revenue hasn't come close to covering the cost to mail and print our magazine for many years. Even with the generous support of our *Excavation Safety Magazine* sponsors we cannot make the math work for a quarterly print magazine.

To continue focusing on our mission of "saving lives through education & collaboration," in 2024 we will switch to a hybrid model for getting our education and information out to stakeholders. We



**SAFETY IN  
COLLABORATION**

will print an annual edition of the *Excavation Safety Magazine* each fall and we will continue to print the *Excavation Safety Guide* (over 7,000,000 in print now) in the winter. While both publications have information which can help all stakeholder groups, the magazine is more geared towards facility owners and Notification Centers, while the Guide is aimed at helping contractors dig safely.

We will keep providing a flow of great content all year long via the fantastic authors and speakers we have worked with over the past 20 years. We will also continue to seek out new subject matter experts on hot topics. This constant flow of new education will be featured in our regular blog. These articles will also appear in our regular monthly newsletters and/or our ESA Member newsletter. It is free to become an ESA individual member by going to [ExcavationSafetyAlliance.com/membership](https://ExcavationSafetyAlliance.com/membership).

At Excavation Safety Alliance (ESA), we are extremely focused on sharing solutions and tips that make excavation safer and prevent damage to cables and pipelines. As we hear during our ESA Town Halls and our conferences, the best solutions come from all of you. One of our primary goals is to be the resource that makes these ideas available to all stakeholders. Our annual print edition of the magazine will be sharing as many of these ideas and tips as possible, as well as covering hot topics that have become issues during the past year. You can be sure that you will receive the print edition of the magazine by subscribing at [ExcavationSafetyAlliance.com/subscribe](https://ExcavationSafetyAlliance.com/subscribe).

..... **CHAMPION** .....



North American Telecommunications Damage Prevention Council

The NTDPC is a non-competitive forum dedicated to promoting the awareness and protection of tele-communications facilities and the use of One Call notification systems. Our goal is to prevent damage to the aerial & buried facilities that form the tele-communications infrastructure.



KorTerra is the leading provider of damage prevention software, protecting billions of dollars in underground infrastructure. For over 30 years, KorTerra has helped mitigate risk and ensured personnel safety by providing secure platforms for processing 811 locate tickets, tracking damages, and more.



Alberta One-Call, Alberta Common Ground Alliance & the Joint Utility Safety Team have united under one name: Utility Safety Partners; Alberta's trusted resource for utility safety, education & awareness to prevent contact with overhead and underground energy & utility assets. #Click-BeforeYouDig.



Pennsylvania One Call System Inc. is a non-profit service company dedicated to minimizing utility service interruptions, reducing on-the-job injuries and deaths, promoting a higher level of public safety and protecting the environment, available 24 hours per day, every day of the year.



As the country's first state-wide notification center, MISS DIG 811 has helped keep Michigan safe for over 50 years. Looking forward, we will continue to reach our communities by utilizing advancing technologies, grassroots efforts, and consistent engagement to decrease damages across the state.



MetroNet is the nation's largest, independently-owned, 100 percent fiber-optic provider of internet, television, and telephone services. MetroNet started in 2005 with one fiber-optic network in Greencastle, Indiana, and has since grown to serving and constructing networks in more than 120 communities across Indiana, Illinois, Iowa, Kentucky, Michigan, Minnesota, Ohio, Florida, North Carolina, Virginia, Texas, Wisconsin, and Missouri.



Our mission is to lead Indiana in promoting safety and preventing damage to underground facilities by providing excellent coordination and notification services at a reasonable cost.

**LEADER**



**ADVOCATE**



## Discover the benefits of ESA Company Membership!

As we bid farewell to the ESM Sponsorship program, we're ushering in a new era with the ESA Company Membership program—a strategic evolution poised to propel our industry forward. This initiative seeks to represent an alliance of ALL industry stakeholders regardless of size or influence. Membership offers valuable perks that position your organization at the forefront of the industry. We're excited to introduce the ESA Company Membership Program, which you can learn more about on page 33.

Contact Brenda for more information.

Email: [Brenda@ExcavationSafetyAlliance.com](mailto:Brenda@ExcavationSafetyAlliance.com)

Cell: 507-461-0001





# Karin Strub

## *Unending Passion for Excavation Safety*

KARIN STRUB HAS BEEN INVOLVED, AND ENTRENCHED, IN DAMAGE PREVENTION AND EXCAVATION SAFETY FOR THE PAST NINE YEARS. SHE JOINED THE INDUSTRY IN 2014 IN THE MARKETING DEPARTMENT AT RHINO MARKING & PROTECTION SYSTEMS.

Since then, Karin brought her passion and skills to Infrastructure Resources (now Excavation Safety Alliance). She served as Editorial Assistant on *Damage Prevention Professional*, Managing Editor of *dp-PRO* and recently as VP of Communications on *Excavation Safety Magazine* (ESM).

Regardless of her title, Karin's role, work ethic and sincere passion for the mission and for people have had a positive impact on the industry.

"Karin was an amazing ambassador for the company and the industry," said Scott Landes, ESM Publisher. "She met and connected with countless individuals in the industry and was fantastic at identifying speakers, authors and partners for the magazine and the Global Excavation Safety Conference."

**“Karin was an amazing ambassador for the company and the industry. She met and connected with countless individuals in the industry and was fantastic at identifying speakers, authors and partners for the magazine and the Global Excavation Safety Conference.”**

Those who worked with Karin over the years describe her as passionate, loyal, genuine, detailed, committed, outgoing and first-class. "She was always your 'go-to' person if you needed information on almost anything or if you wanted a suggestion on who to connect with for a project," said Excavation Safety Alliance's Whitney Price.

Karin was involved in, and collaborated with, many different industry organizations such as the Coastal and Marine Operators Pipeline Industry Initiative, American Society of Safety Professionals, Pipeline Association for Public Awareness, Pipeline Task Force, UUMPT and CCGA Education Committee to name a few. Her involvement was almost 24/7 and in her "spare" time she promoted damage prevention and excavation safety on LinkedIn.

Karin's passion and commitment to excellence elevated the content in *Excavation Safety Magazine* and the *Excavation Safety Guide* as well as their standing within the industry. "Karin has promoted damage prevention by including all stakeholders and providing a voice for change," said Kelley Heinz, Senior Claims Case Manager, Damage Prevention for ComEd. "Karin has always been a great moderator for the Town Halls, providing input and ideas that



Karin Strub surrounded by Scott Landes, Spencer Knott (Trident), Andy Prins (Trident) and Whitney Price.

help the damage prevention industry."

"Karin holds herself to a high standard and challenges the status quo in a continual effort to make things better," Price added. "She is a connector, both on the job and through her dedication to help non-profit organizations fulfill their mission."

Karin has spent years researching and selecting Damage Prevention Hero's for the magazine. And now she more than deserves to be up there with those in the industry who have gone above and beyond to promote damage prevention and excavation safety. **ESM**





[www.vac-con.com](http://www.vac-con.com)



X-Cavator CXT

## **HYDRO EXCAVATORS BUILT FOR THE REAL WORLD**

The Vac-Con line of vacuum excavators is designed for safe, simple, powerful, effective soft digging operations all day long — no matter how tough the job.

Contractors and municipalities alike will discover that the Hydrovac Family of products by Vac-Con is built to exceed their demands.

**Learn more at [www.vac-con.com](http://www.vac-con.com)**

## Marine Safety Efforts Recognized

STAFF REPORT

Safety excellence in the U.S. dredging, marine construction and the pipeline industry took center stage in Washington, D.C. in September when the Council for Dredging and Marine Construction Safety (CDMCS) held its 5th Annual Leadership in Safety Awards Dinner in conjunction with its quarterly meeting and National Pipeline Task Force (PTF) Meeting.

Joint industry members, partners, and representatives, along with the U.S. Army Corps of Engineers (USACE), celebrated those who have been deemed by their peers to go above and beyond every day, embracing safety as a culture and leading by example without hesitation.

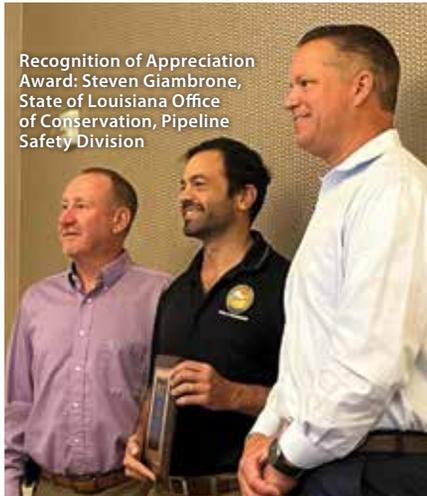
The CDMCS Pipeline Task Force meeting was a continuation of the great conversation that's been had over the last few years regarding marine safety. Specifically noted, over 2,000 people have gone through the Coastal and Marine Operators Pipeline Industry Initiative (CAMO) online training that has helped drive down safety incidents.

Online locate tickets and the process was discussed in detail, as an effective way to serve notice of the location for marine or waterways construction activity, providing operators with the information they need to mark and communicate potential assets in the work area.

The topic of locates in federal waters was discussed, noting how assets in these waters are not required to be listed in an 811 system. Offshore wind infrastructure will be installed in federal waters, thus a larger discussion needs to be had with the industry to identify what can be done to protect the assets and those working around them.

Abandoned lines were also identified as a problem, from safety concerns to preventing downtime. The conversation will continue, as there is an effort for all utility operators to mark abandoned lines and keep accurate records both on land and offshore.

CAMO and CDMCS are doing great things in the marine construction industry to address current issues and safety concerns, while coming together collaboratively to discuss industry-wide solutions. **ESM**



Recognition of Appreciation Award: Steven Giambrone, State of Louisiana Office of Conservation, Pipeline Safety Division



Individual Award: Leonel Silva, Jr. CSHO, CSST, SSH, Mike Hooks, LLC



Recognition of Appreciation Award: Sean Fritzges, USACE Baltimore District - receiving on his behalf is Tiffany Burroughs, USACE HQ



Recognition of Appreciation Award: Nicholas Endress, USACE Rock Island District - receiving on his behalf is Troy Larson, USACE HQ



Recognition of Appreciation Award: Sam Minifie, API - American Petroleum Institute



Partnering Award: Brady Beckman, USACE HQ



Company Award: Orion Marine Group



Individual Award: James Bourgeois, Pine Bluff Sand & Gravel Co.

## From Dial Up to Digital – the Ongoing Evolution of Before You Dig Australia

BY MELL GREENALL, CEO, BEFORE YOU DIG AUSTRALIA LTD

For those familiar or not so familiar with the Australian damage prevention industry, the local providers of asset owner infrastructure plans have gone through some significant changes over the last 18 months. You may have been familiar with Australia's "Dial Before You Dig" business model that saw six separate businesses working across the country to provide what is known as the referral service – the plan exchange process between utility owners and end users to promote safe excavation and work practices. However, this model was becoming increasingly inefficient and creating disparity in USP and end user experiences, and so the six businesses made the decision to merge into a single national organization and launch as Before You Dig Australia (BYDA) on July 1, 2022.



BYDA Damage Prevention Team member Leon Moriceau delivering a safe excavation toolbox talk.

As I reflect on the last 12 months, it has been an honor to have been entrusted to lead such a significant change project, trusted not only by the BYDA board, but also team members and the industry as a whole. Personally, I am proud to say that I have learned a lot, not only about the industry, but also about myself as a leader, and of course the complexities of simultaneously merging six similar but unique businesses. It's been a great journey and one that has seen Before You Dig recommit itself as a safety partner promoting zero damage and zero harm when it comes to working safely around underground assets.

Most significantly, our new national Damage Prevention Team has doubled down on their industry engagement across the country with an incredible 500 safety sessions delivered nationally with a collective participant number of 8,000-plus construction workers, and another 250 trade and industry events that were attended with an estimated reach of 31,575 attendees. With over 700 asset owning members, the number of users of the referral service continues to grow, and over the course of the year, the number of plan enquiries processed by the system was 2,249,180 (up by 55,000 from the previous year).

Importantly, we are at the table for various state government discussions on the emerging Digital Twin projects around the country. We have embedded the BYDA process in the first stage of the Victorian state-owned Digital Twin project for public infrastructure, and have presented to the Australia and New Zealand Land Information Council regarding

how BYDA can support their Commitment to the United Nations on improved mapping of utilities to protect communities.

While the year has delivered some outstanding success for the newly formed national organization, it has also identified some significant challenges for the industry. The most pressing is the need to evolve beyond the PDF when it comes to infrastructure plans. There is no doubt that this change is difficult and will require significant USP engagement and commitment, but the reality is that we cannot ignore the need to change and move into the digital landscape.



With Australian government agencies creating GIS platforms to design and

manage public infrastructure projects and the broader construction sector evolving rapidly to expect digital data as the norm to manage the build and construct of projects of all scales, the humble PDF plan has a rapidly reducing life span in regard to relevancy. BYDA surveyed the top power users of the referral service, and the response was overwhelming. The demand for digital data files and reduced complexity in the supporting information was clear. So, we have some work to do! The need to lead with bravery and resilience when it comes to change continues. The next three years will see BYDA mature its digital capabilities leveraging greater GIS data and bring new planning tools to the market that imbed safety and digital data as the core of what we deliver to the Australian damage prevention industry. **ESM**

## A Roadmap for Innovation: The Evolution of Technology in Land Surveying

BY MICHAEL TWOHIG, DIRECTOR OF SUBSURFACE UTILITY MAPPING AND  
ROCK EISENHEIM, SENIOR PROJECT MANAGER AND DIRECTOR OF CLIENT RELATIONS, DGT ASSOCIATES

There's no escaping the digital revolution. In today's technology-driven society, nearly every industry has been impacted by digital solutions. Hospitals and healthcare systems are leveraging technology to enhance the patient experience, digital currency has modernized the finance industry, energy providers are creating sustainable energy sources, and so on. For surveying practitioners, new technology is transforming how underground facilities are traced and mapped.

While Subsurface Utility Mapping (SUM) has gained momentum and recognition in recent years, locating and mapping underground facilities for design and construction has been a common practice for decades. In Boston in the late 1890s, the Massachusetts Transit Authority (MTA) project owner recognized the need to map the underground environment to understand the underground workings before breaking ground and building the first-ever subway system. After receiving inaccurate data from the asset owners, the design team took matters into their own hands. They set out to improve the plan designs by mapping the subsurface facilities using traditional survey methodologies and non-destructive steam powered excavators while a group of utility surveyors prepared the base maps. To avoid the populated above-ground streets, utility surveyors tunneled under the streets to observe the utilities in a trenchless program. At this time, tools and technologies were rudimentary; utility locators worked without the benefits of digital survey instruments, remote sensing technologies, and digital processing and sharing platforms. Yet, they were able to design an incredible piece of infrastructure that's still in use today.

In addition to leaving behind a valuable piece of transportation infrastructure, the project owner



provided legacy data for the underground facilities and information on the foundation elements of the surrounding historical buildings. Our peers also shared best practices for locating utilities and outlined three key goals to keep in mind during collection: provide accurate plans of utilities and nearby foundation elements for efficient designs, create utility-enabled contracts to relocate facilities when necessary, and deliver reliable information to project contractors for underground damage prevention programs.

### **CREATING EFFICIENCY WITH TECHNOLOGICALLY-ADVANCED PIPE LOCATORS AND GROUND PENETRATING RADAR SYSTEMS (GPR)**

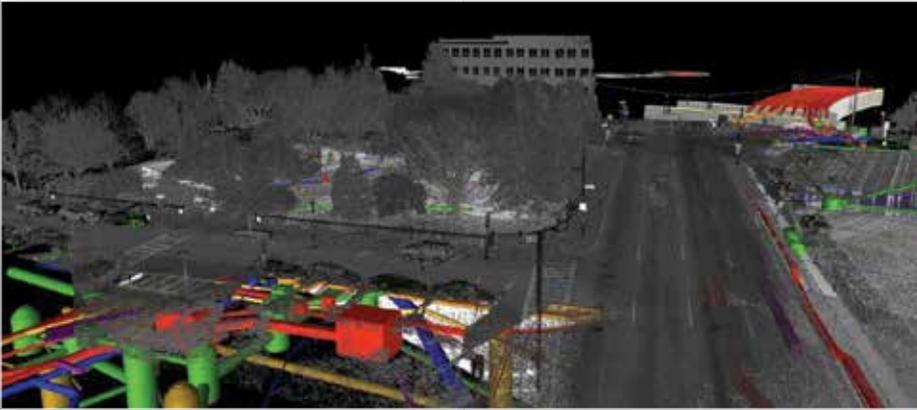
Since the MTA project, land surveyors have benefited from the evolution of survey tools that make locating and mapping above and below ground more effective and efficient. Pipe locators have transformed from practical, simple utility tracing devices into Global Positioning Systems (GPS) and Ground Penetrating Radar Systems (GPR).

While the fundamental components of pipe and cable locators have remained the same, sophisticated bells and whistles have been added with each generation of upgrades. Today, pipe and cable locators have more tracing

frequencies, Bluetooth connectivity to allow GPS for positioning the trace, and revamped display screens. Additionally, with increased non-metallic conduits, technicians often have to use supplemental technologies such as sondes, rodding reels, and CCTV inspection tools to locate pipes that may otherwise go unlocated. For practitioners, these technological advancements have allowed us to acquire data faster and create detailed plans for designers, engineers, and project owners who need to make accurate and actionable decisions.



Reflecting on the early days of GPR, many utility surveyors began dragging single antenna systems across a site in a grid pattern to capture information. With modern advancements, GPR has been mounted on small, light wheel carriages with GPS and wheel encoders for positioning. These once rugged systems now have multi-functioning tablets connected to the antennas, replacing the old paper reel for viewing the subsurface results. Utilizing cloud connectivity, facility owners, managers, and supervisors can observe the parameters of a location on a dashboard from an office, even if it's thousands of miles away. This metadata is then captured and stored to aid in productivity, provide a positive response to a locate request, accurately position a line trace for the future,



update GIS databases, and even mitigate claims in the event of a dispute.

**THE BUILDING BLOCKS FOR SAFER ENVIRONMENTS**

When utilizing traditional SUM methods, such as pushcart systems and cable and pipe locators, crew members are exposed to the hazards of roadways. According to a report based on data from the U.S. Occupational Safety and Health Administration (OSHA), almost 40% of pedestrian fatalities in work zones were on-the-clock employees primarily engaged in utility and surveying work. Arguably, the most important benefit of modernized technology in our industry is the improved safety measures provided during utility data collection, especially in high-traffic, fast-moving areas such as highways. For



example, vehicle-mounted, wide-array, and multi-frequency GPR systems allow geospatial mapping teams to map above- and below-ground environments from inside a vehicle, dramatically reducing their risk of injury. Furthermore, if more pressure was applied to project owners through laws and regulations,

project costs would be lower, timelines would be met, and more lives would be saved.

The utility data collected from these systems can also be used to develop climate-resilient infrastructure and rebuild infrastructure following significant events. Investing in a 3D property map and understanding the topography of your site will enable planners, engineers, and facility managers to locate the high-risk areas and design mechanisms to avoid damaging events. While there's an upfront investment, every \$1 spent on climate mitigation activities saves \$6 in response and recovery costs, according to a study conducted by the National Institute of Building Sciences (NIBS).

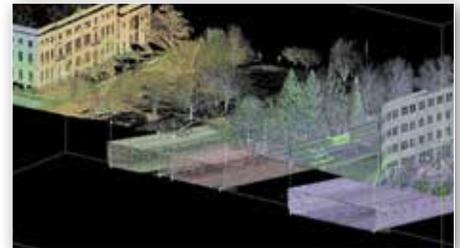
**POWERED BY TECHNOLOGY: THE FUTURE OF LAND SURVEYING**

As technology continues to evolve, so will our methods and best practices. In the coming years, we anticipate that new geophysical instruments will enter the market and compete for technicians' attention. For example, firms are developing new electromagnetic locators to mount onto multi-sensor vehicles and exploring the use of drones to carry GPR and other magnetometer sensors. While the economics of some of these systems will likely prevent widespread adoption, other sophisticated geophysical

instruments traditionally used in geology and archaeology may break into our industry and be adapted for subsurface utility investigations.

Additionally, as cloud-based data storage continues to soar in popularity, we expect new cloud-based solutions to enter the market.

GIS depositories, a new data-storage concept that houses utility information from public and private projects, could also enter our industry. While these methods will not replace paint markings for underground utilities used by 811 responders and contractors, they will help us reach an advanced level of reliable and accessible data.



Finally, as we've observed in other industries, the potential of AI, as a threat or an advantage, is still unknown for land surveyors. While it's very unlikely that ChatGPT or the other commercially available AI programs will be able to replace us, there's certainly an opportunity for the technology to assist us and enhance



our industry. As proven by our ancestors on the MTA, technology can be a huge asset in project efficiency and safety, but going back to the basics and following proven best practices can also set projects and future generations of utility surveyors up for continued success. **ESM**

*To learn more about DGT's Subsurface Utility Mapping process, visit [dgtassociates.com/contact](https://dgtassociates.com/contact).*

• <https://www.workzonebarriers.com/work-zone-pedestrian-fatalities.html>

• <https://www.usgbc.org/press/benefits-of-green-building>

## One Call in Europe

BY JAN-WILLEM NIJMAN, EMEA SALES DIRECTOR, PELICANCORP

The One Call industry, so to speak, in Europe is quite different than North America. In the U.S. and Canada, locators are responsible for locating and marking assets with spray paint or flags at the dig location, but this practice is not common in Europe.

The main difference is that in the U.S., each state has at least one One Call operations center which is regulated to protect both people and assets. This is not the case in Europe and there are significant differences between countries. Generally, it can be said that northern countries such as Norway, Sweden, Denmark, Netherlands, Belgium, France, and the United Kingdom have developed One Call systems in various ways to handle One Call inquiries. In most cases the One Call systems inform the utilities who, in turn, issue plans to the person or company who made the enquiry. In some countries, like the UK, for example, the service is fully automatic and will send plans in a matter of minutes.

In the southern region of Europe, there is no developed One Call equivalent; each utility has its own process which makes it very inefficient for contractors. This is also a disadvantage for asset owners, as they miss out on inquiries compared to a well-functioning One Call operation. Countries

other IT systems an asset owner may have. One reason for this is the belief that "we are large, so everyone knows us, and we already receive every inquiry." We know that this is far from true. For example, after implementing a One Call operation for a large asset owner in the UK, we were able to prove that the number of notifications increased compared to when the network owner had its standalone system. It proved that many companies excavated near their assets but didn't make the enquiry via their legacy system.

One reason some countries do not prioritize this is that management does not realize the potential impact of a major strike, particularly the reputational impact of such an event.

LinesearchbeforeUdig, in the United Kingdom, now processes nearly four million inquiries a year, averaging around 17,000 to 18,000 requests per day. The efficiency gains for the entire industry are invaluable, as is the focus on damage prevention.

Instead of providing physical locates, the system generates plans that are sent to users, often automatically within minutes of the request. This "instant gratification" makes the service popular among contractors and the public.

around 6% for every hundred requests. This still represents a significant cost in terms of repairs and, more importantly, indirect costs such as injuries, business downtime, traffic disruptions, penalties, and reputational damage. Another difference between the Dutch system and the majority of the other One Call operations around the world is the user paid model. In the Netherlands it is primarily the professional excavators who lodge enquiries, but small companies and private individuals hardly use the system or are aware of it.

So, one conclusion here is that building a relatively sophisticated system doesn't make sense if the underlying data (the asset location) is not reliable, which is still the case for many network locations.

As mentioned, a major issue in the European market is the absence of initiatives for a One Call system in certain countries. While most asset owners agree on the benefits, the challenge lies in convincing the larger asset owners to commit to a central platform that serves the greater good of the entire market.

I believe we still have a long way to go, but ultimately, asset owners in countries without an initiative will adopt the One Call idea, as it represents the most logical and effective way to handle inquiries and change behavior when it comes to excavation work.

One other major step in reducing damages is to better document new assets and new connections. This requires asset owners to put qualitative criteria in their scope of works when they outsource new assets to their contractors. This includes criteria such as accuracy of the works within a centimeter limit as well as photographic documentation geo-referenced amongst other meta data. With the digital tools of today that allow blue collar workers to collect this data fast and without additional time, it will offer a huge impact on additional damage prevention over the life cycle of a buried asset. 

**“Instead of providing physical locates, the system generates plans that are sent to users, often automatically within minutes of the request.”**

While most systems are sending pdf plans, the Netherlands has a different approach and is sending digital data that can be viewed by Apps. This system operates under government legislation and follows a user-paid model. The plans sent to users are fully digital and can be accessed via

like Portugal, Austria, Switzerland, Ireland, Italy and others have no strategy other than "do it yourself". Even Germany, with multiple operators, still sees the majority of asset owners using their own systems.

a viewer that can be downloaded from the App Store or Play Store.

It is rather astonishing that in some countries the protection of buried assets and lives has such low priority, considering that the deployment of a One Call system is relatively simple compared to

The downside of the Dutch system has been the cost of building and operating it, especially for asset owners. The most significant drawback is its inability to achieve the original goal of reducing damages. Even 12 years after its launch, the damage rate in the Netherlands remains



# Welcome to the NEW DIMENSION of subsurface mapping

The complete solution for subsurface mapping with  
the **most advanced and versatile GPR technology.**



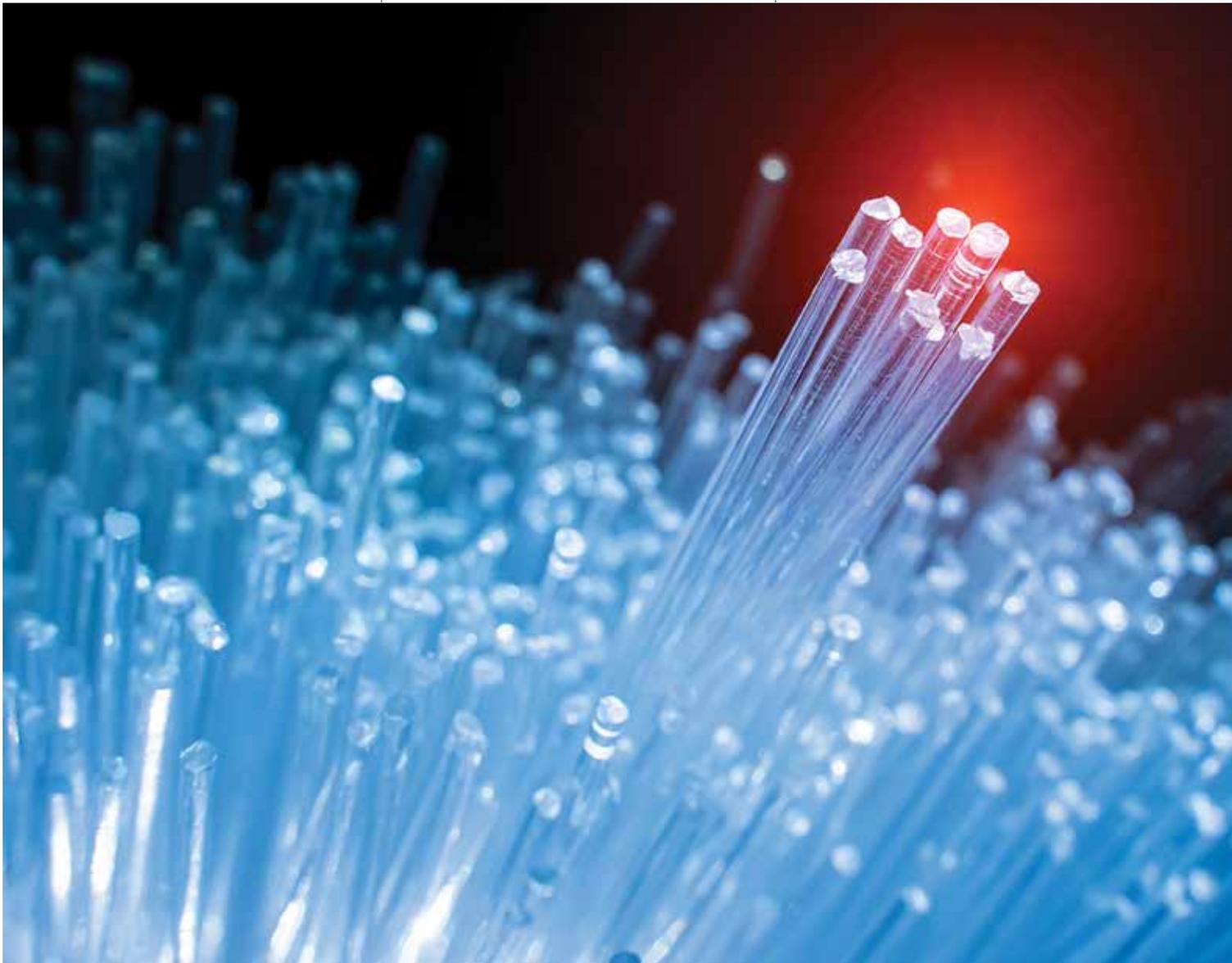
## Streamlining Service Provider Operations: How Precision Locating Can Improve Efficiency and Quality

BY MATT HILL, CUSTOMER SUCCESS MANAGER, KORTERRA

The dynamic world of fiber optic network construction and installation requires an intricate balance of operational efficiency,

accuracy, and quality assurance. Precision Locating, a subsidiary of Arvig, found a solution to these challenges through the integration

of advanced ticket management technology. This case study sheds light on how Precision Locating transformed its operations and



achieved remarkable results by embracing cutting-edge technology.

### **THE BEGINNING: ARVIG'S NEED FOR PRECISION**

Arvig, a well-established player in the fiber optic network industry, recognized a critical gap in their operations. There was a growing need for precise and efficient network location services. This prompted the birth of Precision Locating in 2009, a subsidiary designed to cater to Arvig's internal locating needs, protect their underground assets, and provide their clients with top-notch services.

### **THE CHALLENGE: BALANCING GROWTH AND QUALITY**

As Precision Locating took over the 811-ticket

management, challenges surfaced. The manual management of locating tickets via email proved to be increasingly inefficient. Rapid growth in ticket volume, from 30,000 to 175,000, magnified the inefficiencies, leading to transparency issues, billing inaccuracies, and communication overhead. The need for a streamlined solution was undeniable.

Precision Locating's challenge led them to seek a solution for improvement across their operations:

#### **1. ENHANCED EFFICIENCY AND TRANSPARENCY**

The transition from email-based ticket handling to the new platform empowered locators with immediate access to ticket information. This

#### **4. STREAMLINED DISPUTE RESOLUTION**

In cases of network damage or facility cuts, the ability to refer to visual evidence significantly reduced ambiguity and expedited dispute resolution.

#### **5. EMERGENCY SUPPORT AND PLANNING**

Real-time tracking of on-time and late tickets empowered Precision Locating to anticipate staffing needs accurately. This capability enabled them to provide timely support during emergencies, ensuring that the right manpower was available when needed the most.

The results of Precision Locating's technological integration resulted in success and savings, including a yearly savings of 20-24%, all while maintaining high-quality services. The

The results of Precision Locating's technological integration resulted in success and savings, including a yearly savings of 20-24%, all while maintaining high-quality services.

ownership and transparency translated into quicker response times, improved accountability, and more informed decision-making.

#### **2. SMARTER BILLING AND REPORTING**

The new automated billing system and reporting mechanisms replaced the arduous manual invoicing process. This not only saved time but also enhanced accuracy, ensuring that Precision Locating's clients were billed correctly for the services provided.

#### **3. OPTIMIZED STAFFING**

Through data integration with Google Data Studio, Precision Locating gained insights into individual technician costs, revenue, and performance. This data-driven approach facilitated smarter staffing decisions, leading to better resource allocation and improved overall efficiency.

efficiency gains and improved billing accuracy played a pivotal role in achieving these savings. The success resulted in fostering career development growth and specialization within the organization.

Precision Locating's tighter control over the locating process allowed them to safeguard Arvig's network more effectively. By focusing on location services, the network installation teams could concentrate on their core tasks.

Precision Locating's journey from manual, inefficient processes to streamlined, data-driven excellence showcases the transformative power of advanced technologies. By adopting state-of-the-art advanced ticket management solutions, Precision Locating not only resolved operational challenges but also elevated their service quality and cost-efficiency. **ESM**

# 50% Underground by 2040?

BY  
MICHAEL E. BEEHLER, P.E., F. ASCE,  
NATIONAL SPOKESPERSON, POWER  
DELIVERY INTELLIGENCE INITIATIVE



Can we achieve 50% underground by 2040? Let the debate begin. We set goals for renewables, net zero energy and carbon free energy. These resource-related goals will require a 21st Century distribution grid that is reliable, resilient and still affordable.

The electric distribution grid of the future will be a modern, integrated grid that accommodates distributed energy resources like rooftop solar, fuel cells, storage, and vehicles to grid electric vehicles (EV). This increasingly complex grid that delivers the clean electricity that we need for our future will be fundamentally transformed into a new and dynamic technological wonder. Underground electronic distribution lines will be an important part of that transformation. Therefore, as we set ambitious goals for clean electricity, we need to do the same for the distribution grid that delivers that electricity. We need to achieve 50% underground by 2040!

Today, the electric distribution system in America is approximately 20% underground. Some public power companies like Ft. Collins, Colorado Springs, and Anaheim have had underground ordinances for years. They have beautified their cities and improved the performance of their systems. Fort Collins is 99% underground and is 99.9% reliable. Colorado Springs started in the 1970's and today is 77% underground with 99.9% reliability. Anaheim has been engaged in their Home Underground Program (HUG) since 1990 with excellent results.

Some investor-owned utilities (IOU's) have put new neighborhoods underground for years, and now, many large IOU's like PG&E, FP&L, WEC Energy Group and Dominion are engaged in multi-year, multi-billion dollar programs to "strategically" underground laterals and other key parts of their systems.

PG&E will spend \$15-\$30 billion to underground the first 10% of their system. They plan to have 3,600 miles of line placed underground by 2026 and will then be one-third of the way to their 10,000 mile goal.

Florida Power & Light (FPL) will ramp up in 2025 to a \$1 billion per year spend on converting overhead laterals to underground. After the historic hurricane seasons of 2004-2005, when seven hurricanes affected Florida customers, FPL began making significant investments to strengthen the electric system and make the grid more resilient to severe weather.

WEC Energy Group's Wisconsin Public Service has undergrounded 2,000 miles of overhead lines in the last eight years, increasing their percent underground from 27% to 39%. WEC Energy Group's projects have resulted in more than a 97% reduction in electric outage minutes in those areas where overhead lines have been replaced with underground circuits.

Dominion Energy started their "strategic undergrounding" program almost 10 years ago. Today, they have achieved better system resiliency supported by empirical data.

These municipal and IOU's are starting to understand the total value of underground over the life of the asset. The data supports it: data on capital cost, data on reduced operations and maintenance (O&M) cost, time and safety exposure, data on customer satisfaction, data

on reliability measured in minutes, and data on resiliency measured by total time line restoration.

However, not everyone is an early adapter or fast follower. Some utilities are still wanting to build overhead power lines... many in scenic communities with neighbors that do not want the large, ugly poles. What is the total cost of ownership of these overhead lines compared to underground lines for the life of the asset? How much will vegetation management really cost 20 years from now? What is the cost for customer safety?

There must be a better way to build electric infrastructure in our communities. What is the cost of tree trimming in 5-10 years? How can we reduce truck rolls? How can we improve worker and public safety? How can we beautify the streetscape and improve the quality of life for our customers? Electric utilities are asking these questions and, increasingly, the answer is "underground."

So, is 50% underground by 2040 an unreasonable goal? Will an underground grid with better equipment, cables, splices and terminations be enough? Will the new underground line sensing technology married with artificial intelligence deliver as promised? Will we drive real cost out of O&M? Will 50% be transformational or do we really need more like 75% underground to achieve our reliability and resiliency goals?

We need to address these issues in the years to come. Our industry needs to have a debate. Will stakeholders agree? Time will tell. **ESM**

*This article is derived from a "White Paper" submitted by Michael E. Beehler, Michael Beehler Associates. See more at MikeBeehler.com.*



COMING SPRING 2024:

# TRENCHLESS

FOR GAS INFRASTRUCTURE

# 2024

## CONTENT:

- Trenchless Case Studies
- Pipeline Repair/Replacement Programs
- Pipe Bursting Applications
- Large & Small Diameter CIPL
- HDD Improvements
- CCTV Equipment, Inspection & Applications
- Robotics
- Research & Development
- New Technology Innovations
- Asset Management Programs
- End User Impacts
- Capital & Operational Cost Savings for Utilities

## DISTRIBUTION:

- Gas Utility Companies
- Senior Gas Operations & Construction Executives
- Engineers & Consultants
- Regulatory Agencies & Policy Makers
- NASTT Gas Industry Members
- NASTT-NE Chapter Members
- Posted on [www.nastt.org](http://www.nastt.org)
- NASTT NO-DIG Show Gas Industry Day
- Northeast Gas Association Spring/Fall Operations Conferences
- Southern Gas Association
- American Gas Association Spring Conferences
- Western Regional Gas Association



# API Releases CONTRACTOR SAFETY TOOL

BY  
LAURIE KNAPE,  
CSP, ASP, CLCS, QMS



The American Petroleum Institute (API) and the Pipeline Safety Management Systems (SMS) Industry Team have long been committed to pipeline safety. In 2022, they released the *Pipeline SMS: A Contractor's Guide*, which provides pipeline contractors and service providers a clear roadmap for integrating their safety programs with an operator's Pipeline SMS.

Although the *Contractor's Guide* provides general guidance to API Recommended Practice 1173 (RP 1173), the sheer number of overall requirements can still make compliance a bit challenging. To provide clarity and address the industry's dynamic nature, API

the appropriate integration of safety programs relevant to pipeline SMS.

## Tooling With Success

While the *Guide* streamlines RP 1173's requirements, navigating them can still be challenging. Recognizing this, the Pipeline SMS Evaluation Tool not only complements the *Guide* but also offers a hands-on approach to its implementation.

This tool represents a significant shift towards a more dynamic and collaborative approach to pipeline safety. While the *Guide* provides helpful explanations

## RESOURCES:

Additional Aid as part of industry commitment to Pipeline SMS, the Industry Team, which includes contractors who build, maintain, and repair natural gas and oil pipelines continues to collaborate to provide education, training, and assistance to all industry stakeholders. Provided here are several additional resources contractors can use as they work to implement or improve their current Pipeline SMS.

<p><b>Pipeline SMS website</b></p> <p>This Pipeline SMS website at PipelineSMS.org provides a myriad of support tools ranging from handouts to tools which assist stakeholders in their Pipeline SMS assessments.</p>	<p><b>Third Party Assessment Program</b></p> <p>API's Pipeline SMS Third-Party Assessment Program provides a team of independent, third-party safety management system experts ("assessors") to assist in evaluating the conformity, effectiveness and maturity of a stakeholder's Pipeline SMS.</p>
<p><b>American Petroleum Institute</b></p> <p>On API's website at www.api.org, recommended practices, literature and the latest Pipeline SMS related news and events can be found.</p>	<p><b>Pipeline SMS Industry Team</b></p> <p>The Industry Team serves to facilitate implementation of API RP 1173, Pipeline Safety Management Systems, among the energy pipeline industry and contractor community.</p>

and the Pipeline SMS Industry Team have launched a proprietary tool on www.PipelineSMS.org. This free, cutting-edge tool complements the *Contractor's Guide*, providing users with real-time insights, benchmarks, and feedback mechanisms that further assist them in gauging their implementation of the *Guide's* numerous requirements.

## History of the Guide

The release of the first edition of the *Guide* marked a significant milestone for industry progress towards full adoption of RP 1173. As a free complement to that 2015 document, the *Guide* distills RP 1173 and its 234 requirements down to 56 key requirements where, depending on a contractor or service provider's scope of work, operators can focus their collaboration efforts to ensure appropriate alignment with their pipeline SMS.

The *Guide* aims to align contractors, operators, and service providers in protecting workers, communities, and the environment. Both API and the Pipeline SMS Industry Team encourage contractors, service providers, and operators to use the *Guide* and begin discussions on

and details, the tool emphasizes real-time application and ongoing improvement, helping contractors effectively and efficiently manage the complexities of achieving pipeline safety.

As the pipeline industry continues to evolve, the new Pipeline SMS tool is an important resource for helping contractors consistently align with safety standards. It is yet another milestone in the organizations' efforts to promote pipeline safety. 

*Laurie Knape is the Program Manager of Pipeline SMS with the American Petroleum Institute (API) in Houston, Texas. In this role, Laurie manages the Pipeline SMS Third-Party Assessment Program. Prior to this role, Laurie worked as EHS Manager for both operators and contractors. Laurie holds the CSP, ASP, CLSC and QMS designations.*

**To facilitate use of the new tool, API will be presenting at the Global Excavation Safety Conference in New Orleans, March 19-21, 2024. For more information and to register, visit [GlobalExcavationSafetyConference.com](https://www.GlobalExcavationSafetyConference.com).**



# Defending Utility Damage Claims -- “When the Excavator is Not-At-Fault”

BY

WAYNE JENSEN, VICE PRESIDENT, DIRECTOR OF SAFETY, STAHL & ASSOCIATES INSURANCE, HIGGINBOTHAM INSURANCE, AND CO-DEVELOPER OF EZ-DP

If there is a utility damage today and you don't have a complete file proving that you, as the excavator, are not-at-fault prior to the occurrence of a damage, it is very difficult to defend damage claims.

We live in a world of utility damage prevention where capture of “data and documentation” via best practices being used “properly” by all stakeholders is essential. Fundamentally, every excavator needs to document their own efforts and the efforts of the locators to prevent damage as if a damage has already occurred, to have a complete file for defending utility damage claims when the excavator is not-at-fault.

Documentation of the entire site is necessary because there is no way to predict where damage might occur. If the excavator waits for a damage to occur to begin collecting documentation “that they are not-at-fault” the most critical information, like the location of locate marks in proximity to the damage, may not be recoverable because of work activities destroying marks.

Here is a Site Checklist for Success Documentation done by field teams that is critical to successfully defend utility damage claims when the excavator is not-at-fault:

## **Have you reviewed the positive response on this job site to be certain all facilities are either marked or there is No Conflict?**

**Verify Yes or No.**

As long as 811 has been in place, maybe as high as 90% of all field workers (today) including foremen, and far too many superintendents, do not know what a “Positive Response” is or what its value is with regard to their ability to dig safely without causing damage. The office always provides the field crew a copy of a “paper ticket” as proof that 811 was called for a locate for the area being excavated, meeting regulatory compliance. Far too many field teams never verify the documentation for Positive Response and seldom have access to the most current Positive Response.

When there is a damage, the number one excavator defense is, “the locator failed to mark” the facility that was damaged. The number one rebuttal from the locator is, “your locate ticket clearly documented the damaged facility had not been marked yet,” which indeed is the case

for the majority of claims investigated.

In Florida, as an example, there are 23 Positive Response codes and only three confirmed facilities are marked, not a conflict, or in the ticket area. The other 20 response codes all mean that facilities have not been marked or additional action must be taken prior to excavating to be certain all marking issues have been addressed.

## **Have you photographed all the locate marks to confirm each of the facilities that are listed as “marked” in the Positive Response are actually marked?**

**Verify Yes or No.**

Just about every excavator agrees that photos of locate marks is a good idea but very few do a great job of documenting them. A huge provider of directionally drilled facilities using hundreds of subcontractors told all of his subcontractors they would assist in the defense of damage claims if they had just one thing: photos of locate marks. If the sub failed to take photographs the provider simply deducted the cost of the damage from their next billing. The amount of damages sustained by hundreds of subcontractors was incredibly small. What was the success mechanism? This wise provider knew that requiring the photos created focus on locate marks and the facilities below.

While simply taking photos of locate marks has proven to be a powerful tool to get excavators to

focus on buried facilities, there is more that needs to be done to make the photography valuable for defending utility damage claims. Very common to the excavation industry are damage kits, and the documentation strategies for damages using marker pylons for locate marks and the damage. Placing a giant ruler on the ground to document the distance from the damage to the locate marks is well established as a best practice, including taking photos at different distances from the damage to document reference points that all contribute to providing a defensible position after a damage. Many of the same documentation strategies for documenting damage apply to documenting locate marks when no damage has occurred.

The use of the pylons to highlight locate marks in photos is a powerful tool. Many excavators have range poles with red and white bands that are one foot in length. One excellent method to document distances around locate marks before a damage occurs is to lay the butt end of the range pole on the ground aligned against some fixed object like a curb line or sidewalk and place the range pole over the locate marks. Spraying a white "dot" at each end of the range pole will allow the excavator to recreate the position of the locate marks extremely accurately after the mark has been destroyed by construction activities. All the excavator needs to do is take photos of locate marks with the entire range pole (usually 12 feet long) in the photograph to automatically provide all the context necessary for great documentation.

### **Have you potholed facilities near work areas to confirm the accuracy of the marks AND taken measurements from locate marks to buried facilities -- documenting measurements with photos for depth and distance from the mark? **Verify Yes or No.****

We started this discussion with the statement "every excavator needs to document their own efforts and the efforts of the locators to prevent damage as if a damage has already occurred". Regulatory guidance and best practices all focus on potholing to verify the location of buried facilities. Yes, it is important for the excavator to physically uncover buried facilities to avoid damage. Potholing is the greatest opportunity the excavator has to check and confirm the accuracy of utility locate marks. The documentation of potholing should be the same as the documentation of damage. Place the range pole on the ground with the butt end next to some fixed object and lay it over the pothole. Place the big ruler down in the hole to photograph the depth of the facility. Take another photo with the yellow ruler over the center of the buried facility to photograph the distance of the locate mark from the facility. This "locate accuracy" documentation from potholing could be one of the greatest opportunities for both excavators and locators to work together to prevent damage.

Currently, many locators have internal standards for verifying the accuracy of field locator marks when a damage has not occurred. Not many, if any, locators pothole facilities to confirm the accuracy of locate marks. The excavator does for the locator what the locator cannot do for themselves - they verify the accuracy of locate marks every day. Generally, the only time this information is communicated to the locator from the excavator is when there is damage. All utilities and locating companies want to know when their locators are not providing accurate marks. They all want to know when to take corrective action to improve accuracy of locating.

We hear stories every day about inaccurate locate marks (sometimes by 3 to 10 feet) and how facilities are marked on the wrong side of the road, and unless there is a damage, the facility owner never finds out the error occurred. Excavators: share your locate accuracy documentation with the facility owners and their locators.

### **Have you photographed all gas line marker pylons in or near work site to confirm all gas lines are marked? **Verify Yes or No.****

The large gas line marker pylons are spaced such that it is very possible for a utility locate area to have a large diameter gas line in a locate area with only small diameter gas lines marked. It is important for the excavator to drive to the vicinity of a project looking for and documenting surface indications of large pipelines below that could extend into their work area.

### **Have you photographed all fiber optic pylons in or near work area to verify fiber lines are marked? **Verify Yes or No.****

The practice of photographing fiber optic pylons is related to how very expensive a damage can be to an excavator, should they be at fault. Focus, focus, focus on what can bite you financially or kill you.

## **Have you photographed all surface indications of facilities below that do not have marks and reported findings to 811 to determine who may have failed to mark? **Verify Yes or No.****

Industry experience investigating damage claims has shown that somehow many people in the field miss some of the most obvious surface indications of buried facilities. For example, the surface indication may be a pedestal in a residential neighborhood a couple hundred feet away from a water service installation. If the locator makes a mistake and fails to mark a utility, is the excavator responsible because there is a surface indication of a buried facility? Sure, it's possible to make a defense for a damage claim on a single address ticket in a case like this. The point of this is doing things as an excavator that prevent damage so there is no need to have a defense for damage.

We have discussed six damage prevention practices that experience has proven to generate success in preventing damage and injury. These same practices provide the best defenses against damage claims with all the necessary information to prove the excavator is not at-fault and have all the necessary documentation in place before the damage occurs. Is it any surprise this documentation to defend damage claims is also the best tool to prevent damage? You pick why you do it.

### **The problem is:**

- 1.** Communicating these practices to field people using technology.
- 2.** Providing technology for field people to document these practices are done every day and on every job.
- 3.** Providing technology to help the field crew understand exactly what the positive response means and confirm their understanding.
- 4.** Providing technology to facilitate the ability of field people to take photos and make relevant notes to provide the defense that the excavator is not-at-fault for damage, should it occur, when that is indeed the case.

Today, that technology platform exists. Of course, the technology is easy to use on smart phones and the software performs on the desktop the same way as in the mobile platform except for taking photos. The moment a photo is taken in the field it populates in the desktop environment. When the field person says they photographed all the locate marks it can be instantly confirmed in the office.

For the first time senior management of any excavator organization can commit to following best practices for utility damage prevention and know every second of every day at their desk that the field teams, including hundreds of subcontractors, are also onboard following the vision of management. **ESM**



# GLOBAL Excavation SAFETY™ ~ Est. 2004 ~ CONFERENCE •



# NEW ORLEANS

MARCH 19-21, 2024



New Orleans Ernest N. Morial Convention Center

[GlobalExcavationSafetyConference.com](http://GlobalExcavationSafetyConference.com)



# The Global ESC 2024 Education Preview

For nearly two decades, Global ESC has been dedicated to providing the highest quality education in damage prevention and excavation safety. The conference brings together the industry's top experts to share their knowledge and experience with attendees, providing them with the tools they need to excel in their roles and make a real difference in the communities they serve.



Global ESC offers sessions from every perspective and stakeholder group, ensuring that there is something for everyone. Learn about the latest advancements in technology and equipment, explore best practices in excavation safety and damage prevention, and hear from industry leaders and experts who are shaping the future of the field.

## Achieving Zero Damages through Technology and Relationships

Matthew Peterson - Deputy Commissioner, Chicago Department of Transportation

## Calls vs Clicks: Safest Contact Centre Practice Post-COVID

Josef Rosenberg - Contact Centre Manager, Utility Safety Partners

## Contractors and PSMS

Steve Allen - Executive Director of Pipeline Safety, Energy WorldNet - Senior Advisor, Damage Prevention Academy

## Coordinating Complex Underground Projects with Coordinate PA

Marcos Bernal - Supervisor - Education, Pennsylvania One Call System, Inc.  
Mark Lipka - Supervisor - Education, Pennsylvania One Call System, Inc.  
Norm Parrish - Manager - Education, Pennsylvania One Call System, Inc

## Damage Investigation: Critical Steps Required to do Things the Right Way

Ron Peterson - Executive Director, Nulca

## Damage Prevention Enforcement

Steven Giambrone - Pipeline Division Director, State of Louisiana

## Economic Loss Doctrine

Anthony Jorgenson - Owner, Jorgenson PLLC



## **ESA Town Hall LIVE**

Jemie Wang - Partner, BizMetrix, LLC (Moderator)  
Steve Mumm - Senior Vice President of Business  
Development - GPRS  
Duane Rodgers - CEO, PelicanCorp  
Lindsay Sander - CEO, Sander Resources

## **How 811 Came to be and the Impact in the 16+ Years Since it Launched on May 1, 2007**

Chris John - Former Louisiana Congressman (Moderator)  
Meghan Rafinski - President & CEO, Georgia 811  
Bill Turner - President & Chief Executive Officer, Tennessee 811

## **Identifying and Addressing Vulnerable Points in America's Excavation Process**

Ariane Schaffer - Government Affairs and Public Policy,  
Google Fiber  
Louis Panzer - Executive Director, North Carolina 811  
Chris Russ - Director of Government Affairs, USIC

## **Improving the Timeliness of Utility Locates through Ticket Submission Practices**

## **Integration of High-Speed 3D GPR Array Subsurface Image Data with Mobile Field App, A Robust Solution for the Updated ASCE 38 3D Standard for Subsurface Utility Engineering**

Matthew J. Wolf - President, ImpulseRadar USA, Inc.  
Linda Foster - PLS, GISP, MGIS, Global Manager, Land  
Records/Cadastral, ESRI

## **Kick Start to Getting Involved on a One Call Board**

Mike Sullivan - President, Utility Safety Partners

## **Leaders Are All Around Us**

Roger Lipscomb - President/Executive Director, OHIO811  
Nicole Farmer - Human Resource Manager, OHIO811  
Maria Frasco - HR Generalist, OHIO811

## **Lesson Learned: Unearthing Insights from Past Incidents for a Safer Future**

## **Leveraging One-Call Centers to Cut Damages in Half**

Benjamin Dierker - Executive Director, Alliance for Innovation  
and Infrastructure

## **Locating Abandoned Infrastructure in Quebec**

Nathalie Moreau - Executive Director, Info-Excavation  
Stéphane Santerre - Vice President, Énergir

## **Locating Both Public and Private Utilities is Essential for Safe Excavation**

Jordan Partlow - Director of Client Relations,  
BLOOD HOUND

## **The Meaning, Value and Usage of Notification Center Data to Reduce Damages**

Louis Panzer - Executive Director, North Carolina 811

## **Mock Trial**

Anthony Jorgenson - Owner, Jorgenson PLLC  
Jim Proszek - Attorney, Hall Estill



## Notification Center Board Member Forum

Scott Mergler - OHIO811 Chair, AT&T  
Mary Logan So - Secretary, OHIO811, George J. Igel & Co., Inc.  
Les Schell - Treasurer, OHIO811, Kinder Morgan Utopia, LLC  
Chuck Muller - At-Large Representative, OHIO811, MetroNet, Inc.  
Seamus Mulligan - At-Large Representative, OHIO811, The Energy Cooperative  
Steve Buskirk - Vice Chair, OHIO811, Franklin County Engineer

## Overcoming Imposter Syndrome & Promoting a Culture of Safety

M.G. Govia - Education & Outreach Liaison, OKIE811

## Pipeline Safety Efforts and SIF Activities

Josh St. Pierre - Manager of Legislative Affairs, American Public Gas Association

## Pipeline Safety Management Systems: Contractor Safety Programs Integration

Laurie Knappe - Program Manager, American Petroleum Institute

## Potholing - Does It Even Matter?

Shane Bryan - VP OSP Engineering & Construction, Ritter Communications

## Prevention of Natural Gas Cross Bores in Sewer Systems

Josh Graham - Business Development, Compliance EnviroSystems, LLC

## Reducing Contact with Overhead Energy and Utility Assets

Mike Sullivan - President, Utility Safety Partners

## Reducing the Consequences of Gas Pipeline Damage

David Heldenbrand - President, Bison Engineering

## Rethinking Trench Safety: Misinterpretations, Inaccuracies, and False Knowledge Clarified

Bruce Magee - Region Product Development Manager, United Rentals

## The Art of Storytelling - Impacting Your Audience

Jack Jackson - Senior Consultant, SafeStart



## Trench Fatalities - What Does the Data Tell Us?

Steven Hanley - Dealer Support, Arcosa Shoring

## Utility Coordination Committee – From Concept to Action & Working with Contractors

Kirk Kirkpatrick - Damage Prevention Liaison, Pennsylvania One Call System, Inc.

## You'll Dig How Louisiana's Laws Get Made

Emory Belton - Owner, Belton Law Firm, LLC (Moderator)  
Trey Crawford - Vice President, Grady Crawford  
Steven Giambrone - Pipeline Division Director, State of Louisiana

## When Prevention Fails - What, and How, Do We Learn?

Steve Cleaver - Manager, Damage Prevention & Compliance Operations, PG&E

## VIEW ALL 2024 SESSIONS IN DETAIL!

Before and after sessions, visit the exhibit hall for fiber splicing, electric, gas, and other live demos. The demos are conveniently scheduled to allow participation and time to visit with each vendor.



In addition to the ample educational opportunities and demos, the Safety Shindig, promises to be quite the soiree! The 2024 theme is MASQUERADE BALL and will be held at Generations Hall in the heart of New Orleans. Whether you arrive as a mysterious stranger or yourself, the Safety Shindig promises an unforgettable experience. Don't miss your chance to be a part of this extraordinary event that blends tradition with modern revelry.

## How Can We Improve Excavation Safety with Fair Enforcement?

**Moderator:** Scott Landes, Excavation Safety Alliance

**Panelists:**

- Stephen Allen, Energy Worldnet
- Shane Ayers, Stake Center Locating
- Kemp Garcia, LineScope of WA & NUCA of Washington
- Steven Giambrone, State of Louisiana
- John Hass, VEIT
- Chad Mathiowetz, Mathiowetz Construction Company



Kemp Garcia

Kemp Garcia shared success stories, emphasizing that collective team initiatives can gain legislative backing. By joining forces, presenting cohesive strategies, and supporting proposals with solid data, they managed to capture the attention of policymakers.

Steven Giambrone highlighted a significant disparity in the current system, pointing out that while excavators face a myriad of regulations, utilities often have an easier path. Such an imbalance emphasizes the need for a regulatory overhaul to ensure fairness for all parties involved.



Steven Giambrone

Chad Mathiowetz spotlighted Subsurface Utility Engineering (SUE) as a pivotal tool. By advocating for its use, he stressed that SUE could help ensure utilities are installed correctly, thus potentially reducing excavation-related issues in the future.



Chad Mathiowetz

In essence, this Town Hall was a melting pot of ideas, experiences, and visions. It underscored the pressing need for collaborative efforts, innovative solutions, and revisited regulatory frameworks. For every professional involved in excavation, this discussion offers valuable insights, presenting both challenges to ponder and solutions to explore. **ESM**



If you missed the live discussion or wish to soak it in once more, the full Town Hall can be found by scanning the QR code or at the YouTube channel @excavationsafetyalliance.



Scott Landes

On August 10th, nearly 90 industry stakeholders converged for an insightful discussion centered around the existing challenges and promising avenues for improvement in enforcement.

Kicking off the Town Hall, Scott Landes posed a fundamental question that captured the essence of the Town Hall: How is enforcement structured across states, and does it offer equitable treatment for all stakeholders involved?



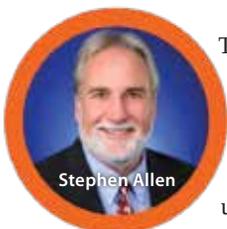
Shane Ayers

Shane Ayers offered an insightful perspective. He shared that for an enforcement process to be deemed fair and effective, it's imperative to create a holistic system. In his words, *“all stakeholders that participate in damage prevention have to be involved in the enforcement recommendations.”* His call for unity laid emphasis on the indispensable role of excavators, utility locators, One Call centers, DOTs, and PUCs. Such inclusivity would not only foster fairness but also significantly ramp up efficacy in addressing excavation-related concerns.



John Hass

Delving deeper, it was highlighted that some enforcement programs operate primarily on a complaint-based system. The potential consequences of such a system can include delayed problem resolution and potential safety risks due to reactive rather than proactive issue management. John Hass also shed light on a crucial underlying issue – the inaccuracies rampant in mapping data. He underscored this by stating that *“poor mapping is often the root cause of many excavation damages.”*



Stephen Allen

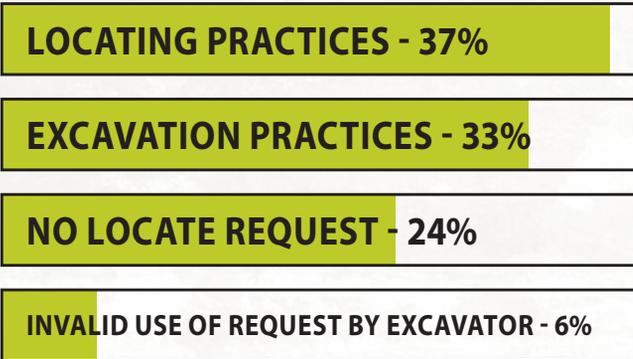
The conversation transitioned to a vital question: why is there a strong emphasis on enforcing gas utilities over others? Stephen Allen pointed out that while proactive measures have significantly reduced damages to gas lines over the years, there's a noticeable disparity when it comes to other utilities. The heightened risks associated with damaging gas utilities certainly warrant attention, but a comprehensive approach is needed to ensure the protection of all utilities.

# DIRT FACTS



WANT TO KNOW MORE? ACCESS THE ENTIRE 2022 REPORT AT [DIRT.COMMONGROUNDALLIANCE.COM](http://DIRT.COMMONGROUNDALLIANCE.COM)

## Damages by Root Cause Group



## Individual Damage Root Causes (Top 6)

1. **NO NOTIFICATION TO 811 CENTER: 35,860 (24.81%)**
2. **FACILITY NOT MARKED DUE TO LOCATOR ERROR: 21,951 (15.19%)**
3. **EXCAVATOR FAILED TO MAINTAIN CLEARANCE AFTER VERIFYING MARKS: 19,448 (13.46%)**
4. **MARKED INACCURATELY DUE TO LOCATOR ERROR: 12,048 (8.34%)**
5. **IMPROPER EXCAVATION PRACTICE NOT LISTED ELSEWHERE: 11,835 (8.1%)**
6. **EXCAVATOR DUG PRIOR TO VERIFYING MARKS BY POTHOLING: 7,965 (5.51%)**

WANT TO KNOW MORE? THIS INFORMATION WAS EXCERPTED FROM THE 2022 DIRT ANNUAL REPORT. ACCESS THE ENTIRE REPORT AT [DIRT.COMMONGROUNDALLIANCE.COM](http://DIRT.COMMONGROUNDALLIANCE.COM)

ESM

# 480K+ EXCAVATORS

## RECEIVE OUR EXCAVATION SAFETY GUIDE ANNUALLY!

Download a digital version, request free copies and be part of the mission to protect lives and livelihoods.

[pipelineawareness.org](http://pipelineawareness.org)



SCAN ME



Pipeline Association  
for Public Awareness





# 2023

## Damage Prevention Hero of the Year

### Jim Hayes (Spring, 2023)

**Fiber Optics Pioneer.** Jim Hayes, along with his wife Karen, embarked on their journey in the fiber optics industry in 1980 with the creation of the world's first fiber optic test equipment company, aptly named The Fiber Optic Test Equipment Company (FOTEC). Jim's pivotal role in co-founding the Fiber Optic Association (FOA) in 1995 has left an indelible mark on the industry's safety standards. His extensive body of work includes the development of reference materials, training curriculum, and active participation in standards activities. Jim's influence extends globally, emphasizing adherence to safety codes and standards for fiber installation.

Beyond his impressive technical contributions, Jim Hayes is also a passionate advocate for safe excavation practices. His writings, training programs, and global outreach have underscored the importance of calling 811 before any excavation work, helping to reduce incidents and protect critical infrastructure. Jim Hayes stands as a beacon of knowledge and safety, leaving a lasting legacy that continues to advance damage prevention within the fiber optics industry.



### Raymond Sonnier (Summer, 2023)

**Champion of Safe Digging.** Raymond Sonnier has spent over seven years as a dedicated Damage Prevention Specialist/Coordinator for Atmos Energy Corporation in Lafayette, Louisiana. His career journey includes roles with the United States Infrastructure Group and a decade as a supervisor with UtiliQuest, LLC. Raymond's extensive experience in public relations, customer service, leadership, project planning, and management has made him a valuable asset to the industry.

In recognition of his unwavering commitment to safety and damage prevention, Raymond was honored as "Locator of the Year" by Louisiana 811 in 2019. Raymond actively promotes safe digging practices and the importance of contacting 811 in advance of any excavation or demolition activity. His passion extends to visiting excavators in his territory, acknowledging those who follow safe practices, and providing guidance to those who need it. Raymond Sonnier's dedication and over 2,400 documented Atmos Energy Damage Prevention Ambassador stops since 2019 are a testament to his significant impact on safety within Louisiana and beyond.



## Tina Beach (Fall, 2023)

**Pipeline Safety Leader.** With 17 years of experience in the energy industry, Tina Beach has emerged as a leading advocate for pipeline safety. Her career journey has included roles in Government Relations for CHS, Risk Management, and Compliance Consulting for Sander Resources, and over eight years as Manager of Standards and Compliance for Cascade Natural Gas Corporation. Tina's impact on the industry is undeniable, having founded state pipeline associations in seven states, significantly reducing liaison costs for operators across 14 states.

Tina's commitment to damage prevention and safe excavation practices extends far and wide. She is an active contributor to organizations like the Pipeline Ag Safety Alliance (PASA) and the Pipeline Association for Public Awareness (PAPA), where her influence has shaped damage prevention initiatives from small-town efforts to worldwide campaigns. Tina's ability to connect with various groups and organizations has driven positive change, while her contributions to public awareness and industry education have been instrumental. Tina Beach's passion for safety, care for people and communities, and unmatched dedication make her a true Damage Prevention Hero.



## Karin Strub (Winter, 2023)

**Industry Connector and Collaborator.** Karin Strub is an influential figure in the damage prevention and excavation safety industry, celebrated for her unwavering commitment to safety and her exceptional ability to connect people and organizations. Karin has played a pivotal role in promoting safe digging practices during her tenure at Excavation Safety Alliance.

Her impact extends to various organizations and initiatives, including her participation in the Coastal and Marine Operators Pipeline Industry Initiative, American Society of Safety Professionals, and the Pipeline Association for Public Awareness. Karin's relentless commitment to safety and her skillful moderation of Town Hall discussions have made her a true Damage Prevention Hero in the industry, fostering open dialogue, identifying solutions to industry challenges, and cementing her status as a champion for safe excavation practices.

**These four individuals exemplify what it means to be a Damage Prevention Hero. We salute their unwavering dedication and commitment to making our world a safer place.**

# 2023 DAMAGE PREVENTION HERO OF THE YEAR

- Jim Hayes
- Raymond Sonnier
- Tina Beach
- Karin Strub

## Vote Now!

Voting is open until the conclusion of the Welcome Reception at the Global Excavation Safety Conference on Tuesday, March 19th at 6:00 PM EST. To cast your vote, simply scan the QR code. 



# OKIE811's Beer "Can-paign"

• M.G. GOVIA, EDUCATION & OUTREACH LIAISON, OKIE811 •

**AS THE CALENDAR** turned to August, excitement filled the air for damage prevention industry professionals across the nation, all eagerly anticipating the arrival of August 11th – a special day dedicated to promoting the importance of 811. It was National 811 Day, and OKIE811 had something unique in store to celebrate this occasion... an exclusive collaboration with the renowned Cross Timbers Brewing, bringing forth a limited-edition craft honey brown ale named "Bee Safe".

You might wonder, why choose beer to mark this day? In Oklahoma, the craft beer scene was experiencing exponential growth. Our state, once home to just a handful of breweries, had undergone an extraordinary transformation, now boasting an impressive count of over 40 breweries in just half a decade. What made this growth even more captivating was the enthusiasm surrounding limited beer releases. This phenomenon deeply resonated with craft beer enthusiasts who relished the opportunity to collect diverse beer experiences and explore a wide array of styles.

Close your eyes and imagine the delightful experience of sipping on a carefully crafted honey brown ale infused with the pure essence of Oklahoma honey. This special brew displayed a warm, inviting amber-brown color that immediately drew your attention. At its core, it featured the classic brown ale characteristics, celebrated for its rich malt flavor, complemented by subtle hints of nuttiness and caramel notes. However, the magic happened when locally sourced Oklahoma honey was added, introducing a subtle sweetness and delicate floral undertones that seamlessly blended with the depth of the malt. The result was a perfectly balanced and velvety symphony of flavors. Bee Safe Honey Brown Ale was a paradise for those who appreciated a touch of sweetness in their beer, a complex fusion of tastes that harmonized flawlessly.

But our choice to incorporate local honey went beyond mere flavor infusion; it encapsulated the very essence of our region. Each sip of Bee Safe transformed into a journey through Oklahoma's diverse landscape and rich culture. This limited-edition brew radiated authenticity, offering



enthusiasts the opportunity to taste the heart and soul of our state with every satisfying gulp.

At the heart of this unique "can-paign" lay a novel approach to sharing the importance of 811 – spreading awareness about engaging with OKIE811 before embarking on any excavation projects.

On August 10th, OKIE811 joined forces with the Oklahoma City Pipeliners Club to provide a pre-release event during their meeting at a rooftop bar. Then, on August 11th, OKIE811 hosted the public release of Bee Safe at the Cross Timbers Brewing Company. These events collectively raised over a thousand dollars for the OKC Pipeliners Scholarship fund, highlighting the success of this creative initiative.

Furthermore, Bee Safe Honey Brown Ale was made available in distribution throughout the State of Oklahoma, with sales continuing to support the scholarship fund. This ongoing effort not only celebrated the exquisite flavors of this craft beer, but also contributed to a noble cause.

As the dawn of August 11th approached, we extended an invitation to join us in commemorating 811 Day with a toast of this remarkable craft honey brown ale. Let us raise our glasses not only to responsible excavation but also to the unparalleled taste adventure that is uniquely Oklahoman. With Bee Safe, every sip is a testament to safeguarded digging and an homage to the authentic flavors that define our great state. **ESM**

# Thank You, ESA Company Members!



ESA Company Members make the ESA mission possible by supporting impactful initiatives and the continued growth of this incredible community, over 1,500 individual members and growing.



## Become an **ESA** Company Member



Your annual \$2,000 membership will help make all the individual membership benefits possible and make it clear to the industry that you support damage prevention and excavation safety. In addition, your company will receive:

- A 10% discount on attending the Global Excavation Safety Conference, excluding the early bird \$811 offer (unlimited use)
- Company logo and link on the ESA member page
- Company logo on the ESA member section in the annual Excavation Safety Guide (Print circulation of 500,000+)
- Company logo on the ESA member section in the annual Excavation Safety Magazine (Print circulation of 15,000)



# We listen. We adapt. We dig in.



“I really enjoyed the webinar, and I was glad to speak. It’s a big topic in our county and I just presented your farm and ranch guide to my county commission stating I’m going to be handing it out during future training and pesticide applicators renewals in the spring.”

*“Former Extension Agent, Dunn County, NDSU”*

Enhance your public awareness efforts with a unique, engaging approach to rural outreach. The Pipeline Ag Safety Alliance works closely with the National Association of County Agricultural Agents to help deliver safe digging education to farmers and ranchers across the nation. Tracking our “educate the educator” approach with annual documentation, we realize there is no one size fits all.

“Thanks for a great presentation last week! It was very good, and as the Farm & Ranch Safety Coordinator for NDSU Extension, I look forward to resources like this to help our Extension staff across the state!”

*“Former Extension Agent, Dunn County, NDSU”*

Learn more at [PipelineAgSafetyAlliance.com](https://PipelineAgSafetyAlliance.com)

Let's  
Grow  
Safety Together





# Complimentary Magazine Subscription



Get your  
subscription by  
pointing your  
phone's camera at  
this QR code.



Or, visit [www.isemag.com/subscribe](http://www.isemag.com/subscribe)  
to sign up today!

# Lonoke County Extension Agent Donates Flying Time and Plasma to Those in Need



Keith Perkins was born and raised on a family farm in Craighead County, Arkansas. Growing up, Perkins had two cousins who worked as agricultural aviators. One of them took him flying when he was 10 years old, and Perkins' passion for aviation began then.

"I loved it. It was something I really enjoyed, and I wanted to learn," Perkins said. "So, when I graduated high school in 1982, I started flying in 1983."

Four years ago, Perkins' brother was diagnosed with cancer and had to travel to Cleveland, Ohio for treatment. This meant a 12-hour drive or, if flying commercial, at least 10 hours of travel time with layovers and stops. Perkins decided to volunteer with two charitable organizations that provide flights for people in need of transportation for medical care. Volunteer pilots donate the flights at no cost to the people they transport.

"What I see is there's a lot of people who have medical needs that are not being met in their hometowns who need the assistance," Perkins said. "Sometimes it's because of the distance, like with my brother, and the time it takes to get there. Sometimes they don't have the money to pay for a plane ticket or the expense of driving to those destinations, or even the ability to drive."

Perkins said he flies for one of these organizations about once a month, and he typically flies half the trip and meets another pilot to fly the other half. "Some people have been dealing with their illness for many years, and for some, it's their first time to have to go for treatments," Perkins said. "Some are extremely nervous and scared of what they're facing, while for others, it's amazing how they are at peace with what's going on and are able to transfer that peace and understanding to everyone around them." Perkins said the people he transports often have a greater impact on him than he does on them.



part of our job is extremely important to help develop tomorrow's leaders, today."

Perkins has also been a major supporter of ag safety on the farm. Connecting with the Pipeline Ag Safety Alliance over the last few years, Perkins has helped spread utility safety and awareness to farmers across Arkansas.

Thank you, Keith, for everything you've done personally and professionally to help spread kindness and keep people safe. You are a true humanitarian.

### About the Division of Agriculture

The University of Arkansas System Division of Agriculture's mission is to strengthen agriculture, communities, and

### Helping Farmers and 4-H Members

Perkins said that without agriculture, he "wouldn't be here today." Perkins' mother was from Ash Flat, Arkansas, in Sharp County, and his father was from Bono. They each had siblings who married spouses from Monette, Arkansas, and one day, they all traveled to Monette to pick cotton.

"The story goes that as my mom saw my dad picking cotton, she thought he was a real handsome man, so she picked really fast to catch up with him," Perkins said. "Once she caught him, they had five kids."

After graduating from Westside High School near Bono in 1982, Perkins attended Arkansas State University (ASU), where he earned both his Bachelor of Science in Agriculture Business and his master's degree in Business Administration. In 1993, he began working at ASU as a research specialist for Tina Teague, professor of entomology for ASU and the University of Arkansas Agricultural Experiment Station. In June 1996, Perkins became a county extension agent in Monroe County. After working as an agent in Monroe County and then St. Francis County, he transferred to Lonoke County, where he worked as staff chair. Keith retired in August 2023.

"My primary responsibility is agriculture," Perkins said. "I like being able to work with my producers on taking the best practices information that we have and seeing them apply that in the field. Whether it's disease or insects, being able to correctly identify what their problem is and the research-based answer for their problem is one of the best things I do."

"Every step along life's highway is extremely important and extremely challenging, but the rewards always outweigh the negative," Perkins said. "A lot of the time, our teens just need some encouragement on where they need to go with their life and how best to develop those life skills. The 4-H



families by connecting trusted research to the adoption of best practices. Through the Agricultural Experiment Station and the Cooperative Extension Service, the Division of Agriculture conducts research and extension work within the nation's historic land grant education system. 

*This article includes excerpts from the University of Arkansas System Division of Agriculture article by Rebekah Hall titled, Giving back: Lonoke County extension agent donates flying time and blood plasma to people in need.*



# ESSENTIAL GUIDELINES FOR ENSURING UTILITY LINE LOCATING SAFETY

## GETTING READY FOR LOCATOR SAFETY & APPRECIATION WEEK, APRIL 22-28, 2024

BY KEN WARNER, SENIOR OPERATIONS MANAGER, BERMEX

With the responsibility of locating all underground lines before construction projects start, these professionals are responsible for keeping the community safe. But how do we ensure the safety of utility line locating professionals? Here is a list of the biggest safety hazards of utility line locating and tips on how to help ensure safety.

### Road Time

Traveling to multiple job sites means line locators are on the road constantly. Car accidents aren't entirely avoidable, but it is possible to reduce the risk by:

- **Making sure line locators have a good GPS or mapping system**
- **Limiting distractions like talking on the phone or texting**
- **Making sure line locators have enough rest to drive properly**

These simple actions can prevent car accidents and keep your employees safe as they travel from one job site to the next.

### Weather

Weather is unpredictable, and while working outside is a great thing, sometimes climate can be extreme. Excessive heat and cold can be dangerous, so it is important to educate your line locating professionals on how they can stay safe in all weather conditions.

#### ON HOT DAYS:

- **Take many water breaks to avoid dehydration**
- **Wear sunscreen**
- **Wear a wide-brim hat**

#### DURING COLD DAYS:

- **Dress in layers**
- **Bring additional clothing to prevent hypothermia and frostbite in wet conditions**

### Physical Injuries

Walking, lifting, bending, and squatting are all common physical demands that line locating professionals are expected to perform on a daily basis. However, these repeated motions can cause fatigue and injury. Educating utility line locators on how to properly lift heavy objects and how to stretch can prevent injuries from occurring.

Slipping and falling is common in every industry, however, they can be particularly dangerous in utility management. Professionals should always take the time to properly survey a job site for any potential hazards, attend the proper training, and follow safe practices, such as wearing the appropriate footwear.

### Noxious Gasses and Skin Threats

Confined spaces like manholes can be filled with noxious gasses, which can cause serious health problems. Equipping your employees with the proper personal protective equipment can protect them from serious injury.

Irritating plants, like poison ivy, can be found in places where line locators are needed. It is important that line locators know how to identify these types of plants and how to identify the symptoms of irritation.

### Insects

Working outdoors has its perks, unfortunately, insects are not one of them. It is possible to receive a tick or mosquito bite or to be stung by a wasp or bee while working. Preventative measures can be taken.

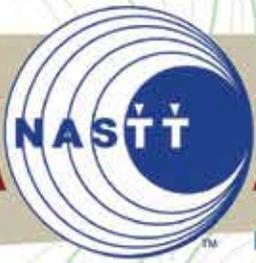
- **To avoid tick bites, wear clothing that covers most of your skin and hats when you can**
- **Mosquitoes can be deterred by using a bug spray that contains DEET**

It is also important for employees to know what insects they are allergic to – if they are severely allergic to a bee sting, it is crucial to carry an EpiPen with them on job sites.

Utility Line Locating Professionals work hard to keep the community safe; let's look out for them. Keeping your employees safe should always be your top priority. Providing the proper PPE, equipment, and training can ensure your line locators stay safe on job sites. Educated and properly equipped line locating professionals have everything they need to keep themselves safe on the site. [ESM](#)

*For more information, check out the following from the Occupational Safety and Health Administration (OSHA): Slips, Trips & Falls and Personal Protective Equipment (PPE) in Confined Spaces.*





APRIL 14-18 | PROVIDENCE, RI

**NO-DIG SHOW**

**2024**



**GREEN ABOVE.  
GREEN BELOW.**

# Save the Date

NASTT 2024 NO-DIG SHOW | APRIL 14-18 | PROVIDENCE, RI

## Educational & Networking Opportunities Await

The No-Dig Show is the trenchless industry's flagship educational and networking event. Each year No-Dig attendees are privileged to the best industry-related content and access to the leading companies and individuals in trenchless technology.

- Technical papers & presentations
- Large exhibition hall
- Specialized trenchless training courses
- Engaging networking programs & events
- Prestigious industry related awards

Visit [nodigshow.com](https://nodigshow.com) to learn more



NETWORKING EVENTS | EXHIBIT HALL | TECHNICAL SESSIONS



The No-Dig Show is owned by the North American Society for Trenchless Technology (NASTT), a not-for-profit educational and technical society established in 1990 to promote trenchless technology for the public benefit. For more information about NASTT, visit our website at [nastt.org](https://nastt.org).



# Calendar of Events

## December 2023

- 6-7 MOCGA Summit & International Locate Rodeo (Springfield, MO)
- 14 ESA Town Hall (Virtual)

## January 2024

- 11 ESA Town Hall (Virtual)
- 23-25 World of Concrete (Las Vegas, NV)
- 25-26 NUCA Safety Damage Prevention Conference (New Orleans, LA)
- 30-Feb 3 The 76th Annual PLCA Convention (Nassau, BS)

## February 2024

- 6-8 Arkansas 811 Damage Prevention Summit (Little Rock, AR)
- 8 ESA Town Hall (Virtual)
- 19-22 NATE UNITE (Memphis, TN)
- 26-29 DISTRIBUTECH International (Orlando, FL)

## March 2024

- 18-20 Spring Gas Conference (Columbia, SC)
- 19-21 Underground Infrastructure Conference (Oklahoma City, OK)
- 19-21 Global Excavation Safety Conference (New Orleans, LA)**
- 19-22 AGC Annual Convention (San Diego, CA)
- 20-23 NUCA Annual Convention & Exhibit (Palm Springs, CA)
- 27-29 Tennessee 811 Damage Prevention Summit (Franklin, TN)

## April 2024

- 11 ESA Town Hall (Virtual)
- 22-28 Locator Safety & Appreciation Week (Virtual)
- 28-May 2 AGA Operations Conference & Spring Committee Meetings (Seattle, WA)

## May 2024

- 6-8 API Pipeline Conference & Expo (Salt Lake City, UT)
- 9 ESA Town Hall (Virtual)
- TBD Global GPR Congress (Virtual)

## June 2024

- 10-13 AWWA 2024 Annual Conference & Expo (Anaheim, CA)
- 13 ESA Town Hall (Virtual)
- 25-27 Kentucky 811 Damage Prevention Summit (Lexington, KY)

*Please note that this calendar represents a snapshot of events and does not encompass all industry-related events or activities.* 



**VIVAX METROTECH**

Cellular and GPS status

Utility locating and high accuracy RTK in one handheld instrument

VMap Web Portal

10-Watt Transmitter

**vLoc3-RTK Locator with RTK**

- Fully integrated RTK cm Accuracy
- One hand locating and mapping
- No external equipment required
- Easy to interpret color display

Call us for a no-obligation on-site demonstration! ☎ **1-800-446-3392**

Vivax-Metrotech Corporation  
3251 Olcott Street, Santa Clara, CA 95054, USA

SalesUSA@vxmt.com ☎ +1-408-734-1400

www.vivax-metrotech.com

The **vLoc3** introduces innovative tools assuring damage prevention while gathering data to analyze. Signal distortion is detected and displayed on the display. Locate screens of Vector Locate for non-walk-over locating, a Transverse Graph showing both peak/null simultaneously, a Plan View showing the orientation of the utility and a graphical Sonde screen with guidance arrows. [www.vxmt.com](http://www.vxmt.com)

**Your Ad Here**

**Excavation SAFETY**  
MAGAZINE

Showcase your company or product to thousands of the most influential and passionate people in damage prevention and excavation safety. Excavation Safety Magazine is the perfect place to share how you and your team are pushing for a safer future. **Contact Vicki Husome at Vicki@ExcavationSafetyAlliance.com for more information.**

**PIPELINE AG SAFETY ALLIANCE**

“As the Farm & Ranch Safety Coordinator for NDSU Extension, I look forward to resources like this to help our Extension staff across the state!”

**Extension Agent  
Steele County, NDSU**

Enhance your public awareness efforts with a unique, engaging approach to rural outreach. The Pipeline Ag Safety Alliance works closely with the National Association of County Agricultural Agents to help deliver safe digging education to farmers and ranchers across the nation.

**Excavation SAFETY**  
Farm &

Learn more at [PipelineAgSafetyAlliance.com](http://PipelineAgSafetyAlliance.com)

# PROPOSAL TO MODIFY THE APWA COLOR CODE



BY JAMES H. ANSPACH

**PLACING MARKS ON THE GROUND** to represent the position of underground utilities is traditionally done for two separate but distinct purposes: damage prevention and design survey. Both missions are vital and necessary to protect the health, safety, and welfare of the public. However, it is important for utility owners, their contract locators, and excavators to be able to distinguish between these purposes.

There is a written guideline for markings for damage prevention purposes that is published by the American Public Works Association (APWA) as part of the uniform national color code for utilities. Basically, it says that utility markings should be represented by a single 2" wide paint mark of 6" length in the appropriate color (See Figure 1). Other accompanying marks such as offset indications, ownership, size of utility, number of cables represented by one mark, and so forth are also allowed.



Figure 1 (Above): Markings for damage prevention purposes, in this case a water line.

There has never been a written guideline for markings for design purposes; however, a workaround of using pink as a "survey mark" has been in use in several states. Many other systems over the years have been proposed and tried, only to have recognized shortcomings. The Utility Engineering and Surveying Institute of ASCE recommends that rather than a single 2" wide mark of approximately 6", a mark for design consists of a 1" wide and very short 2-3" long dash – dot – dash line code (See Figure 2). The dots in the middle can be any color and the dashes on each side are silver. The dots tell the SUE surveyor which line segment it connects to, and the silver dash indicates direction or end point.



Figure 2 (Above): Markings for design purposes, in this case a water line.

This system retains all the benefits of coding to distinguish different utilities,

necessary for the engineer especially in congested environments, while clearly differentiating marks for design versus damage prevention. Constructors can easily be educated through normal means such as trade meetings, magazines, etc. as to these differences.

It is the recommendation of the American Society of Civil Engineer's (ASCE) ASCE 38-22 standards committee (Standard Guidelines for Investigating and Documenting Utilities) that such a system be adopted on a national basis. 

*James H. Anspach, PG, Dist.M.ASCE, NAC, A.A. Professor of Utility Engineering at Iowa State University is the Chair of ASCE 38-22 and Chair of ASCE Utility Engineering and Surveying Certification Board. James was also the 2018 ASCE UESI President. For additional information contact James at 541-678-2151 or JAnspach@IASTATE.edu.*





**VIVAX**  
**METROTECH**



*The vLoc3 Series  
of Utility Locators,  
Uncompromising Performance  
for Damage Prevention*



-  • Color-coded real-time user feedback of signal distortion prevents mis-mark of utility
-  • Warning indicators to ensure user operated the equipment correctly
-  • Seven antenna locating modes including Omni Directional Peak for quick sweep to find utility
-  • Data logging to Cloud via VMap Mobile app



**1-800-446-3392**

Call us for a no-obligation on-site demonstration!



vLoc3-9800



vLoc3-Pro



vLoc3 RTK-Pro



vLoc3-MLA



Loc3-5Tx



Loc3-10Tx

**Vivax-Metrotech Corporation**

3251 Olcott Street,  
Santa Clara, CA 95054, USA

SalesUSA@vxmt.com

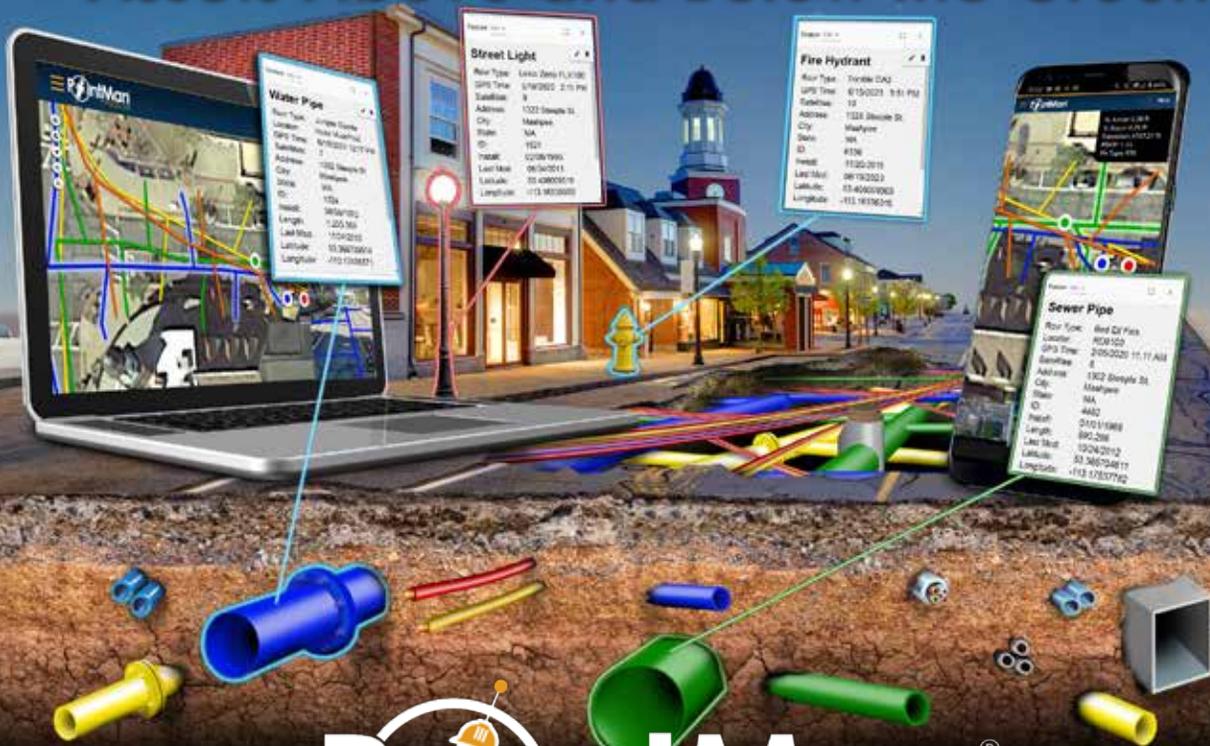
+1-408-734-1400

www.vivax-metrotech.com

Excavation Safety Alliance  
3800 American Boulevard West, Suite 1500  
Bloomington, MN 55437

PRSRTD STD  
US POSTAGE  
PAID  
Infrastructure Resources

# Easily Manage All of Your Critical Infrastructure Assets Above and Below the Ground



Capture precise infrastructure location data simply and affordably with PointMan cloud & mobile utility mapping software.

Call to Learn More  
**970.360.4065**  
[www.pointman.com](http://www.pointman.com)

Schedule a Demo



Don't Worry, Dig Happy!