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2021 SPECIAL EDITION: LOCATE

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EXCAVATION
SAFETY ALLIANCE

SEE PAGE 21



Underground Utility **LOCATING**

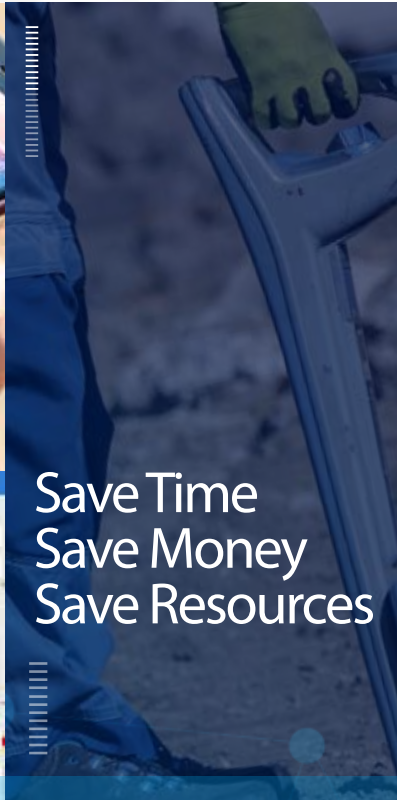
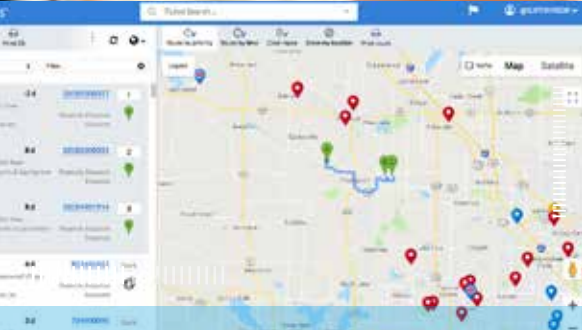
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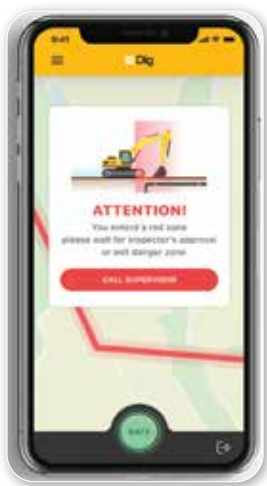
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SOCIAL MEDIA

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2021 SPECIAL EDITION: **LOCATE**

EXCLUSIVE

Enjoy these Web Exclusive Articles in the Digital Edition of our Annual Special Edition: Locate, Available at [dp-pro.com/current-issue!](http://dp-pro.com/current-issue)



WHAT DO YOU THINK?

This issue's question:

Do you think the general public should have a better understanding of the APWA marking color codes?

- A) Yes, it could increase awareness of underground utilities
- B) No, it does not matter

To answer click **HERE**

<https://dp-pro.com/survey/>



The Cable Vine Facebook Group

The Cable Vine is a private Facebook Group with over 7,000 members. Locators can join the group and jump into lively discussions on the daily ins and outs of utility locating. From the group description:

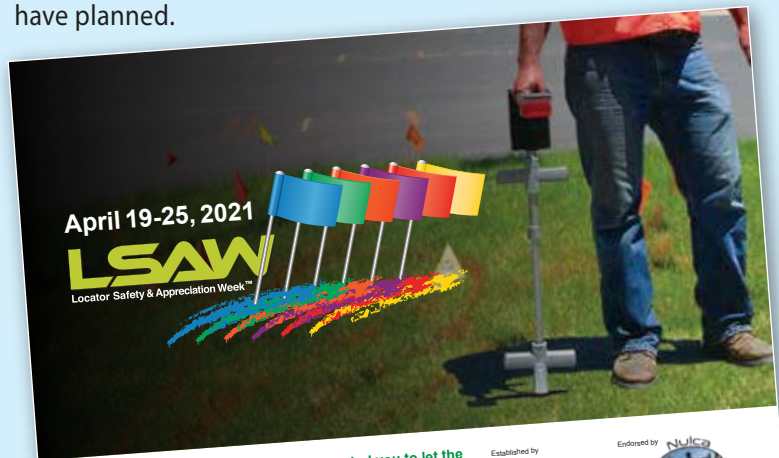
"This group is for all locators. Just know that this group was created for the locator that is out there doing the dirty work. The locator whose office is the cab of a truck."



SOCIAL INITIATIVE

Locator Safety & Appreciation Week (LSAW)

April 19 – 25 is Locator Safety & Appreciation Week (LSAW) and we cannot wait to celebrate the hard work and dedication of locators with the entire utility industry. Be on the lookout for social messages during LSAW week or take a look at LocatorSafety.com to see what we have planned.



Infrastructure Resources and Nulca remind you to let the locators you work with know how much you appreciate the difficult, challenging, and sometimes dangerous work they do protecting our underground utilities!



Tell us how YOU celebrate Locator Safety & Appreciation Week. Visit the website and share your story.

LocatorSafety.com provides tools and resources designed to keep locators safe - many of them FREE!

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- Download Social Media Graphics
- Read Locator Safety Articles
- Download the LSAW Web Button to share on your website
- Send an LSAW Card to a Locator
- Download the Locator Safety Poster
- Download the 'Your Marks Matter' Poster
- Purchase 'LOCATING BURIED UTILITIES: A PROFESSIONAL APPROACH' Textbook
- Purchase LSAW Coasters to hand out at live events and safety meetings



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Tackling the Complexities of Heat Stress

BY SKIP ORVIS

It is imperative to understand how to protect individual workers' health under hot conditions. Knowing all aspects of heat risks on the job saves lives, boosts productivity, and allows business continuity.

The first step is recognizing the two main effects of heat stress on the body: heat exhaustion and heat stroke.

HEAT EXHAUSTION

When workers experience goosebumps or chills, lightheadedness, nausea, and/or feel weak or more fatigued than usual, they are likely experiencing heat exhaustion. These warning signs alert the individual that their cardiovascular system is no longer functioning at the level needed to complete the current workload. The heart rate increases under hot working conditions and "tops out" when the heart has trouble pumping enough blood to the muscles, depleting them of energy and inhibiting the skin from shedding body heat. At this point, work will become difficult if not impossible, and a worker may suffer heat exhaustion.

EXERTIONAL HEAT STROKE

Exertional heat stroke (EHS) is more advanced, and thus more serious, than heat exhaustion. EHS is a medical emergency. If not properly treated, EHS can result in death. The good news is EHS is 100 percent preventable.

A worker can experience EHS very suddenly, without any warning signs. Symptoms include vomiting, hot and sweaty skin, and fatigue. EHS happens when:

- Core body temperature is greater than 104°F (40°C).
- The central nervous system experiences dysfunction. A person may hallucinate, become aggressive, irritable, confused, and/or irrational and become weak to the point of fainting or collapsing.



PREVENTING HEAT EXHAUSTION AND EHS

Workers should use a buddy system while on the job. This means checking on a specific co-worker's wellbeing regularly. If one person notices something strange or out of character with the other, the observer should alert the supervisor for an intervention.

Workers should also pay attention to their own symptoms and what their bodies are telling them, and be diligent about stopping work to take a break and cool the body.

Ignoring or pushing through warning signs in an effort to speed up or continue the pace of work should be discouraged. Heat stresses decrease productivity on the job because the work pace slows and errors are more likely to occur. A worker who collapses on the job stops all work and reduces the number of people on the team as she/he heads to the hospital.

New methods of detecting heat stress, such as smart personal protection equipment (PPE) worn by workers, that monitors and measures core body temperature and physiological changes sends signals to both workers and their supervisors when a safe heat threshold has been crossed and a break or treatment are necessary.

TREATING HEAT EXHAUSTION AND EHS

When heat stress in the body occurs, workers should stop work, seek shade or air conditioning, drink hydrating fluids (especially water), and sit down to rest. Elevating the feet also speeds recovery.

After a 10-15-minute break, if the symptoms have subsided, a person is safe to return to work. If symptoms persist, professional medical attention is necessary. EHS should immediately trigger a 911 call. While waiting for additional help to arrive, the worker should continue to be treated to cool down as quickly as possible. This



can be done with an ice bath or by rotating cold compresses around the body.

COMPLICATING THE SITUATION

During the cold and flu season, measuring core body temperature to determine heat stress becomes more complex because a fever from a virus, including coronavirus, can also cause core body temperature to rise. Best practices for prevention, detection, and treatment to keep body temperature at optimal levels should always be the norm, regardless of the time of year.

Heat-detecting smart PPE can also be helpful in detecting the onset of illness because smart PPE monitors an individual's physiological changes continually throughout the workday, during which a person can contract a virus. Since COVID, taking a worker's temperature with a thermometer as she/he reports to work has become the most common method of detecting illness. The drawback to this current standard is that it only provides a single point reading at the beginning of a shift. In addition, this level of public screening can be quite embarrassing for a worker who is now sent home from work in a very public way even before the work day begins.

Whether it be temperature at the start of the day or information collected from the body continuously, data should be safeguarded by the organization,



particularly when it is personal health information. It is important for individuals to know how their personal information is being collected and used, and for employers to receive only the data needed to take an informed action to keep the worker safe. Privacy policies are quickly evolving in the smart PPE industry to ensure data is both useful and protected.

INTRINSIC SAFETY

Tools and equipment used for heat prevention, detection and treatment that incorporate technology and are used in hazardous locations must be certified as intrinsically safe (IS). Such products are labeled as intrinsically safe and are designed to have specific electrical and thermal characteristics that will not cause an explosion in the workplace.

Cell phones and smart PPE are of special concern as each contain batteries, capacitors and inductors that are capable of storing large amounts of energy. Each of these elements has the potential to produce a spark and/or start a fire if their energy is released quickly and unexpectedly, resulting in the "spontaneous combustion" of gas and air particles.

To be certified intrinsically safe, devices go through a series of specialized tests performed by Underwriters Laboratories, the Mine Safety and Health Administration (MSHA), and test labs such as the Intertek Group. The IS-certification process begins at the start of each product's design and is performed in tandem with product development. Product developers and manufacturers build safeguards into each piece of their product and the system as a whole in preparation to meet stringent IS standards.

Understanding all the important aspects of working in hot conditions is imperative to keeping people safe, and companies protected. The details regarding identification, treatment and prevention of heat stress injury described in this article should allow you to start the next working day with new ways to manage a hot, dangerous situation for the best possible outcome. **DP**

Skip Orvis is vice president of engineering at Kenzen. Skip has more than 20 years of product development experience for both the consumer and industrial markets. He is also a U.S. Navy veteran who has experience working in extreme conditions through multiple deployments to the Middle East.

Locating Guidelines

BY CHRISTOPHER THOMPSON

Successfully locating and identifying buried utilities is a process of elimination - elimination of mistakes. A thorough understanding of the jobsite and the equipment's correct operating procedures can help you efficiently mark a dig site for safe excavation. No matter what locating equipment you are using, following these guidelines will help you communicate to drilling or excavating crews precisely where they can dig safely.

KNOW WHERE YOU STAND

Jobsite awareness is critical. You should gain as much knowledge about the location of the facilities as you can before pulling out your pipe and cable locator.

Review the locate request. Carefully review the dig ticket to ensure you understand the scope of the ticket and locate the entire area covered by the request.

Make use of available facility records. Facility records indicate approximate location, number of facilities, and access points for buried facilities within the jobsite area. If there is any doubt about the accuracy of the facility records, verify their location with a physical locate. Mark the locations to ensure they are not damaged during excavation.

Visually inspect the jobsite. Visual inspection assists you in determining if there are additional facilities not on record. Evidence of a facility includes poles, dips enclosures, pedestals, valves, meters, risers, and manholes. If you notice any of these features, be sure to locate and mark all utilities associated with them.

Know the Process. Pipe and cable locators locate the electromagnetic (EM) field produced by the AC current flowing on the line, not the pipe or cable itself. Many non-metallic pipes and cables have tracer wires buried next to them that can conduct electricity.

EM pipe- and cable-locator equipment systems consist of a transmitter and a receiver that are portable and, when properly used, very accurate. After identifying the best access point to the target line, the operator can place a signal on the line either by direct connection, clamp induction, or broadcast induction. The most accurate method is direct connection, which involves the signal traveling from the transmitter, through the target line, and returning through the ground stake. Only operators qualified to work with electricity should connect to an electric line.

Recommended procedures for direct connection:

1. Setup

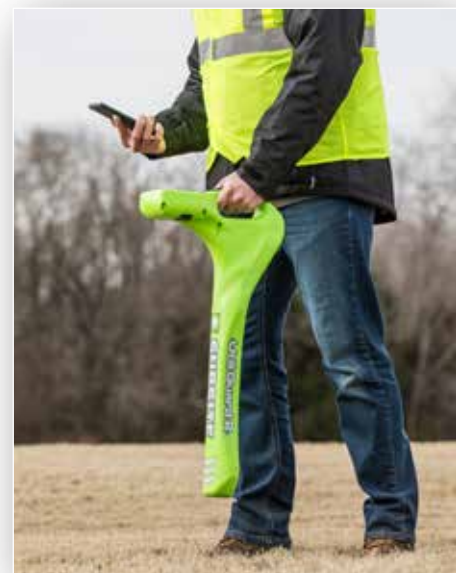
- Remove any common connections to other utility lines to prevent the signal from being placed on untargeted lines.
- Insert the ground stake to the left or right of the target line's suspected path. The transmitter's black ground wire should not cross other lines.
- Connect the black transmitter wire to the stake and the red transmitter wire to the target line. Remove paint, dirt, or corrosion from the target line.

2. Power and Frequency Selection

- Select transmitter settings to match the conditions of the locate. Begin with minimum power level and low frequency and increase as necessary. The higher the frequency, the more likely your signal will bleed over to adjacent lines, and the shorter the distance your signal will travel.

3. Sweep

- Set the receiver frequency to match the transmitter frequency. Conduct a 360-degree sweep around the access point where the transmitter is connected to the target line. A strong signal response will help determine the direction of the target line.



4. Tracing the Target Line

- Once the direction of the target line is determined, sweep the receiver perpendicular to the target line and walk its path. Retrace the path and mark with the proper color paint or flags.

KNOW YOUR LIMITS

The receiver/transmitter system is accurate when used properly, but distortion and ground conditions can affect the signal. The only way to verify exact depth and location of a target line is to expose it. Most state dig laws have a defined tolerance zone in which only hand or soft excavation tools, like vacuum excavators, can be used to safely expose the target line.

These locating procedures are general guidelines and are not intended to be a comprehensive guide to operating your electronic locating system. Your operator's manual contains complete recommendations and instructions for correct operation and maintenance. **DP**

Christopher Thompson is Utility Locator Product Manager with Subsite® Electronics. Learn more about Subsite's comprehensive suite of electronic products at subsite.com.

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Re-Notify: Why Should I Call When there are No Markings?

• BY ANDREW MILLER •

IT IS YOUR LAWFUL START DATE. You arrived on site and see some colored flags and paint. The gas company has marked. It looks like the electric and water companies have as well. The homeowner told you they have cable service, but you don't see an aerial line. The response list says the cable company is clear. What do you do?

It is natural to be frustrated when a locating job isn't done right. You placed your dig notification three to 10 business days ago as the law requires. Why has the line not been marked? At this point it may be tempting to say, "I've done my part. I placed the ticket. If they didn't mark, it's on them." However, in Pennsylvania, if a line is not marked or is marked incorrectly, you have additional responsibilities. You are required under PA Act 287 as amended to re-notify the affected facility owner through the One Call system. Failure to do so could result in an administrative penalty of up to \$2,500 from the Pennsylvania Public Utility Commission. Or worse, you could damage a line, or someone could be injured. Even small telecommunications cables carry an electric current and should be treated with caution.

It is important to walk the job site when you first arrive to look for signs that there may be unmarked underground lines. Signs can be things like shut off valves, manholes, utility boxes and meters. If you see one, but don't see utility marking in this area, you have an unmarked underground line at the site. It is not safe to assume that the line is deeper than you need to dig or that it is a dead line. The appropriate step is to call the One Call system and place a re-notify.

"It is not safe to assume that the line is deeper than you need to dig or that it is a dead line. The appropriate step is to call the One Call system and place a re-notify."

What is a re-notify? A re-notify is when the One Call system notifies a particular utility or utilities again with regard to a potential conflict at the work site. This should be done when markings are incomplete, unclear, or if a line is unmarked or potentially mismarked.



To begin the re-notify process, dial 811 and reference the serial number you were given when you placed the One Call notification. A friendly customer service representative will gather the pertinent details to send to the facility owner. A re-notify does not generate a new ticket serial number; the original ticket serial number will still serve as your reference number.

This call should be made upon your initial arrival to the site, and you should remain on site while awaiting the response from the facility owner. Do not start excavating until the facility owner has provided you with enough information to do so safely in the affected area. The facility owner should reach out to the onsite contact directly.

But how long is this going to hold up your job? The facility owner should make direct contact with you within two hours of the re-notify. If they don't, you can proceed after waiting an additional hour, provided that you use prudent techniques while excavating until you identify the line. The project owner may not like the job being held up, but a delay is always preferable to a utility outage, damage, or injury.

Re-notifying is a way to keep everyone safe and it fulfills your obligations under the law. It may seem convenient to cut corners and dig if you think you know where an unmarked line is, but it could cost you. It is the facility owner's responsibility to identify the location of the lines, so re-notify them and put the responsibility back into their hands instead of taking it into your own. **DP**

Andrew Miller is a Member Services Representative with Pennsylvania 811.

Editor's note: This article is specific to the laws and procedures within the state of Pennsylvania. Contact your local One Call center for information on your state's requirements.



Pre-Excavation Checklist Before **EVERY** Excavation

IN THE OFFICE

- Review all drawings, plans, engineering blueprints for existing buried facilities
- Proposed excavation area has been marked in white paint and/or flags
- Call 811 at least 2-3 business days before excavation (check your state One Call laws)
- Locate ticket number is posted at the work location
- Onsite meeting scheduled with all high profile facilities in locate area (gas/oil pipelines, high-voltage cables, fiber optic)

ONSITE

Complete a pre-excavation walkthrough of the entire jobsite and adjacent areas

Visual Inspection of Jobsite: Permanent markers:

- Signs or marking posts
 - Pavement markers (stamped nails, pavement decals, A-tags™)
 - Surface markers
- Other surface signage for landscaped areas
- Locate marks
- Consult any maps or field sketches of the location
- Identify all services to buildings such as:
 - Gas meters
 - Farm taps

- Pipeline valves
- Cable pedestals
- Electric cables
- Water valves
- Telephone closures

- Look for evidence of trench lines from previous excavation

- Look for cleared pipeline ROWs

- Talk with the property owner or general contractor to identify potential private facilities that may not be marked:

- Lighting
- Outbuildings
- Pools/Spas
- Irrigation
- Sewer laterals
- Propane tanks
- Communications lines

Document of Jobsite:

- Compare actual jobsite to One Call ticket
 - One Call ticket covers the scope of the work
 - One Call ticket "Work to Begin" date is valid
 - All utilities have responded
 - All facilities are marked within the excavation area

- Photograph the jobsite
 - Locate marks and flags from 360° at varying distances for perspective
 - Permanent signage and location relative to the dig area:

- Note location, height, and operator of overhead lines
- Note all required safety signage

- Video and/or sketches where pertinent

BEFORE YOU DIG

- Review safety information with anyone working the job

- Confirm with facility owner vacuum or hydro excavation is scheduled for all pipelines impacted

- Locations for hand digging within the tolerance zone are noted

- Representatives for all critical facilities are present

- Emergency equipment available when hazardous atmospheres are potentially present

- List of all emergency contact numbers for assets in and adjacent to the dig zone is readily available

- The location and route to the nearest hospital is known by onsite supervisors

This document is provided for informational purposes only and does not constitute professional advice. It is intended to be used as a guide in the development of a checklist specific to your situation and may not be inclusive of all pre-excavation activities required of your situation. Consult your company's appropriate management before implementation. Excavation Safety Guide, its employees and agents accept no liability and disclaim all responsibility for the consequences of acting, or refraining from acting, in reliance of the information contained in this document or for any decision based on it, or for any consequential, special, incidental or punitive damage to any person or entity for any matter relating to the contents of this document.

FROM THE
PUBLISHER



BY SCOTT LANDES

Planning is Underway for the
2022 LIVE
Global Excavation
Safety Conference

Earlier this month, Infrastructure Resources produced our first Global Excavation Safety Conference VIRTUAL. With over 50 educational sessions, three daily networking events, and featured sponsor tech talks and product demos, it was an excellent event that brought the best possible opportunity to expand our industry knowledge in the current COVID-19 environment. Better yet for attendees, the content is still available to view at their convenience for 60 days on the event website!


If you were unable to participate in the virtual conference but would love to be able to access some of the education you missed, select sessions will be made available to you over the next year through your membership in the Excavation Safety Alliance (ESA). Learn more about ESA on page 21.

Like you, recent advances in the struggle against COVID-19 has us very excited. As we continue to work toward recovery, Infrastructure Resources is already hard at work planning our 2022 LIVE event in Phoenix, Arizona, March 1-3. Yes, after more than a year of lock down, and the unfortunate cancellation of two live events, we cannot wait to once again gather together for the greatest global event of the damage prevention industry!

We thank our hosts at Arizona 811 for their gracious welcome back to the Grand Canyon State! It is fitting to us that our first live Conference back after the pandemic is with our friends in Arizona, as they were our hosts back at our very first Conference in 2006. Their continued support and endorsement of the Global Excavation Safety Conference is appreciated by all of us.

As always, our events are made stronger and better by the strength of the subject matter experts and industry leaders who volunteer their time, knowledge, and experience to ensure everyone engaged in the protection of our buried infrastructure has access to the latest tools and trends required to be at our best in our jobs. This level of commitment to sharing our knowledge is one of the reasons our industry has developed into the tight community it is.

The Call for Papers for the 2022 Global Excavation Safety Conference is now open. I invite you to submit your abstract for consideration at IR-SavingLives.com/submissions. Whether you have a fully defined abstract, or simply a topic that you would like to submit for consideration, we want to talk to you. Even if you just want to make suggestions for topics you would like to see covered, please take the time to reach out to us. Your input is what makes this the best event for the industry.

We are very excited to offer our speakers a special additional incentive when they commit to speaking at the Global Excavation Safety Conference. For speakers who are interested, we will pre-record their session and make it available to ESA members so their words and expert advice will continue to live on well beyond the live event and reach an even greater audience through this new industry initiative. 



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LOCATE

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Saving Lives through Education



March 1-3, 2022 - Phoenix, AZ

Established 2004, the Global Excavation Safety Conference is THE premiere international event for the damage prevention industry. Featuring education to help all stakeholder groups, and opportunities to network with industry peers, learn safe practices, and lower costs associated with underground damages, it is the place to be to effect change in the industry.

**Call for
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Submit your abstract online at
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GlobalExcavationSafetyConference.com



HOT #TAGS



A recent Bluefield Research report predicts total spend across the range of trenchless technology options exceeding \$52.5 billion over the next decade. The majority (76%) of this spend will focus on the rehabilitation of underground assets.

#trenchless

#trenchless

WHAT'S TRENDING



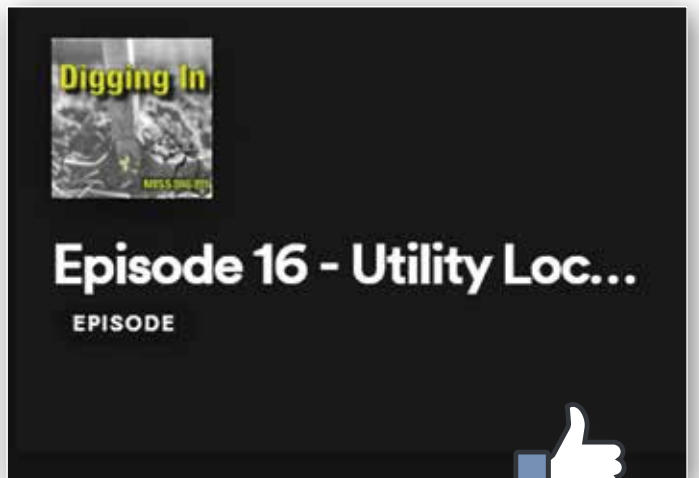
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'Digging In' by MISS DIG 811

Episode 8: Interview with Oklahoma Safety Council

During our talk with Betsey Kulakowski with Oklahoma Safety Council, we discuss our partnership, upcoming events, and training that OSC provides. Be sure to listen about OSHA changes because of the pandemic and the new presidency.



'Digging In' Episode 16

"In this episode, we're joined by Harry Carr, Project Manager at Utility Resource Group. With his help we hope to offer excavators, homeowners, and all stakeholders, a better understanding of what goes into the challenging and important work of underground facility locating."

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Q How can Contractors Mitigate Risk on Trenchless Pipeline Projects?

A BY
Ron Peterson

THIS RESPONSE FOCUSES on horizontal directional drilling (HDD), probably the most common method of trenchless construction. There are many other methods of trenchless excavation and most of these suggestions work regardless of methodology.

1. Know the industry standards and guidelines for the work being performed as well as for the equipment being used. Guidelines set forth by the HDD Consortium and the CGA are a great place to start. Equipment manuals should also be referenced. The time to learn about these is not in a deposition after something catastrophic has happened.

2. Understand the level of design that went into the plans of the job you are either bidding or have won. Subsurface Utility Engineering (SUE) continues to grow in our industry. For an understanding of the different levels of SUE, ASCE #38-02 provides a great explanation. If virtually no design or a SUE level D design has been performed, the contractor should have little comfort in the information provided.

3. Consider the use of a private locating company. They use techniques including inductive sweeps to determine if other metallic lines are in the dig area. Ground penetrating radar can also be utilized to find both metallic and nonmetallic lines in the area. Ground conditions can sometime reduce the effectiveness of GPR, but the GPR technician should be able to let the contractor know if poor conditions exist. There is no “silver bullet” to identify hidden utilities, so the private locate technician utilizes a full toolbox of technologies to deliver as much information as possible.

4. Pothole all utilities at the point of crossing and leave the potholes open so that the bore head and back-reamer can be seen safely crossing the exposed facility. Unfortunately, there have been many cases where contractors have tried to find a shortcut around this process. Measuring to the top of a water valve or opening a manhole or handhole to observe the elevation of a utility only provides verification at that point and not at the actual point of crossing.



5. Plan the work and then work the plan. Develop a bore plan based on all the information collected and then follow it. If an unsuccessful shot requires a move, then start the plan again. There have been numerous cases over the last decade where the contractor potholed and then tried to bore through the pothole but was unsuccessful. Instead of reworking the plan, they simply moved 10 feet in one direction and performed the work using the old pothole information. The results of these “blind” bores were utility damages and in a couple of cases, gas explosions.

6. Document, document, document. Photographs and video of the site after locates are complete and prior to the work are invaluable to help prevent damage, as well as to tell the story of the incident if something goes wrong.

This includes documenting potholing activities as well as work progress and problems along the way.

7. Perform interference checks as well as calibration of the equipment and document it. If it is not documented and something goes wrong, it will be impossible to prove it was done.

Each item listed is just a brief overview, but if these methods are employed, the worksite should be much safer and the risk of damage to existing utilities will be greatly reduced. **DP**



• STAFF REPORT •

Dora Parks

Just call her “Miss Utility”

EVERY ISSUE WHEN WE START INTERVIEWING PEOPLE TO WRITE OUR DAMAGE PREVENTION HERO ARTICLE, WE NEVER HAVE A SHORTAGE OF VOLUNTEERS WILLING TO SHARE THEIR PERSPECTIVE ON WHY AN INDIVIDUAL DESERVES TO BE HONORED WITH THIS DESIGNATION.

This issue, however, the response we received was overwhelming. It seems “everyone” knows (and loves) Dora Parks—and wants to talk about it!

Why? Well, simply put, Dora Parks is passionate about damage prevention. She just celebrated 30 years with One Call Concepts and during that time she has tirelessly promoted the dig safe message to people of all ages, including professional excavators, contractors, utility owners, homeowners, and even children - generally, anyone who might excavate, demolish, or disturb the earth. According to Jim Barron, Executive Director of MD Underground Facilities Damage Prevention Authority, “Dora Parks has become the face of Miss Utility in Maryland and DC. Many people actually ask her if she is Miss Utility.”

In the words of Mark Hamrick, Damage Investigations Western Maryland for Verizon, “She is the direct and driving force behind Maryland damage prevention efforts from our monthly meetings to safety training to the Maryland Board of Directors (utility owners). She ceaselessly and tirelessly promotes damage prevention in everything she does.”

As Secretary of the Maryland/DC Damage Prevention Committee, Dora along with the Committee developed a Damage Protection Training Program for contractors, homeowners, facility owners, and anyone who wanted to learn about Maryland’s Miss Utility Law and how to prevent damage to underground infrastructure. The Maryland Underground Authority uses that program for required dam-

age prevention training for violators of the Maryland Miss Utility Law. Dora also serves as Secretary for the Maryland/DC Subscriber’s Committee. Through funds allocated from outgoing Miss Utility tickets, Dora executes multiple educational outreach programs across Maryland, reaching well over 100,000 people and companies each year who live and operate therein.

Dora is the first female board member of the Associated Utility Contractors of Maryland and belongs to the Public Works Contractors of Maryland, the Anne Arundel Contractors Association, and NUCA of DC.

Dora is instrumental in the execution of the GCDPTC, Locator Achievement Awards, and Touch-a-Truck program. Matt Ruddo, Director, Client Relations, One Call Concepts, Inc. stated, “Dora took the Miss Utility Damage Prevention Program for Maryland and DC to another level by increasing attendance at the monthly meetings through vigorous networking.”

According to Corrine Sullivan, Manager Meetings & Events, One Call Concepts, Inc., “Dora loves little people and works hard to educate them and have fun at the same time,” working with the Boy Scouts on the CBYD merit badge and the Touch-a-Truck event.

Susan Sullivan, ITIC Coordinator, One Call Concepts, Inc., speaks to Dora’s mentorship qualities, “Dora has taught me about the many aspects of damage prevention and safety, regional dig laws, procedures and processes particular to the One Call center, outreach, and damage prevention and safety training. She is a joy to work with. It is refreshing to work with someone who truly cares about you, your family, and your wellbeing even beyond the workplace.”

Scott Brown, Damage Prevention Manager, Washington Gas, speaks for many of the people who have had the pleasure to work with Dora, “You have definitely made an impact on this industry and we are all better off because of your contributions to damage prevention.” Steven B. Keyser, Vice President, Miss Utility of Delmarva, agrees, “Dora is the best of the best regarding damage prevention. Her dedication and passion are second to none. I truly enjoy working with her. I have learned so much about the industry from her.”

Barron’s final words, “Dora’s pending retirement in June of this year will leave a gaping hole in the Maryland and DC damage prevention communities. I quite frankly don’t know what many of the contractors will do without her assistance in resolving problems.” **DP**



“Dora is the best of the best regarding damage prevention. Her dedication and passion are second to none...”

Traffic Management Operative Saves Young Man's Life on his Way to Work

• EMMA REAY •

ON JANUARY 6, 2021, Jason Wiggins, traffic management operative with Sapphire Utility Solutions, was heading to work at Bamber Bridge in Preston, England. While he was on his way driving down the A6, he saw what looked like a pile of clothes and trainers at the side of the road covered in ice and decided to stop to find out if anybody nearby needed help. When he pulled over at the side of the road, he saw a teenage boy shaking and drifting in and out of consciousness due to the extremely cold conditions.

Jason quickly called 999 (England's 911), asking for an ambulance or the police as soon as possible as the young man desperately needed help. He was able to get the 14-year-old boy to gain consciousness for a few moments to get some of his details and gave him his hot flask as well as a thick jacket from his van while they both waited at the roadside for emergency services. When emergency services arrived, they took the young boy immediately to get help where he was treated, and we are very pleased to say he made a full recovery.

When Jason got to work that morning, he told his manager about the young boy he saved, and Sapphire Utility Solutions wanted to help the young boy as much as they possibly could.

Jason had given his contact details to emergency services and found out the young man had run away from a care home. He managed to contact the manager of the care home that day to check on the young man and discussed how the company could help him on his road to recovery, offering work experience or mental health support via over-the-phone



“Pat on the back to you, Jason, and to Sapphire for giving the lad an opportunity and hopefully some focus to achieve something in his life...”

counselling, paid for by Sapphire Utility Solutions. Since the care home had inhouse mental health trained professionals, the manager of the care home put the young boy's name forward for work experience. This support is currently on hold due to the current COVID-19 lockdown and will take place once it is safe to do so.

Since posting Jason's story on social media, Jason received thousands of positive comments, and his story went viral, reaching over 1.6 million people. One of the kind supporters said, “Pat on the back to you, Jason, and to Sapphire for giving the lad an opportunity and hopefully some focus to achieve something in his life. As an apprentice tutor, this is the kind of thing that inspires me and others to do what we do.”

Colin Kelly, Managing Director of Sapphire Utility Solutions said, “Well done, Jason. You have made a difference by not driving by, and taking the steps that you did you saved a young man's life. Well done and thank you.” **DP**

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Next Generation of Subsurface Mapping

BY RAZ EZRA AND DAVID HOESH

For the past century, the subsurface has been filling up. Oil and gas pipes, sewage systems, power lines, optic fibers, and more, have turned what was once the “emptiest” space on earth into a complicated environment that hides countless miles of manmade infrastructure. And this is just the beginning. In the coming decades, as poverty decreases, countries prosper, and the world becomes more and more physically connected, the use of the underearth is going to skyrocket.

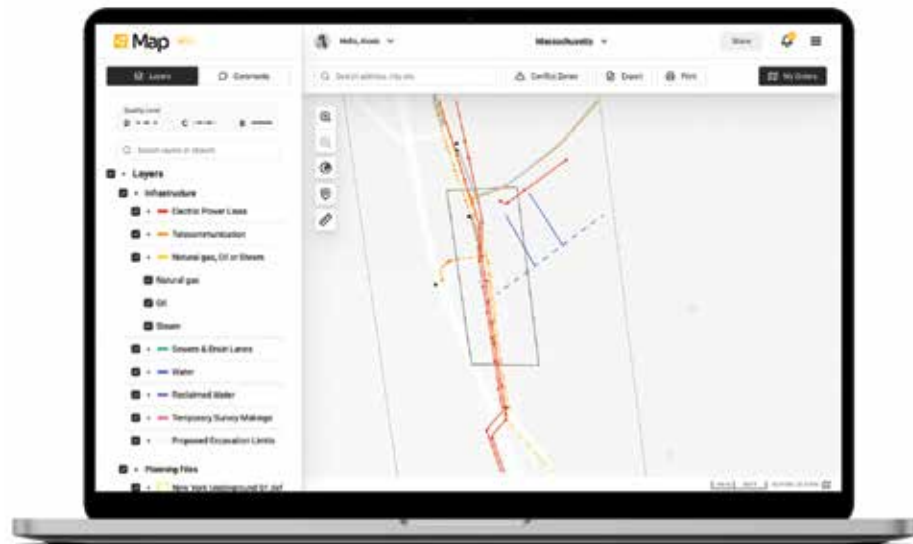
The thing is, mankind has no idea how to manage this, as there is little idea of what is buried and where. Even in the most advanced countries, subsurface infrastructure blueprints are either non-existent or extremely inaccurate, leading to the occurrence of countless strikes. Besides safety-related concerns and damage events that result in delays and unexpected costs, utility strikes do something much worse—they cut human beings off from their most basic needs like being able to turn on the light, cook, or just watch TV.

According to the 2019 CGA Damage Information Reporting Tool (DIRT) published October 2020, this reality is not about to get better anytime soon. The year 2019 ended at an all-time high of 534,151 utility strikes reported in the U.S. alone. The cost of these was estimated at \$30 billion, accounting both for direct costs (facility repair) and indirect costs (property damage, medical bills, businesses unable to operate, etc.).

Although all industry stakeholders have a clear interest in reducing damage to buried utilities, this is an immense challenge tackled by two main efforts:

• **As-built blueprints describing the locations of buried utilities.**

The most basic form of information for utility location used to map the subsurface.



• **The Subsurface Utility Engineering (SUE) standard as defined by the American Society of Civil Engineering (ASCE).**

A system that classifies the different types of subsurface utility data and their quality levels, according to the tool or method used to generate it:

- Quality level D (QL-D): Blueprints and verbal recollections.
- Quality level C (QL-C): Surveying of above-ground evidence indicating the existence and location of buried utilities (manholes, valve boxes, etc.).
- Quality level B (QL-B): Applying surface geophysical methods to determine the existence and horizontal position of all subsurface utilities within a project’s limits.
- Quality level A (QL-A): Providing the accurate location of buried utilities using actual exposure of the surface through hand digging or vacuum excavation.

As-built blueprints and the various tools used to achieve the SUE quality levels have a tradeoff between reliability and resources of time and

money. Blueprints are often inaccurate, surface evidence can be missed by the human eye, and locating equipment such as GPR and vac-ex equipment are confined to very specific locations, making them unscalable. In other words, the more reliable the information, the more time consuming and expensive it is. But it does not have to be that way.

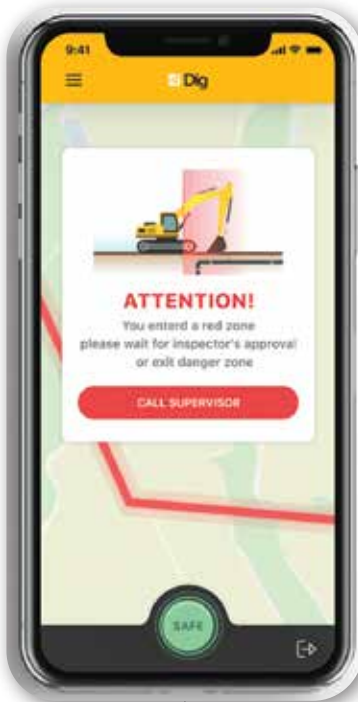
About two years ago, a team of Israeli military veterans were working on a solution for a completely different problem—the clearing of minefields. The team, a combination of combat engineers and geophysical intelligence experts, developed a satellite imagery solution able to pinpoint the exact location of buried landmines without any “boots on the ground.” Although they took on a variety of humanitarian projects in various post-war regions, they quickly discovered a much larger problem which they were able to solve – the locating of buried utilities.

The company understood that their core technology, a combination of remote sensing (satellite imagery), artificial intelligence, and computer vi-



sion, could generate an accurate and up-to-date mapping simulation describing the subsurface terrain, providing a detailed map of the known and unknown utilities buried in the subsurface. This would make manual records redundant, field investigations automated, geophysical locating scalable, and minimize the need for utility exposing, thus helping project owners and utility stakeholders prevent unexpected costs, budget overruns, infrastructure damages and schedule delays.

In a broader sense, what is most unique is the ability to tackle the root causes of utility strikes. In 2018, in a paper purposed at calculating the real costs of such incidents, Dr. Lewis Makana, Research Fel-



low at University of Birmingham, concluded that to reduce these occurrences, the following three measures must be implemented:

- 1) Utility owners must accurately mark the location of their utilities.
- 2) Excavators must notify state notification centers (One Call centers) regarding their digging activities.
- 3) Excavators must respect the utility markings and the tolerance zone around them.

Inability to implement these measures suggests a great risk of utility strikes. With respect to existing solutions, satellite imagery is the only subsurface utility locating solution which enables all three of these measures, offering a way to accurately map buried utilities in any location in the

world with no "boots on the ground." It serves as a collaboration tool between project owners, consultants, planners, contractors, and local authorities, allowing them all to speak in the same professional language on one single platform. It generates maximum situational awareness, by combining the real time location of at-work excavators together with the accurate locations of buried utilities.

The use of satellite imagery in the context of subsurface utility mapping opens a hatch into a world of locating and damage prevention solutions that did not exist before. More so, already developed solutions on this platform top all other currently used technologies in speed and cost of locating results. Bottom line, there is a monumental shift occurring in the subsurface utility sector, and stakeholders who adapt quickly could benefit greatly. **DP**

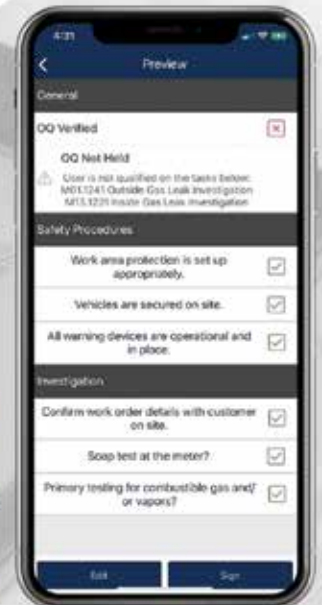
Raz Ezra is Director of Business Development and David Hosh is Marketing Strategist at 4M Analytics. Learn more about the 4M Analytics story at 4manalytics.com.

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Minnesota Underground Utilities Mapping Project Team

The Minnesota Underground Utilities Mapping Project Team (UUMPT), within the Minnesota Geospatial Advisory Council Emergency Preparedness Committee (EPC), was formed in August 2020. The UUMPT works to increase locate efficiencies and accuracy, reduce damage to the state's underground infrastructure, and improve operational and construction safety by leveraging current and emerging GIS technologies through cross-community collaboration to develop best practices and promote technology solutions.

Chaired by Barbara Cederberg, COO of Gopher State One Call, and Steve Swazee, Chair of EPC, the UUMPT is broken into smaller work groups: Facility Operator Utility Mapping, Locate Data Flows and Management, Outreach, and Regulations and Security. Initial response to the project was exceptional as committee members represent a broad range of community stakeholders.

The work groups are actively researching resources to deliver a Best Practices document to the industry. Areas being developed include how to lower operational costs for stakeholders, improved operational safety for utility operators and construction teams, advancement of geospatial technologies with a corresponding improvement in policy and procedures, and increased resiliency of Minnesota's underground infrastructure. It is anticipated the project team may have a considerable life span and could potentially evolve into a self-standing body.

FACILITY OPERATOR UTILITY MAPPING WORK GROUP

Led by Travis Beran, President of Subsurface Solutions, the Facility Operator Utility Mapping work group is researching GPS utility mapping technologies. This work group is identifying the most time efficient and accurate technologies for underground utility location with the goal of discovering

FACILITY OPERATOR UTILITY MAPPING	LOCATE DATA FLOWS AND MANAGEMENT
Travis Beran	Brad Anderson
Scott Anderson	Dana Bailey
Andy Berg	Bob Basques
Hawthorne Bjorback	Adam Franco
Tom DeWitte	Dave Hunstad
Elizabeth Hamilton	Scott Matson
Brandon Keinath	Keith Novy
Keven Maxa	Nick Roehrdanz
Damon Nelton	Paul Teicher
Joe Rubbelke	Adam Worm
REGULATIONS AND SECURITY	OUTREACH
Anna Boroff	Valerie Mendoza
Dean Parker	Brad Henry
Justin Lutterman	Justin Larson
Mike Mendiola	Scott Landes
David Phillips	Jonnie Pangerl
Gerry Sjerven	Troy Schultz
	Geoff Zeiss

emerging technologies designed to make utility mapping more cost-effective and easier to use.

It's important to understand what information one would gather and share during a search for the right equipment. The Facility Operator Utility Mapping work group invites equipment manufacturers and app developers to demonstrate their solutions during monthly large group calls. Each demonstration is posted on YouTube. The goal of this work group is to demonstrate how different solutions work while encouraging utility operators to consider how they can increase the accuracy of their

maps and ultimately reduce damages.

LOCATE DATA FLOWS AND MANAGEMENT WORK GROUP

Led by Brad Anderson, GIS Manager with the City of Moorhead, the Locate Data Flow and Management work group is beginning a detailed mapping of the existing process flow of data acquisition and maintenance workflows to ensure assets are as accurate and complete as possible for utility locating.

As this project moves forward, the work group



“The UUMPT works to increase locate efficiencies and accuracy, reduce damage to the state’s underground infrastructure, and improve operational and construction safety by leveraging current and emerging GIS technologies through cross-community collaboration to develop best practices and promote technology solutions.”

will research existing data exchange standards and exciting new technologies around the country that provide 3D visualization of underground utilities prior to excavation.

The Locate Data Flows and Management Work Group is working toward developing a best practices model for sharing this data with utility locators in the field with the goal of reducing damage to Minnesota’s underground infrastructure and, just as importantly, improving safety for workers and the public.

OUTREACH WORK GROUP


Led by Valerie Mendoza, Event Planner with Infrastructure Resources, the Outreach Work Group is developing communications geared toward large and small excavating companies,

design engineers, and facility operators to educate and build awareness toward damage and liability reduction. This work group looks forward to sharing success stories through case studies submitted to industry publications like *dp-PRO*, and social media groups.

REGULATIONS AND SECURITY WORK GROUP

Led by Dean Parker, Partner at Hinshaw & Culbertson LLP, the Regulations and Security Work Group is researching regulatory limitations and requirements for GIS data sharing. The work group will also research guidelines and best practices to allow for safe and secure sharing of GIS data. The work group is performing a detailed analysis of existing regulations and practices concerning the secure sharing of GIS data,

as well as communicating with industry professionals to gain a better understanding of existing security practices. The work group will look to the information it has gathered in preparing suggested guidelines to support development and implementation of best practices by the other work groups.

The work group is working toward guidelines that will help assure that sensitive GIS data is shared only with stakeholders who are authorized to use the information and that the information will only be used for an authorized purpose. 

If you would like to learn more on the progress of the UUMPT, visit the MGAC Emergency Preparedness Committee page on YouTube: youtube.com/channel/UC3hwp5_9t3BkiTt-hyALArg

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Harnessing the Power of Facility Mapping Data

BY ADAM FRANCO

As members of the damage prevention industry, we not only strive to obtain more or better data, but to also identify better ways of harnessing and accessing the data we have.

A new feature that is quickly gaining popularity among facility operators is the ability to see their facilities displayed on the notification center's map alongside the excavation polygon. With the cutting-edge integration of Web Map Service and Web Feature Service functionalities (WMS and WFS, respectively), utility owners can now easily and effectively combine their own mapping data within all of the providers' mapping tools. This includes the maps delivered with notification tickets, within Locator Ticket Management (LTM), and in iMap, the tool used to manage facility operator notification areas.

WMS and WFS make facility operators' and locators' jobs easier and empower them to put their data to work in more efficient ways. With these tools, they are able to enhance every aspect of their interactions with the notification center.

INNOVATING MAP-SHARING

Keyhole Markup Language, or KML, is a standard method the provider uses to share facility mapping information. Facility lines and points are stored in a database. When a user submits a ticket that has KML lines stored, the notification center computer determines whether or not the KML geometry intersects the excavation polygon. When there is an intersection, a limited amount of the KML geometry is displayed on the map associated with the ticket.

While the KML method works, it falls short of tapping the fullest potential value of the data. Since only the portion of the facility that intersects the polygon is shown, the geometry might not display at all when there are a high number of vertices. The centerline data is also static, requiring a facility owner to contact the provider



We can see the facility operator's centerline running through the right of way of a major highway, showing that this is an area that may require traffic control, or other support for locating. The facility operator data is displayed within the interactive map.

whenever it needs to be updated, risking obsolete data potentially being displayed. Additionally, there are limitations on styling, which may make it difficult to know which facility the KML line on the map represents.

HOW WMS AND WFS WORK

This is where WMS and WFS come in to change the way we look at map data. WMS allows the One Call center's geographic information system (GIS) to show features in real time, based on encrypted data supplied directly by facility operators. The facility operator can customize feature styling and labeling to meet their needs, further improving the functionality.

WFS has the same, yet enhanced, benefits. It is able to show attributes like depth, which can be styled as desired. Instead of map image tile, WFS returns a geometric feature. This allows the user to click on each feature in the map and access a display with additional details and information that may be too cumbersome to display within the map.

Once the WMS/WFS is set up, putting it to use is a straightforward process:

1. Facility operators create and publish a WMS or WFS service within their inhouse GIS databases, deciding which layers to make visible on the ticket and packaging them accordingly.
2. Facility operators provide the WMS/WFS link, an encrypted URL, along with the name of the layer to be displayed on maps.
3. The provider enters the server URL and layer names into the notification center computer system and selects which applications will have the mapping data applied (such as IMAP, Ticket Check, Ticket Link, or Locator Ticket Management applications).

That's it! Once these steps are completed, the map features are linked and displayed in the notification center's applications the same way they are displayed on the facility operator's maps.

In cases where WMS/WFS aren't a viable option but centerline data is available, the notification center can host the WMS data on behalf of the facility operator. While all other benefits apply, one drawback is that this data is static so any changes on the operator's end have to be submitted to keep the data up to date.

THE BENEFITS OF WMS AND WFS

Security. The facility operator has exclusive control of and access to their data. The notification center manages access through logins or encrypted links.

Real-time review. The data is displayed directly from the facility owner's system when the ticket is viewed, not from the WMS tiles that are stored locally. As soon as the facility owner updates the data, changes will be reflected on the map. Additionally, there is no size limitation on the features that can be displayed. Image tiles are requested depending on map zoom

Harnessing The Power continued on page 24



The virtual community for excavation safety professionals offering education, information, networking, and open discussion.

ExcavationSafetyAlliance.com

What is Excavation Safety Alliance (ESA)?

ESA is an entirely new format for consuming and participating in excavation safety education founded on the principle of Saving Lives through Education. It is simple, but incredibly powerful.

ESA is a tier-based membership program, where different content is made available based on your membership tier of choice. Members are granted access to a treasure trove of excavation safety content, become part of the ESA Community forum, and receive exclusive discounts on bonus content hosted on ESA. Content is continuously added, so there is always something new to view.

ESA offers content to all industries involved in the protection of our buried infrastructure:

- Board Member
- Electric
- Engineer
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\$150/Month**

*The highest level of ESA access, All Access members receive every piece of content published to ESA, every discount, and FREE access to select IR virtual events. All Access is your ticket to event savings.

	ESSENTIAL	STANDARD	PREMIUM	ALL ACCESS
Resume posting	●	●	●	●
LSAW material	●	●	●	●
ESA podcast	●	●	●	●
ESA blog	●	●	●	●
Partner videos	●	●	●	●
dp-PRO digital magazine & e-newsletter	●	●	●	●
Ask the Expert video series		●	●	●
Difference Maker video series		●	●	●
Soft Skills video series		●	●	●
ESA LinkedIn Group		●	●	●
Town Halls		●	●	●
Downloadable Resources		●	●	●
Discounted entry to industry workshops		●	●	●
dp-PRO Print		●	●	●
Excavation Safety Guide Print		●	●	●
Job posting on the ESA job board			●	●
Recorded conference sessions			●	●
Training video series			●	●
Training webinars			●	●
Free registration for select IR virtual events				●
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The ESA community forum is the central hub for industry collaboration and is available exclusively to ESA members. Lend your voice to topics in your area of expertise, learn more about topics you are interested in, find job postings, and network with other industry professionals on ESA Community.



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Many of our partners release content designed to help you improve your damage prevention knowledge, skills, and tools. This video content, produced by excavation safety educators, is curated by Infrastructure Resources for ESA members.



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ISSUESPOTLIGHT

LOCATE 2021

Harnessing The Power continued from page 20



We can see the facility operator's centerline data intersecting the excavation area on the north end of the site.



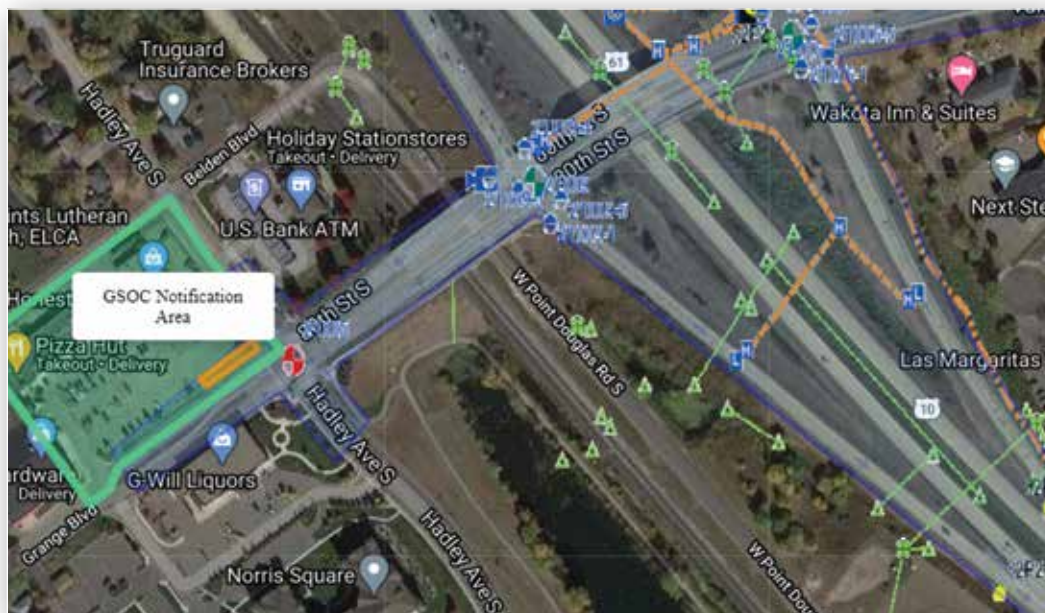
We can see that the facility operator's lines run parallel to and through the center of the excavation area.

level and location; performance is typically exceptional but is also subject to server performance from the provider of the layer. With up-to-date data, facility operators can quickly and easily review notification areas, screen tickets and allocate resources.

Toggle between map layers. Facility operators access the notification center map and facility map data in one place. Users can toggle between map layers and see how the excavation and facility polygons interact over the base map or satellite images, eliminating the need to compare dig site ticket information to a separate map application.

Styling consistency. The map features are displayed on the One Call center's applications the same way they are on the facility operator's maps (including color, labels, line width and symbols).

Efficient locating. Locators can quickly identify underground assets as soon as a ticket is received. They have enough detailed information to identify access points such as junction boxes, potential challenges such as high traffic roadways in the work area, or special circumstances that may affect



The work is shown in the orange shaded box; the GSO notification area is shown in green. All nearby facility operator data is visible through the integration of WMS/WFS.

response such as high priority/risk assets in the area of excavation. There may even be enough information available to clear the ticket during this review. **DP**

Adam Franco is the Director of Operations at One Call Concepts Inc. and has been working in Damage Prevention for 18 years. Learn more, or sign up for a demo, at occinc.com.



The Inaugural Global Locate Masters (GLM) is scheduled to take place during Damage Prevention Week at the 2022 Global Excavation Safety Conference in Phoenix, Arizona, March 1-3. The competition is designed to test the top locators in the world in a skills competition unlike any held before. Using UTTO virtual locate simulators, locators have the unprecedented opportunity to showcase their skills in front of one another and an audience of damage prevention peers.

Typically, locators are evaluated by the mistakes they make, making it difficult to find recognition for everything they do right. GLM is the opportunity for these industry professionals to display how their years of experience, critical thinking, and mental agility combine to allow them to complete difficult locates in an accurate and timely manner. The Master's competition recognizes, rewards, and shines a spotlight on the world's best utility locating professionals.

Competition Format

The competition features UTTO virtual locate simulators, providing a novel opportunity for indoor competition with realistic, variable, and highly customizable locate scenarios. The simulator accurately replicates the unique challenges found in the field and its on-the-fly programmability allows for fair competition with equal standards across competitors. Most exciting, changing locate scenarios allows fellow competitors, conference attendees, and vendors to become spectators.

The Locate Masters will culminate in a grand finale on the final day of the conference which features the highest performing technicians of the competition.



Awards

The top 10 competitors will be awarded a plaque commemorating their achievement along with recognition in *dp-PRO*, the industry's leading damage prevention publication. The 3rd place winner will receive a \$500 cash award, and the 2nd place winner \$750.

Ultimately a single winner will be crowned. Along with a \$1,000 cash award, the top placing technician will be named the Global Locate Masters 2022 champion and spokesperson. This honor includes interviews for magazine features, publicity quotes in social media to promote excellence in locating, and recognition of this achievement, along with company recognition in all 2021 media coverage associated with GLM. The champion's name is the very first name etched on the Global Locate Masters Cup, a perpetual trophy put on display every year at the Global ESC!

Qualification

To find and crown the best locate technician in the world, GLM offers several qualification methods.

1. Employer nomination

Employers are encouraged to nominate employees who exemplify excellence in locating. Not all of the world's most skilled and responsible locators have the opportunity to compete in regional or international locating competitions. Employers who feel their locate technician(s) represent the best combination of skill, accuracy consistency, and passion for the job are encouraged to nominate them by going to GlobalLocateMasters.com and clicking the Qualification tab.

2. Placement at a regional Global Locate Masters qualifying event

Compete in a scheduled regional GLM qualifying events or organize your own event!

- Internal Companywide Event: Company hosted GLM events offer a special opportunity for employers to let their best and brightest employees compete for the honor of representing their company at GLM. The skills locate technicians use every day in the field can be tested and flexed to the extreme using UTTO's locate simulators.
- Local Qualifying Event: Regional GLM competitions makes a spectacular value-add to any industry function. Locate technicians are given the opportunity to showcase their skills, and other attendees are given the rare chance to see how locating really works.
- UTTO simulators are available for purchase or rental. Contact Jeanne at UTTO for more details. 239.313.9350 / jeanne@utto.com


3. Placement at an International Locate Rodeo

The top 3 placers at an official International Locate

Rodeo competition (national or regional) qualify to compete at GLM. Follow upcoming International Locate Rodeo events and opportunities on Facebook.

4. Onsite qualification at the 2022 Global Excavation Safety Conference

All interested technicians, conference delegates, and members of the public may compete to qualify onsite at the Global ESC. This option gives those who may not have had the opportunity to compete in a qualifying event to pit their skills against competitors. Onsite qualification takes place at the Phoenix Convention Center, home of the Global ESC, Monday, February 28, 2022.

The world's best locate technicians work every day to protect the public and the underground utilities we all rely on, and GLM is where they showcase the immense amount of skill it takes to do the job well. Competitors from around the world, from large companies to small, will be there to compete to call themselves the best. Will you? 

Visit GlobalLocateMasters.com.

HOW GIS IS TRANSFORMING PIPELINE SAFETY FOR MUNICIPAL UTILITIES

BY MATTHEW THOMAS

THE YEAR IS 2001. Collectively, we had just survived Y2K, the twin towers still stood in NYC, and pipeline regulations were starting to be a flashpoint in the industry. What few realized is that pipeline safety – and the definition of what “compliance” means to pipeline operators – would soon be transformed by a confluence of events.

Fast forward to today. That very same pipeline regulator landscape is now very, very different. The factors that affect pipeline safety have fundamentally changed. New factors (terrorism, natural disasters, population density) must be considered. New technologies (impacting inline inspection tools and pipeline locating techniques) have matured. High-profile incidents, near misses, and perceived high risk construction projects, have led news cycles and infiltrated water cooler conversations across the country. Pipeline safety regulations have evolved and with that evolution has come the need for pipeline operators to know more about their assets than ever before. More importantly, initiatives like Pipeline Safety Management Systems (PSMS) and revisions to existing reporting requirements are forcing those operators to revisit their data management approach more thoroughly.

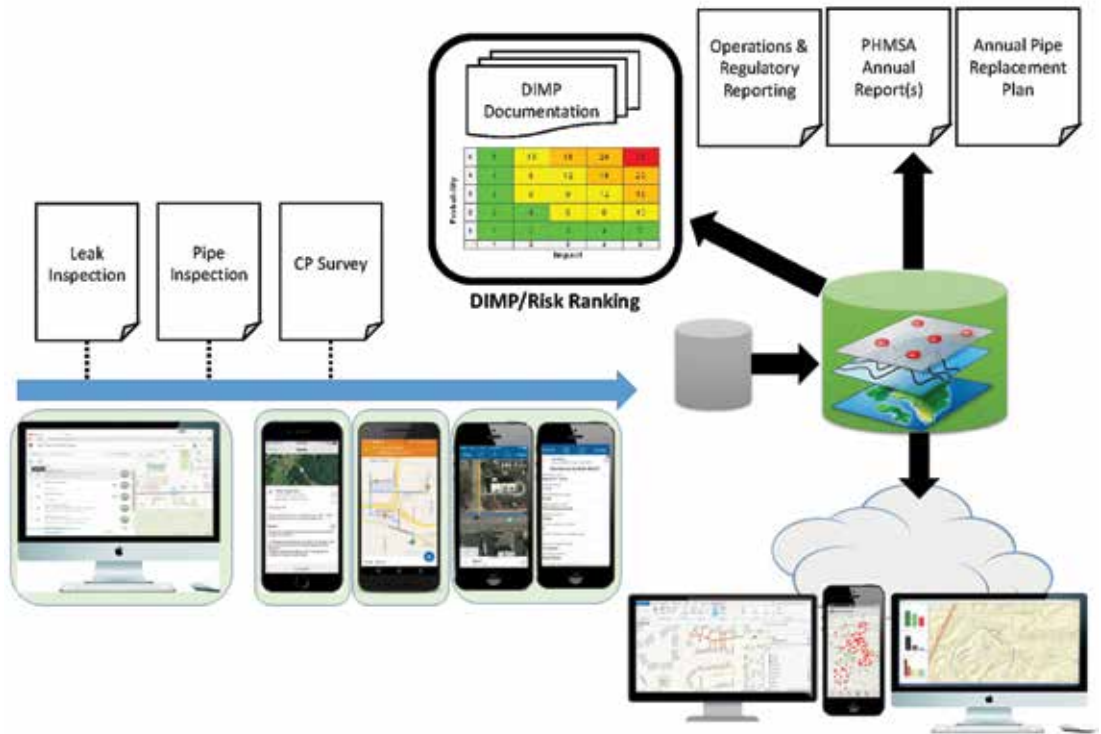
As a professional who has spent a career in the proverbial pipeline sandbox, always hoping to build that better mousetrap in bringing geospatial technology to the forefront of pipeline data management, I have seen firsthand how pipeline operators large and small adapt to this ever-changing regulatory landscape. I know the investment required to succeed in this mission of improved asset management, and it is not insignificant. Each new technology, for all the value and efficiency and insight offered, requires a similarly voluminous serving



of know-how to get “right”, and, as with any new technology in any market, comes at a premium cost. But all that being true, there has been, and remains to this day, a commitment to all of this within those companies; the cost is accepted, and effort fully understood.

Enter the municipal utility. Typically not a private company, municipal utilities are run by and for the citizens of the town they serve, and





are paid for using taxes paid by those same citizens. Often the gas department in these towns is a part-time “hat” the Public Works Director wears. Perhaps, alternatively, it is an additional set of tasks picked up by the water department manager. For these towns there simply is not funding to absorb what would be the standard “buy-in cost” for the types of asset management solutions utilized by larger, private companies. Even if the money were somehow available, there is no staff to perform the work. In short, the commitment that helps keep the wheels of progress turning for many pipeline operating companies simply does not – and likely will

not ever – exist for a municipal utility. This community had to reassess their approach to data management.

Whereas most pipeline operating companies generally develop their own GIS strategies based on a variety of factors (existing processes, resource availability, partners, technology, etc.), a solution that can work for municipal utilities must assume consistency among three foundational elements: data creation, data analysis, and reporting. In the simplest terms, this means City A and City B define a gas main, riser, valve, leak, etc. similarly. This specific condition is achievable by using an industry standard data model, which pre-defines the utility assets using a structure and naming convention that can readily be used for government reporting and follows industry guidance on how pipeline components are named and what attribution they carry.

Once this framework is established, the care and feeding of this solution approach is cut-and-dried. Because these operators now have a definition of what a feature “looks like” in terms of the GIS, it becomes very easy to extend those definitions into the actual workflow for the individuals executing the work on a day-to-day basis. An easy way to demonstrate this is to consider the process one may use to inspect and repair a leak. Historic practices would have a single report created when the leak was reported, a second report created when the leak was inspected, and then leak repair information entered into yet another paper form. After the work is complete, each of these paper forms would have to be consulted when entering the data into the GIS. Time is lost and the opportunity for data entry errors was created.

A modernized process would enable the creation of a single electronic form that one would use to initiate the inspection, and within that same form repairs can be identified

in that one location, and upon completion, the GIS would automatically load that repair into the GIS database. Rather than spending time chasing down the data management, it becomes “baked in the cake” now as part of the processes.

Beyond the obvious and immediate value gained by having more accurate asset information available, there are far-reaching advantages to the onset of GIS usage at the city utility level. Using the GIS data for other applications (planning of community growth or identifying where the new high school football stadium could be built) offers countless opportunities to gain even more from the investment in improved data management. This collective “community” approach of municipal utility operators helping to keep costs manageable makes sense and allows those who serve these operators, service providers and software developers alike, to continue to refine their offerings to better support the goals and objectives of their clients while satisfying the requirements that uplift pipeline safety.

Most importantly, it helps deliver on the commitment we, as an industry, must all make to ensure safe and responsible operations for all pipeline companies, big and small, public or private, today and long into tomorrow. **DP**

Matthew Thomas is Managing Director for Pipeline Accident Prevention Service (PAPS) with 20-plus years of experience serving in various roles within the oil and gas pipeline industry. He is actively involved in Texas Gas Association, GITA, URISA, Louisiana Gas Association, Oklahoma Gas Association, American Gas Association and Southern Gas Association. Matthew can be reached at mthomas@papsq.com.

ERGONOMICS



Ergonomics is the way you use your body to work and fitting the job or task to you to reduce your risk of injury. The goal of ergonomics is to reduce the risk of soft tissue injuries. These injuries typically develop slowly over time and involve nerves, muscles, tendons, joints and ligaments. Examples of these injuries include low back strain, carpal tunnel syndrome, and tendonitis.

Importance of Ergonomics in Excavation Safety

Ergonomics helps to ensure you do not physically overexert yourself in the workplace. Reducing this stress on your body eliminates many injuries associated with overuse of muscles, awkward positions, and repetitive motions.

Soft Tissue Injuries (STIs)

Soft tissue injuries (STIs) may occur from activity at home, during work or recreational activity. These injuries may be the result of a single incident (such as a sudden fall, jerk, or blow to the body), or as a result of repeated overuse (such as shoveling or raking soil, tightening bolts, or machinery operation). The result can be serious damage and pain.

These injuries often start out minor, such as a muscle pull, but become much more serious if you continue to perform the task which originally triggered the injury without getting proper treatment. If not given opportunity to heal, these injuries can become chronic, which means they will stay with you for a long time. There have been cases where injuries have become so serious that it becomes painful to perform simple tasks such as walking or holding a pen or pencil.

The human body is like a machine with limits that vary from model to model. We do not come with an instruction manual, so we have to depend on the feedback our body gives us for self-maintenance and care. The wisdom we use in applying the feedback received determines how resistant our bodies will be to failure. We have some individual control over most of these issues such as our daily decisions on and off the job which impact both the frequency and seriousness of STIs.

The Risks of STIs and How You Can Prevent Them

There are 5 common ergonomic hazards that may occur as part of work activities. One of these hazards performed over a long time can cause a problem, but activities with more

than one hazard can increase physical discomfort even more.

- **REPETITION** involves doing the same task repeatedly that uses the same muscles over and over. Repeating the same motion too often can cause wear and tear on your joints. STIs can develop if you do not rest and allow time for your body to heal. Take control over the motions you make and how often you make them. Reduce repetitive motion hazards by:

- + Taking stretch breaks. If done properly, stretching increases flexibility which directly translates into reduced risk of injury. A muscle/tendon group with a greater range of motion passively will be less likely to experience tears when used actively.
- + Spreading your repetitive tasks throughout the day.
- + Moving your muscles in opposite directions or different ways to stay balanced.

- **HIGH FORCE** uses high muscle power during activities such as heavy lifting, pushing items or gripping tools. Moving heavy objects is an everyday activity that can cause STIs. The weight of an object can damage the disks in your spine or strain the muscles in your back and shoulders. This includes lifting, carrying, and placing heavy objects. Gripping heavy objects or applying pressure to a tool with your hands can also cause STIs. Over time, these activities can strain the muscles in your hands and arms as well as the tendons that attach the muscles to bones.

- + Examine alternatives to moving heavy objects. Employ tools such as hand trucks, carts or other mechanical assistance, or get a lifting partner.
- + If you must lift a heavy object, keep the load as close to your center of gravity as possible. Plan the route prior to starting to avoid twisting.
- + Prevent these injuries by increasing your grip strength. Three ways to do this are: keeping your wrists straight, using two hands, and making sure your gloves fit well.

• **AWKWARD POSTURES** involves working with your body held in a poor position for a long time. Awkward positions stress the muscles and joints. STIs can occur if you work in these positions too often or for long periods of time. Simple fixes that can reduce or eliminate the amount



physical stress. Ergonomic practices reduce workplace injuries by helping to identify these dangerous tasks and then redesigning the way they are done. On average, each of us will experience at least one work-related STI during our lives. STIs can become chronic, meaning their symptoms won't go away, and they can result in lost workdays, surgery or even permanent disability. **DP**

Michael Kay Carter is Manager of Safety Operations for Generation East with the Tennessee Valley Authority. He currently serves as the Administrator of the Ameri-

of time you need to spend in those positions include:

- + Stand on platforms that bring your work closer to you.
- + Tilt or rotate your work to a better position.
- + Bring items closer within your reach.
- + Change the height of your workstation or display.
- + Take breaks.

• **CONTACT STRESS** occurs when pressure from an object pushes on soft body tissues. Individuals who work with hand tools that dig into the palms of their hands or the sides of their fingers should be aware of the potential for contact stress. Examples include extended use of pliers that are not padded and put pressure in the palm of the hand and use of tools with finger grooves in the sides of handles that press into your fingers. Practical solutions to guard against contact stress related injuries include:

- + Wearing padded gloves.
- + Selecting hand tools that conform to the geometry of the hands.
- + Taking micro-breaks.
- + Initiating daily stretching.

• **HAND-ARM VIBRATION** is a vibration that enters the body from a power tools or equipment. STIs are caused when the vibration is transferred into your arms and hands. Enough vibration exposure can result in the nerves and blood vessels in your hands and arms becoming damaged. These precautions help to reduce vibration:

- + Using low vibration tools.
- + Maintaining tools will usually help complete jobs quicker and reduce your risk to vibration exposure.
- + Using anti-vibration gloves or tool wraps.
- + Keeping hands warm to allow good blood flow and prevent tight gripping which can increase risks of vibration.

There are many tasks in our workplace that subject our bodies to unhealthy

can Society of Safety Professionals Utilities Practice Specialty. He can be reached at mkcarter@tva.gov.

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The Rise of First Amendment Audits and Its Impact on YOU!

BY
JIM WILLIS,
CMAS, CHS-V

“IF THEY CANNOT PROVOKE A CONFRONTATION, THEY WILL TYPICALLY

A *First Amendment Audit*. Most of us have never heard of such a thing, let alone experienced it. But the chance of facing one grows daily. They are aggravating and unsettling; and if not handled well, can impact your safety, your reputation, and your bottom line.

A little background. Since George Holliday filmed the Rodney King confrontation on March 3, 1991, people have recorded the interactions of police, public officials, and even private citizens. These days you don't even need a camera or camcorder. Smartphones allow anyone to record and broadcast in real time with a device that fits in their pocket. Today, people record routine events hoping to capture something worth broadcasting. Some have taken to using this technology as a tool for social justice. However, this has become a two-edged sword, recording the unjust and wreaking havoc on the innocent. An unfortunate offshoot has been the proliferation of conflict created for conflict's sake that is then recorded and posted on social media under the guise of crusading for rights or justice, including the recently popularized genre of First Amendment auditors.

This movement is a group of loosely affiliated activists who place themselves in confrontational situations with police and government officials while recording the interaction with a stated goal of “auditing” the encounters for First Amendment rights violations. The focus has expanded recently to target anyone working in the public arena, including utility workers.

What is a First Amendment Audit? According to the auditors, an audit is an inspection of how well government officials and others working in the public arena stay within the bounds of the Constitution. In reality, it is little more than an effort to record and profit from a confrontation. Typically, social media activists with recording devices enter a public building, a work site, or an outdoor activity and use aggressive and alarming tactics to provoke a reaction. This encounter is then uploaded to a media platform.

Can they legally do this? Yes, they can. By and large, the law is on their side. If they are in a public area and stay within legal boundaries, they can record and broadcast images of almost anything and anyone. In fact, once they have legally created a recording, they own it and have complete control over the content, no matter the subject or image.

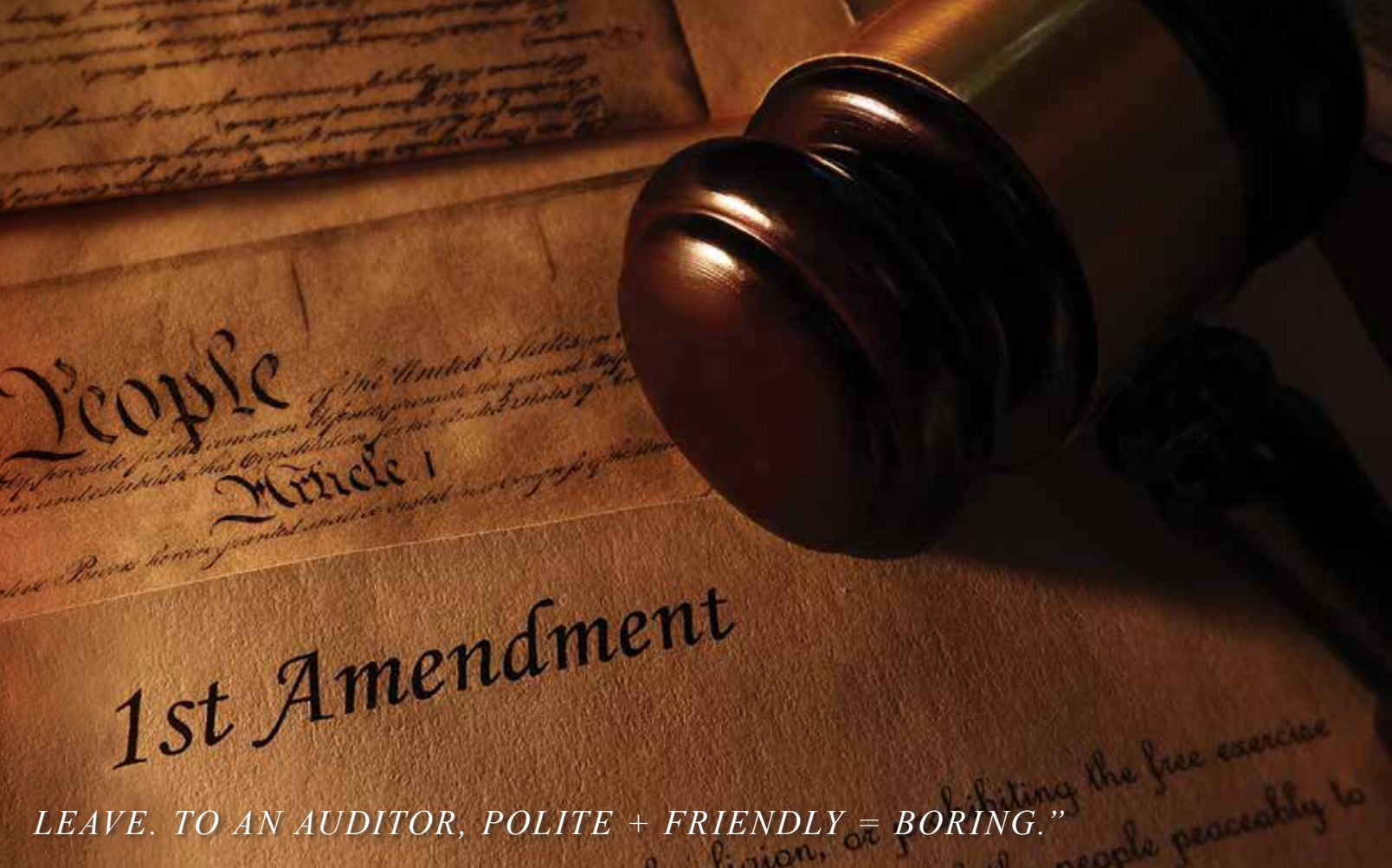
First Amendment auditors have had a series of successful litigations stretching back to May 8, 2012, when a landmark Seventh Circuit, U.S. Court of Appeals decision set a new standard for audio recording of people carrying out “their duties in public places and engaging in public communications audible to persons who witness the events.” Since then, auditors have used increasingly militant tactics to elicit and record frustrated responses from typically unprepared victims.

What are the ramifications of an audit? Overreaction can be costly. An inappropriate response can be a public relations disaster for your company, and once the recording hits the internet, you may receive threats against you or your company. The auditor won't be held accountable for third-party threats.

Becoming physical and grabbing the auditor or recording equipment will likely result in assault charges followed by the inevitable lawsuit for damages, along with the reputational damage and threats.

What to expect during an audit? The encounter will be planned to take you and your employees by surprise. The auditor will often show up in attire meant to intimidate and alarm. Some go as far as carrying weapons. The auditor will start filming and say nothing (stonewall approach) or begin aggressively question-





LEAVE. TO AN AUDITOR, POLITE + FRIENDLY = BORING.”

ing any employee they encounter.

If they use the stonewall approach, they will not respond to questions or speak when spoken to. They will typically only respond if you take offensive action, with simple statements such as “do not touch me”, “do not touch my camera”, or similar directives.

If they use the aggressive questioning approach, they will try to verbally overpower flustered employees with rapid-fire questions and demands, often asking for documents or information they may or may not have the legal right to obtain.

In both cases, they will not respond to questions, provide their name, state the nature of their visit, or explain their intent. Their goal is to elicit a frustrated, fearful, or angry reaction. They expect the police to be called and will follow the same tactics with them, hoping to record a belligerent response.

How do you defend against a First Amendment Audit? The best approach is to be proactive with training and preparation. Make sure every employee who could be confronted knows how to respond with professionalism and decorum. Determine what auditors can and cannot do. For example, they cannot interfere with emergency response or stand in the way of work being carried out. They do not have carte blanche over your facility or work area.

Use the following suggestions as a first step in preparing for a First Amendment Audit.

1. Make sure employees understand and accept that, with some exceptions, legally there is no expectation of privacy in a public place. This means a person can legally record activity and people in public places, as well as anything that can be seen from a public place.
2. First Amendment auditors are hoping for an altercation. Do not engage unless they engage you or you have a reason to communicate with them. If you do engage, be courteous and professional. If they cannot provoke a confrontation, they will typically leave. To an auditor, polite + professional = boring.
3. Once you realize you are dealing with an aggressive auditor, quietly contact law enforcement. Remember the auditor is hoping to hear threats, or that you are “calling the police;” don’t give them the satisfaction.
4. Auditors do not have the right to interfere with your work, enter restricted areas, impede

emergency response, or create a hazard. They do not have the right to enter marked work areas or create a dangerous situation for you or the public.

5. Engage a security specialist who understands your industry and the motives of the auditors to help you prepare for a First Amendment Audit. A security specialist can identify where an encounter is likely to take place and develop effective practices and protocols.

Finally, a First Amendment Audit is a money-making venture and source of fame for the auditors. Their revenue and reputation are tied directly to the number of clicks the uploaded video receives. The more outrageous the response, the more clicks, which translates to more income and notoriety. No confrontation means fewer clicks and little or no income or recognition. The less you interact with an auditor, the less profitable the recorded encounter will be and the less interest they will have in continuing the audit. **DP**

Jim Willis, CMAS, is president of InDev Tactical, a security training, and consulting firm. Jim has more than 40 years of experience in working with electric power and telecommunication utilities. He is a credentialed homeland security specialist and anti-terrorism expert with expertise in counterterrorism, planning, training, and security operations. Jim can be reached at jim.willis@indevtactical.net



Unsafe Digging Leaves Everlasting Impact

BY CORAL LUKANIUK

Damage to a small natural gas distribution pipeline destroyed one home, damaged several other homes, sent three individuals to emergency care, injured 40 others, displaced over 400 residents, and disrupted natural gas service for approximately 430 homes and businesses.

This took place in Canmore, Alberta, a small mountain town approximately 100 km/62 mi. west of Calgary and about 25 km/15 mi. east of Banff. This area is home to about 14,000 people, many wildlife species, and popular with tourists.

The gas line ruptured on June 26, 2015, which



was the last day of the school year. People were very excited to start their summer vacation on this blue-bird day but due to this unplanned event, many lives were affected and what was going to be the start of an exciting summer ended suddenly.

To this day, many people are left in bewilderment that no one was killed during this incident. It is extremely scary to think of the near misses that took place with people's lives. As Mayor John Borrowman said to the *Calgary Herald*, "When you walk around there, somebody should have died. It looks like a war zone."

The gas line that ruptured was adjacent to senior lodging, but thankfully it turned out the residents had moved from their rooms to the dining hall. A neighbor was out for a walk that day and ended up in a conversation with another neighbor down the street. The homeowner of the destroyed home was away that day. Another neighbor needed to go to the mailbox before the post office closed. Some of the residents were home, some were inside and others



outside tending to their yards. There were so many near misses when it came to lives that it still rattles them today when they think about what happened.

What did happen? It seems a locate did not take place and a subcontractor struck the natural gas line and other events led up to this incident. Although there was a strong presence of gas in the air, the gas was not immediately turned off. The line exploded and the sound of the rumbling traveled for several kilometers. At first, people thought a train derailed or a plane crashed. People likened the sound to avalanche control which is common in the winter months; a loud thunderous boom shaking the ground.

Innocent people are left with vivid memories and some still are



The street today. The house shown is the rebuild. The gas line was hit between the original house and the senior lodging next to it.



An aerial view of the explosion site. Photo Courtesy of Rocky Mountain Outlook

ary 13, 2021, residents in Canmore 25 km/15 mi. away, felt the rumble of the ground and those directly impacted by the 2015 gas line explosion experienced a fear that some of us don't understand; many of them went outside to look for debris in the air as if another house had just exploded.

Pipelines safely and reliably transport natural gas and oil for products we rely on every day. We all need to remember to follow safe digging practices as these products require safe handling. Failure to do so can result in severe consequences. Luckily, no one was killed in Canmore on June

in counselling today. Some families lost everything and were in rental properties for up to 18 months. "There was structural damage to our home which disturbed the asbestos. All soft goods were destroyed," one family member shared with me, six years later. "Our kids still want their old house back. They miss their things and old rooms."

Alberta Occupational Health and Safety completed their investigation.

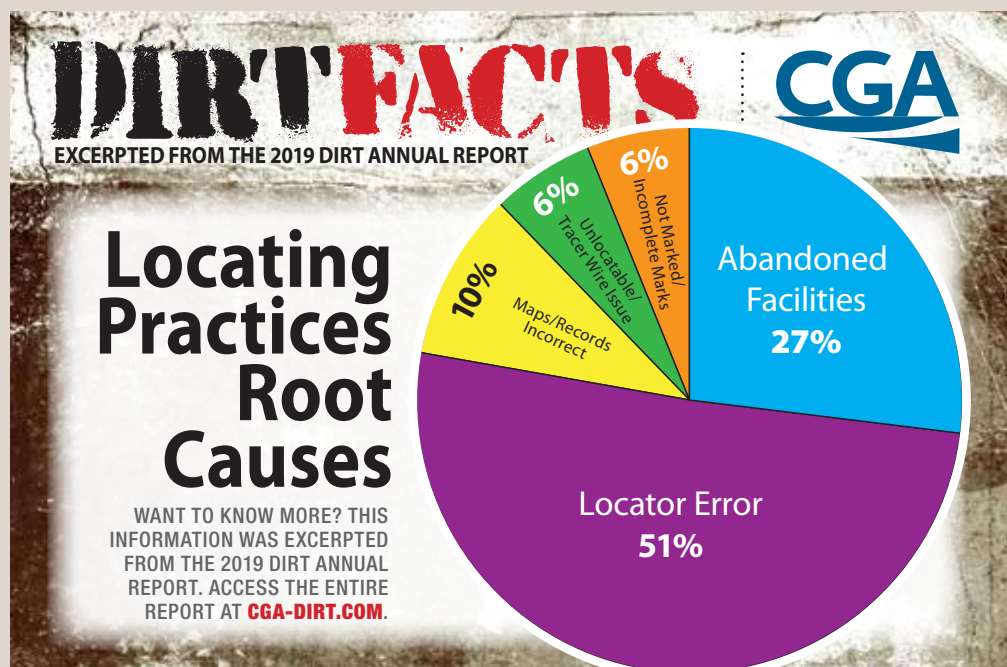
The general contractor was fined

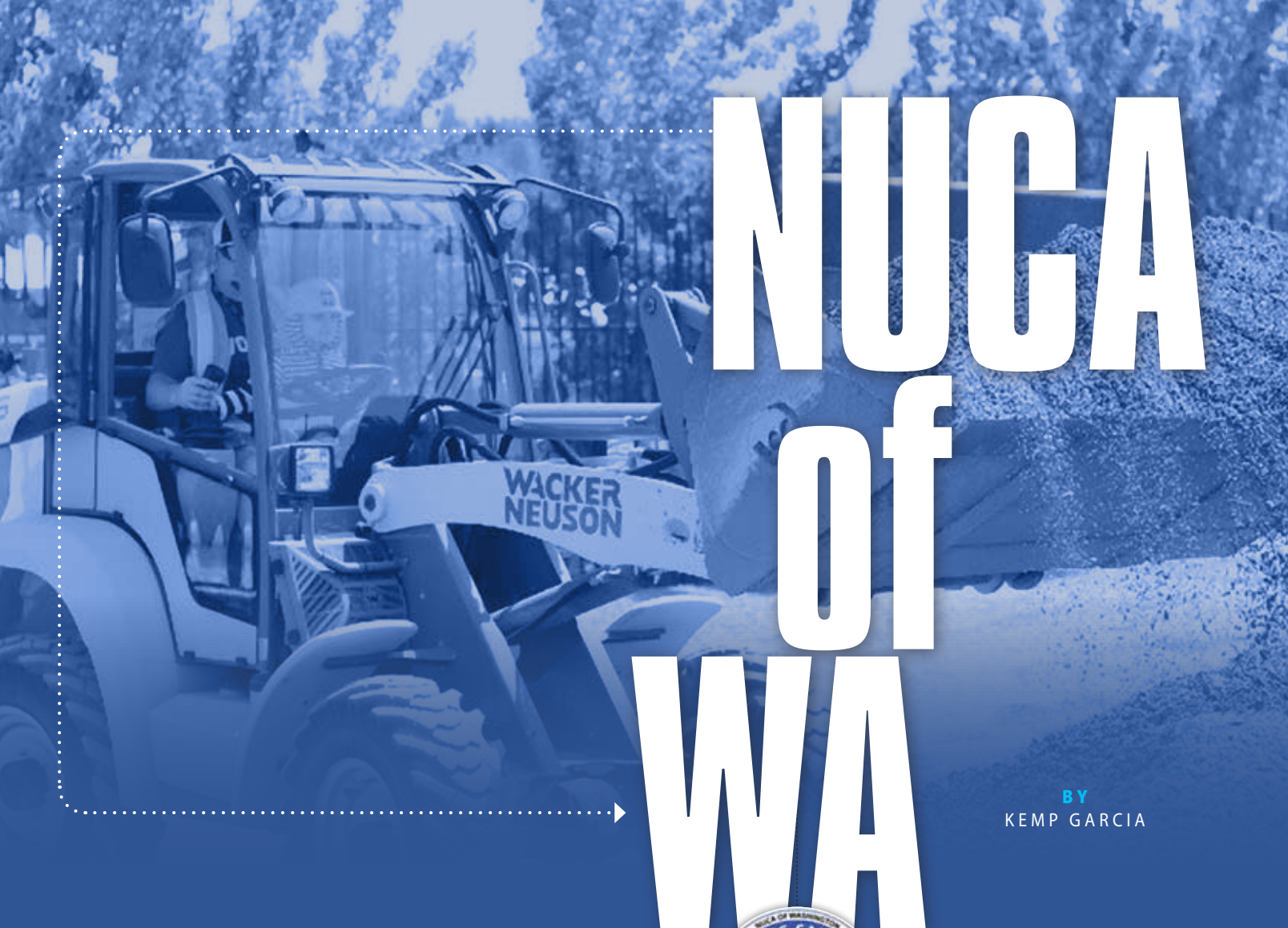
\$75,000. That's it! Due to the lack of legislation, there are no other fines. Now, it continues with civil litigations.

Did this need to happen? Absolutely not. Taking shortcuts increases risk and sometimes that risk cannot be mitigated. Although One Call centers and utility owners have damage prevention programs, the messaging is sometimes ignored. With no teeth in legislation, some see it as a risk worth taking. Let us please remember the innocent in all of this – seniors, neighbors, businesses and tourists – people who happened to be in the wrong place at the wrong time. In Canmore, this gas line rupture impacted the community and those directly impacted continue to heal. Those memories will never be forgotten. Those memories are so real that when an earthquake took place 5 km/3 mi. north of Banff on Febru-

26, 2015, but the memories are everlasting. **DP**

Coral Lukaniuk, Principal of coRoc Solutions, specializes in program creation and engagement. Learn more at corocsolutions.com or contact Coral at coral@corocsolutions.com.





NUCA of WA

BY
KEMP GARCIA



NUCA of WA is the Western Washington Chapter of the National Utility Contractors Association (NUCA National). Consisting of approximately 75 members, the organization is a nonprofit trade association whose primary purpose is to represent the best interest of those in the utility construction and excavation industry. This is done through active participation with legislation, community events, promotion of the trades and industry, and ensuring the work safety of members through monthly education sessions and high-quality training offered through the association.


The association is very active with a strong legislative committee and lobbyist, including the creation of the Public Works Trust Fund in Washington State, and offering expertise at the table with the creation of the Dig Law in 2013.

One of the biggest community events is the annual Dozer Days held at the Washington State Fairgrounds. Dozer Day is like going to a fair, only the rides are real heavy construction equipment. Kids hop in the operator's seat and actually operate dozers, excavators, and other heavy equipment (with a professional operator at their side)! This is a family-fun activity used as a platform to educate the next generation on the industry. In 2022, NUCA of WA is adding a Workforce Development Day for area high school students to come and "try-a-trade" to learn about alternative career paths after graduation. Local nonprofit organizations benefit from the proceeds of this event.

One of the signature training events that NUCA is proud of is the Dig Safe Certification Training. Since 2013, I have taught this in-person class to instruct individuals who excavate about the present dig laws in the state. It is amazing how many myths are present since many people who excavate daily have never read the law themselves.

The Washington Utilities and Transportation Commission (UTC) is the governing body that takes recommendations from a volunteer committee called the Washington State Dig Law Safety Committee (WSDLSC). This committee hears complaints from either the con-

tractor or the utility owner and then decides if the law has been broken and provides a fine recommendation. The UTC reviews the recommendation and levies the fine to the failing party.

In 2015, the UTC partnered with NUCA of WA to pay for Dig Safe classes across the state using money from fines collected. UTC pays NUCA of WA to perform the training, so it is free of charge to attendees. In February 2021, NUCA of WA went live with the Online Dig Safe Certification Training platform. Approximately 3,000 people have been through the Dig Safe Certification Training program and NUCA of WA will continue to deliver this to get everyone in the state of Washington Dig Safe trained. NUCA of WA is looking to partner with other associations to accomplish this goal and get everyone trained on damage prevention. NUCA of WA hopes to see Dig Safe Training as a required certification to perform excavation on all projects, public or private. 

If you are interested in joining NUCA of WA to learn or work on the association's many initiatives, please contact Liz Truong, Executive Director, at liz@aminc.org.



Indiana 811 is hitting the Road!

• MARY PATRICIA KINDT •

INDIANA 811 is looking forward to hitting the road this year to spread the safe digging message! Indiana 811, who together with Kentucky 811 form Underground Safety Alliance, recently underwent a project to wrap their company vehicles in custom graphics to promote safe digging, the color code chart, and online ticket entry throughout the state.

The unique and colorful car wrap, created and installed by local vehicle wrap company Killer Wraps based in Indianapolis, stars the loveable, long-time Indiana 811 mascot Holey Moley. Besides starring in his new vehicle wrap role, Holey Moley is the namesake of the road that the Indiana Call Center is built on—Holey Moley Way! Also featured prominently on the wrap is the APWA color code chart to educate fellow drivers on utility color markings, advertising to promote online ticket entry, the Indianapolis skyline, and edgy artwork of a labyrinth of underground pipes and tubes.



The newly decked-out Toyota Highlander and Ford Transit Connect will embark on Hoosier Highways starting this spring. **DP**

SAFETY VIDEO

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Did You Know a Locator Saved Your Life Last Week?

Celebrating Locator Safety & Appreciation Week

• STAFF REPORT •

LOCATOR SAFETY & APPRECIATION Week (LSAW) is April 19-25. This annual celebration brings to the forefront the need to recognize the important job locators do, thank them for their diligence and hard work, and provide them with tips and tools designed to help keep them safe on the job.



Why should you care? Well, the short answer is, because somewhere, sometime, somehow, a locator saved your life. Seems a little far-fetched, right? Well, let's really think about that. There are 19 million miles of underground utility lines buried in the United States alone. Ground disturbers call in more than 25 million locates each year. Each of those 25 million locates requires a trained locate technician to physically inspect the dig site and put marks on the ground indicating where a utility is located or clear the dig site through electronic means. Keep in mind, the United States is 3.797 million square miles.

So, using totally unscientific logic, the google machine, and simple basic math, the following statistics can be generally assumed. (Obviously, New York City has a heck of a lot more than, say, Alaska's Yukon-Koyukuk, but like I said, we're not being scientific.) In the United States, on average:

- **A single square mile contains 5 miles of buried utilities.**
- **6.5 locate requests are submitted for each square mile each year.**
- **About 68,500 locates are performed every day; almost ½ million each week!**

“So applying my logic to this, that means about 24.87 million locates are performed accurately every year in the United States, saving countless lives, including, possibly, yours!”

Now, some industry reporting likes to focus on the number of damages attributable to locators, using ominous phrases like, “28% of all damages are attributable to locating root causes.” That sounds like a really big, really scary number. And don't get me wrong – it is a big number, about 123,000 annually. I am not trying to discount the value of knowing this number or minimize its importance. We need to know this number, and we need to do everything we can to reduce this number. The goal is zero damages and we still have a long way to go to get there.

But, for a minute, I want to focus on a different number. One that celebrates our locators instead of blaming them (again, using my unscientific little google search) - **0.49%**

That's right. Less than half of one percent of all locates performed actually result in a damaged utility. So applying my logic to this, that means about 24.87 million locates are performed accurately every year in the United States, saving countless lives, including, possibly, yours!

As we move into Locator Safety & Awareness Week, I want us to take a moment to really think about the staggering implications of that statement. These amazing industry professionals do their job completely right more than 99.5% of the time.

That is the theme of this year's LSAW celebration. As you are looking for ways to honor the locators you know, help us promote the message,

“We trust locators' hard work, discipline, and accurate marks to get us home safely to our families and loved ones. Thank you, locators, for providing the comfort of safety with your daily diligence.” **DP**

Visit LocatorSafety.com for tools and resources (many free and some new) available to help you promote LSAW this year! Be sure to share with us what you did for publication in a future issue of dp-PRO.

April 19-25, 2021

LSAW

Locator Safety & Appreciation Week™



Infrastructure Resources and Nulca remind you to let the locators you work with know how much you appreciate the difficult, challenging, and sometimes dangerous work they do protecting our underground utilities!

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Tell us how YOU celebrate Locator Safety & Appreciation Week. Visit the website and share your story.

LocatorSafety.com provides tools and resources designed to keep locators safe - many of them FREE!

- Download the Social Media Toolkit
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- Download the LSAW Web Button to share on your website
- Send an LSAW Card to a Locator
- Download the Locator Safety Poster
- Download the 'Your Marks Matter' Poster
- Purchase 'LOCATING BURIED UTILITIES: A PROFESSIONAL APPROACH' Textbook
- Purchase LSAW Coasters to hand out at live events and safety meetings



LocatorSafety.com

MISS DIG 811 Private Locate Survey

• BY STEPHANIE BOE •

THE STATE OF MICHIGAN requires a call to 811 to have facilities marked before digging at a job site. However, facility owners (i.e. utility, cable, phone, water, etc.) only mark the lines they own. This leaves homeowners and excavators at risk of hitting underground facilities that are privately owned, also known as private facilities.

Examples of private facilities on residential property include gas lines from the house to a pool or grill, electric running to a garage or a pole barn, or even an irrigation system. Private facilities on commercial property may include lights in a parking lot, and fiber and other facilities connecting the buildings on a campus. It is the responsibility of the excavator to ensure that private buried facilities are located to prevent injury, service interruptions, and property damage.

MISS DIG 811 piloted a Private Locate program to assist the excavating community through our Remote Ticket Entry (RTE) system. We began with three counties and expanded to 18 counties. While placing a ticket, RTE users can express their interest in private locating services. Once the

“ It is the responsibility of the excavator to ensure that private buried facilities are located to prevent injury, service interruptions, and property damage. ”

RTE user expresses an interest in the locating services, a locating company will reach out to the RTE user with additional information on marking privately owned lines.

MISS DIG 811 sent a short survey to homeowners, excavators, municipalities, and utility companies to better understand the needs regarding private facilities. This survey was sent out in late 2020 and returned by EOM January 2021. This feedback will assist MISS DIG 811 in expanding our Private Locating program.

We engaged the services of an independent market research company to collect the data and analyze the results. The independent marketing company ensured the highest level of confidentiality, reported responses



in combination with others, and did not gather personal information.

The survey was constructed in such a way that the user could complete it on a smartphone, desktop, laptop, or tablet to more easily respond to the questions.

A sample of questions asked include:

1. Prior to receiving this survey, were you aware of the difference between public underground lines and private lines?
2. Would it be helpful if you could request private locating services (fee-based) when contacting MISS DIG 811, or not?
3. Do you place dig tickets using MISS DIG 811's RTE program? If yes, was the option to be contacted by a private locator through MISS DIG 811 helpful?
4. Were you contacted by a private locator regarding your request?
5. Please rate how important the followings items are as part of the vendor communication.
 - a. Rates or fees
 - b. Ability to meet project timeline
 - c. Ratings from other users
 - d. Contact information for the vendor
 - e. Inclusive list of all services offered by the vendor
 - f. Direct/web link to book services

Survey results will be shared in an upcoming issue. 

Stephanie Boe is the Web Ticket Manager at MISS DIG 811. The Web Ticket department trains and provides ongoing support to users of the Remote Ticket Entry (RTE) and Collaborative Design ticket entry programs.



Calendar of Events

Due to COVID-19, many events have rescheduled or transitioned to a virtual environment. Be sure to verify the status of all events you are planning to attend.

May 2021

- 20 PA Safety Day Conference (Drexel Hill, PA)
- 25 PA811 Safety Day Conference (Pittsburgh, PA)

June 2021

- 7-10 World of Concrete (Las Vegas, NV)
- 15 PA Safety Day Conference (Allentown, PA)
- 17 PA Safety Day Conference (York, PA)

July 2021

- 13-15 Underground Construction Technology International (Nashville, TN)
- 27-31 DCA 60th Annual Convention (Waimea, HI)

August 2021

- 4-6 FUCC Summer Meeting (Melbourne Beach, FL)

September 2021

- 28 PA Safety Day Conference (Erie, PA)
- 28-30 The Utility Expo (Louisville, KY)

October 2021

- 5-8 No-Dig Down Under (Sydney, Australia)
- 13-15 Construction HR & Training Professionals Conference (St. Louis, MO)
- 26-29 Greater Chesapeake Damage Prevention Training Conference (Ocean City, MD)

November 2021

- 3-5 FUCC Fall Meeting (Jacksonville, FL)
- 8-10 Joint Contractors Conference (Phoenix, AZ)
- NASTT No-Dig North 2021 (Vancouver, BC)
- 9-12 Midwest Damage Prevention Training Conference (French Lick, IN)

Abstract Submissions Now Being Accepted:




March 1-3, 2022 Global Excavation Safety Conference LIVE (Phoenix, AZ)

IR-SavingLives.com/submissions/

To include your event in an upcoming Calendar of Events schedule, email karin@IR-SavingLives.com. 



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LOCATING



BY CHRISTOPHER KOCH

My PLEASURE

As a guy who has been locating for the better part of 25 years, I've developed a few opinions about fast food restaurants; they in turn have developed an opinion about me. Turns out I'm what fast-food companies call a "heavy user." According to Newsweek, that is one of the "20% of fast-food eaters who account for 60% of fast-food sales." The average heavy user is a single man in his 20s or 30s who eats fast food at least 20 times a month.

Now show me a white truck with a beacon on top, a logo on the door, and a case of spray paint in the bed, and I'll bet you a hundred bucks there are ketchup packets and paper napkins in the glove box. The locating industry is full of heavy users.

For my part, I appreciate the reliability of McDonalds. The food isn't good, but it isn't bad either. They are always open and never too far away. The employees at the drive-thru see you as just another open car window in an endless line of open car windows. Donate

your change. Don't donate your change. Just keep it moving.

Then there's Burger King. Mostly owing to occasional cravings for their original chicken sandwich and its oddball oblong patty, I keep giving them chances even though the drive-thru experience usually involves handmade signs, a filthy parking lot, and employees who seem just as surprised as I am that I keep showing up.

Finally, there's Chick-fil-A, where the crowded lunchtime drive-thru is a two-lane customer service ballet, with smiling iPad-toting brand ambassadors in crossing guard vests greeting you by name under climate-controlled awnings, where every customer request is greeted with a chipper, "my pleasure!" Chick-fil-A makes me feel like a welcome guest. I find myself believing they really are happy to see me and take genuine pride in making sure I enjoy my lunch. I couldn't be mad at them even if they mess up my order (which, of course, they never do).

And that brings us back to locating. Locating as an industry has been largely commodified. Our product offering is pretty much the same from company to company. Our contracts are based on impersonal performance parameters of safety, accuracy, and on-time completion - meet the standard or lose the work.

In this environment, it is easy to aim for McDonalds and set a goal of consistent, reliable performance. It makes sense. McDonald's was the world's largest fast-food brand last year, bringing in almost four times as much revenue as Burger King, and beating Chick-fil-A by nearly that same margin.

Hidden in those numbers though is something interesting. Chick-fil-A was the leader in sales by unit, with each of its locations bringing in about a third more revenue than the McDonalds next door. So, all that customer service must be worth something. As for me, I've introduced a new phrase when dealing with my customers, "my pleasure!" And you know what? I can't help smiling as I say it. It just feels good. **dp**

Christopher Koch is a training consultant and President of ZoneOne Locating. He is past president of Nulca and worked on both the 2009 and 2015 revisions to the Nulca Professional Competency Standard. He can be reached by email at Christopherkoch@live.com or on Twitter @kochauthor.

THE OPINIONS EXPRESSED IN THIS ARTICLE ARE THOSE OF THE AUTHOR. dp-PRO WELCOMES AND ENCOURAGES ARTICLES AND CORRESPONDENCE FROM ALL POINTS OF VIEW.



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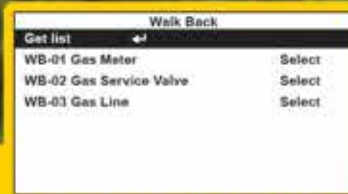


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- 2 - Follow the guidance arrow directing the user to the general area of interest.
- 3 - When within ten feet of the walk back point, the screen will change to the "zero in" screen.
- 4 - When reaching the walk back point, the receiver confirms its location and shows the matching GPS coordinates.



Simulated Image on PC

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