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EXCAVATION Safety Guide Pipeline Edition ISSUE NUMBER 3

The **Excavation Safety Guide Pipeline Edition** is designed to be a reference for readers to use all year long. The articles are concise, to the point and focus on current industry trends and technologies. The resources include the CGA Excavation Best Practices, a complete One-Call Center listing along with the state laws and provisions, a pull-out Emergency Response poster plus much more. Protecting the buried infrastructure is becoming more of a challenge every day and this guide will help you navigate through these challenges.

The **Excavation Safety Guide Pipeline Edition** is published annually by
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This manual is an informational and educational guide, but it is not intended to provide you with any definitive information regarding legal issues. You need to follow your specific state laws and OSHA rules. If you have any questions on issues raised in the guide, please consult with legal counsel and/or your state One-Call Center.



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LOOK INSIDE FOR YOUR COMPLIMENTARY EMERGENCY RESPONSE PULL-OUT POSTER.
Provided by Pipeline Association for Public Awareness



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Damage Investigation: Field Investigation Techniques

Learn how to properly document utility damages using proven photographic, interview, and investigative procedures.

Locating Best Practices

You will learn how locating technology works as well as the basic steps to successfully locate pipelines and cables.

Basic Locating Theory

Explains how and why electro-magnetic locating works in terms the layman can understand.

Basic Locating Skills

Expands on the information provided in the **Basic Locating Theory** Video, offering practical tips on how to get the most out of your locating set in field applications.



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TOOL BOX TALK

By Michael Twohig, Survey Project Director, Woolpert

PRE-EXCAVATION CHECKLIST

All excavators should have a pre-excitation checklist which will help prevent utility damage and ensure a safe work environment. The checklist should be reviewed, signed and dated by the project manager at the beginning of each project.

PROJECT PLANNING:

Check the Safety Folder for Project Information/Project Plan

- Emergency Contact Information
- Supervisor Contact Information
- Emergency Procedure Guidelines
- Name, number, address and map of nearest Medical Facility
- Check the prints to verify the print was prepared by a licensed professional and the utility information shown conforms to ASCE 38-02 Quality Levels A, B, C and D where appropriate (see sidebar article on next page).
- Make sure a working, multi-function pipe and cable locator is on site.

Review the Project Plan

- Check to see if the One Call Ticket(s) is current (check Ticket Number and a copy must be with site foreman and/or the excavator).
- Check to see if One Call locates have been completed (look at due date).
- Check to see if all listed stakeholders have responded to the One Call locate request and

the contact information is available for every stakeholder on the project.

- Make sure you have a detailed field sketch of the survey marks to protect them and document the response to the locate request.
- Check to see if the locate marks have been disturbed, moved or destroyed.
- Check for critical facilities on site including restriction on excavation, encroachment permits and notify the appropriate inspectors, if required (excavation in and around some critical and hazardous facilities require an inspector on site to ensure the integrity of the systems during the excavation process; prior notice is often required on gas, oil, high voltage and some communication systems).
- Check to see if the physical conditions, surface utility structures, risers, pedestals, previous markings and job site work plan match and confirm the marks (if not, or if marks look disturbed, request a remark).
- Check for any privately owned facilities which may not participate in the One Call ticket system but which may exist, i.e, lighting, landscape lights, irrigation, sprinkler systems, power outlets

Pre-Excavation Communication is the Key to Damage Prevention

Although there are many tools available to excavators, the most significant thing any excavator can do to prevent utility damage is to communicate.

1. Communicating with the one-call center.

Most one-call centers repeat the information back to the caller when a locate request is made because they want to make sure the information they are receiving is correct. As an excavator you are responsible for communicating the correct information to the call center and you are also responsible to make sure the information was received according to your intent.

2. Communicating with line locate personnel.

Do not make undocumented agreements with the line locators just to shortcut the system because these short cuts will come back to haunt you if a damage occurs.

3. Communicating with your employees and your sub-contractors.

You may understand the excavation laws implicitly but do your employees and sub-contractors? Make



and septic systems. If any evidence is found, contact the owner, the engineer and wait until the systems have been located and marked.

- ❑ Check for any new construction, utility trenches or evidence of new utility installations.
- ❑ Check to see if all services and utility laterals have been located, identified and marked. If not, make sure the laterals are marked prior to commencing work, add the information to the site plans and notify the project owner.
- ❑ Check the prints and verify all the utilities shown on the plan agree with the mark outs.
- ❑ Check for aerial facilities and verify the height clearance needed for all equipment, trucks and vendor material delivery trucks.
- ❑ Communicate and explain the prints or drawings and the meaning of the flags. Define the work zone to all personnel working in, around or adjacent to the job site.
- ❑ Communicate and explain the Safe Work Practices with respect to the day's works.
- ❑ Communicate any hazards, details and procedures required to maintain the safety of the public, personnel, equipment and the site.
- ❑ Communicate the specific details of unacceptable habits and short cuts that may violate the Safety Policies.
- ❑ Provide clear instructions on equipment and tool inspections prior to beginning work including communication devices.

sure that everyone working for you knows all of the excavation laws of the state in which you are working.

4. Communicating after damage occurs.

It is important that you communicate all damages or near-misses to the facility owner or one-call center. The information you provide is critical in identifying the root cause of the incident and will help to prevent damages in the future.

- ❑ Communicate and define the proper PPE required for each employee based on type of work, discipline and project assignment.
- ❑ Review materials and chemicals on site and ensure an MSDS Sheet is available for all materials used during the course of the day.
- ❑ Look for suggestions, recommendations and identify concerns that any crew member, inspector or on-site personnel may have.
- ❑ Require all attendees to sign the Tool Box Talk attendance form.
- ❑ Check to ensure all job site personnel know the location of the Safety Manual, the MSDS sheets, the emergency contact information and the location of phones and radios needed in the event of an emergency.
- ❑ Take immediate precaution to remedy any deficiencies identified during the Tool Box Talk.

ASCE 38-02 Quality Levels of Information

Quality Level D: The most basic level of information, based solely on existing records.

Quality Level C: This is the most commonly used level of information, supplementing Level D information with a visible ground survey of utility facilities, such as manhole or valve boxes. Subsurface Utility Engineering (SUE) industry experts estimate a 15-30% inaccuracy rate for Level C data.

Quality Level B: This is the first level where SUE designating information is used, supplementing and verifying Level C and D data. This level addresses problems caused by inaccurate utility records, abandoned or unrecorded facilities, or lost references.

Quality Level A: This is the highest level of accuracy available, where SUE locating information is added to Level B designating information. Level A provides precise three-dimensional horizontal and vertical mapping of underground utilities and related structures.



811: Part of the Damage Prevention Process

By Khrysanne Kerr, Common Ground Alliance

BEFORE YOU DIG

In 2006 the Federal Communications Commission designated 811 to be the National three digit Call Before You Dig number for the United States. Acting as an additional number to reach existing One Call Centers, it was meant to be a tool to help fix the problem of damage to the Nation's utility infrastructure. The Common Ground Alliance, CGA, successfully launched the new number on May 1, 2007.

The first step to safety

"As many of us know; a call in and of itself is not necessarily going to stop a utility damage from occurring," said Joseph Igel, Vice President, George J. Igel and Company, "but it certainly is a start." As a professional site work contractor in the Central Ohio area, Igel has spent his entire career heavily involved with underground damage prevention both within his company and in the industry.

Holding the excavator board seat on the Ohio Utilities Protection Service, which is the One Call for the state of Ohio, as well as previously chairing the Greater Columbus Damage Prevention Council, a CGA Regional Partner, Igel is all too familiar with utility damages and the chain reaction that stems from them. "Even when all parties do everything by the book, damages to utilities can still occur," stated Igel. "Calling 811 certainly minimizes some of our exposure to that risk."

"Notifying the One Call either by calling 811 or their existing 1-800 number is the first step in the damage prevention process," stated Igel. "Waiting the required amount of time, locating accurately, respecting the marks and digging with care can't and won't take place unless companies make that simple call." The process Igel outlined was developed several years ago by damage prevention industry stakeholders and became known as the Dig Safely campaign. More information can be found at www.commongroundalliance.com

Notification not made still a leading cause of utility damage

The CGA recently published the fifth annual Damage Information Reporting Tool (DIRT) Report for 2008. The report identifies a trend that supports Igel's claim. "According to the most recent DIRT report, 'no notification to the one call center' was reported as the root cause for 37 percent of the events where root cause was identified," stated Bob Kipp,



President, CGA. "As Mr. Igel emphasizes, the call (to 811) needs to be placed to give the process a chance."

Igel is also involved with the Ohio Contractors Association and indicates that more stimulus money coupled with fewer contracting companies in business may mean companies expand their geography out of state in the upcoming year. "811 certainly simplifies multi-state contracting with a simple-easy to remember number for beginning the damage prevention process." Igel indicated that the 811 process is front and center at many of the industry safety meetings he attends.

www.call811.com

"We encourage all CGA stakeholders to visit www.call811.com/campaign-materials often to access the latest educational materials that may assist your company or organization in consistently promoting the damage prevention process," stated Kipp. The web site is updated regularly to support key initiatives such as National Safe Digging Month (April) and 8-11 day (August 11).

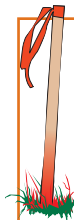
"We win as an industry and we lose as an industry," stated Igel. "There is no competition when it comes to safety; we are all on the same team."



DIGGING UP MORE...

Other online resources In addition to the CGA and call811 web sites, you'll find additional information on excavation safety practices at www.ExcavationSafetyOnline.com

You'll also find a directory of state-by-state One Call Centers in the back of this book.





Using ASCE 38-02 in Construction

By Jim Anspach, Chair of ASCE 38-02 Committee, ASCE's Board Committee for Codes & Standards, and ASCE's Construction Institutes Construction Standards Council

And By Brian Manning, P.E., Vice President of Sterling Construction Company, Inc. and President of ASCE's Construction Institute and ASCE's Texas Section

BEFORE YOU DIG

What is ASCE 38-02?

ASCE 38-02 is a national engineering standard entitled "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data." It was developed to aid planners, designers, project owners, and constructors in managing their project risks as they pertain to existing underground utilities. It does this by assigning a "utility quality level" (QL) to each utility line segment shown on the design or construction plans.

These QLs inform the user where the utility information came from, and an engineer seals the utility data. By sealing the data, the engineer takes responsibility for assuring that the utility data collection and depiction effort followed the rigorous procedures outlined in the standard. There are four QLs (QLD, QLC, QLB, QLA) for which the location data gets increasingly better (more trustworthy) as you go from QLD through QLA. Project risks are allocated according to the contractual documents, but generally follow the concept as shown in Figure 1.



using pipe and cable locators, GPR, seismic, or other appropriate utility detection and imaging tools.

Engineers refer to this "found" utility as a "designated" utility because its presence and exact location cannot be guaranteed. This inaccuracy is caused because all such tools are prone to errors due to equipment calibration, other nearby utilities or sources of interference (such as fences, guardrails, ground currents) and the types of ground between the utility and the tool. [Note: This is one of many reasons why "one-call" marks aren't always accurate or utilities aren't marked at all.]

The QLB "designations" are surveyed and these surveyed marks are shown on the plans. QLA data results from a utility being surveyed when it is exposed. The exact location, both in line and grade, can be guaranteed at that exposure point. By selecting locations carefully, QLA data greatly enhances the reliability of the other quality levels by providing an exact known point, very similar in concept to the structures used to achieve QLC but with a depth/elevation and visual proof.

If a utility is shown at QLD, the constructor knows that he should be very skeptical of the location of that utility. However, the constructor needs to know one more very important fact that is rarely shown on the plans or in the notes. It can usually only be found by asking the project owner at the pre-bid meeting, and that is whether the engineer sealing the utility data was asked to get utility data better than QLD and was unable to, or whether the engineer was asked to stop their investigation at the minimal QLD stage. If the engineer was asked, but unable to designate the utility, it is highly likely that the utility will also go unmarked during the "One-Call."

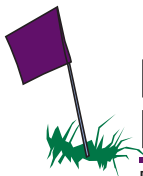
Utilities can be "found" by many methods

Utilities shown at QLD are from existing utility owner records, verbal recollections, and other sources of information for which no one will stand up and say that they will take responsibility for the accuracy of the location data. Utilities shown at QLC have visible surface structures that can be correlated to the records, such as valve box or fire hydrant. When these structures are surveyed and shown accurately on the plans, the QLD record data can then also be shown more accurately since there are known utility point locations in the field that can be correlated to the records. Utilities shown at QLB have been "found" by

Even a little information can be helpful

If QLs are shown on plans, the excavator can compare the utilities shown on the plans to the utilities marked (or not marked) in the field by One-Call operations and have significantly more information to allow them to make better risk decisions. It also allows a more deliberate estimating process. Unmarked utilities are very dangerous for an excavator, but knowing that it is a distinct possibility that a utility is there regardless of the lack of a mark gives everyone a chance to manage their risks in accordance with their company's safety procedures.





New White Lining Technologies Reduce Costs and Enhance Public Safety

LOCATING AND MARKING

By Chris Beach, Director of Business Development, CertusView Solutions

White lining is endorsed by the Common Ground Alliance (CGA) and is a mandated procedure in some states, yet it is not always practiced when excavators prepare a dig site. In today's economy, when cost containment is critical, the expense and inconvenience to excavators of pre-marking a dig site sometimes obscures the benefits of this CGA Best Practice. However, there are promising new technologies that are designed to address the common obstacles of excavation pre-marking. These tools deliver cost savings and public safety enhancements to support broader adoption of white lining.

Today's Reality: Physical White Lining

Physical white lining requires an excavator visit to the dig site to pre-mark the area with white paint, or an equivalent means. While this practice is known to reduce damages, it adds costs to an excavation job. Recent proposals in some states requiring excavators to remove locate marks after completing a project further complicate the physical white lining decision.

The Virginia One-Call Pilot Project: Electronic White Lining

In 2005, the Pipeline and Hazardous Materials Safety Administration (PHMSA) convened a meeting of underground stakeholders that resulted in the Virginia One-Call Pilot Project. The purpose of the project was to research and deploy new and existing technologies that could facilitate communication amongst excavators, one-call centers, facility owners and locators. The pilot's first phase focused on the use of Global Positioning System (GPS) coordinates to specify the area of an excavation locate request. Through the use of GPS-enabled communication devices and software developed in partnership with Virginia Utility Protection Service (VUPS), excavators created electronic white lines that were transmitted to the one-call center.

The results of the Virginia project were encouraging. The specificity of electronic white lines reduced the average size of locate areas and resulting notifications. These outcomes can lead to lower costs throughout the one-call ecosystem and improved public safety.

Virtual WhiteLine™: Enhanced Electronic White Lining

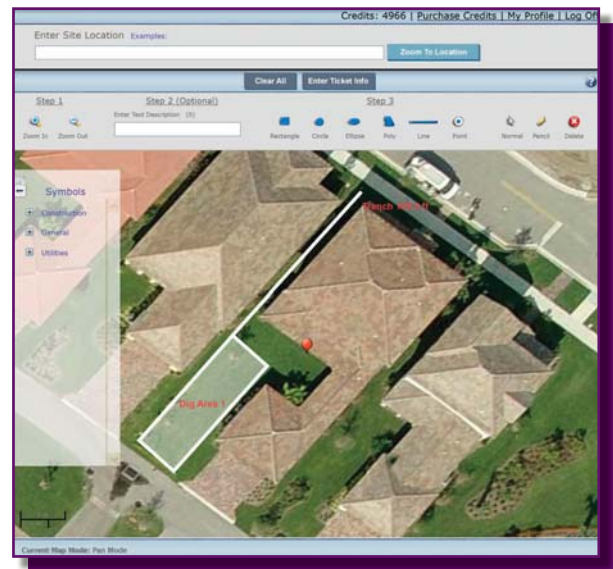
Virtual WhiteLine is an evolution of the Virginia pilot. Through the addition of high-resolution aerial imagery, this enhanced electronic white lining tool allows

stakeholders to view the landscape and define the boundaries of a dig site remotely.

Enhanced electronic white lining works in conjunction with existing one-call systems by providing a link to the application during the internet ticket entry process. When an excavator clicks on the link, an aerial image of the excavation location is generated based on the data contained in the one-call ticket. The excavator then draws a white line on the image to delineate the proposed dig site. The completed Virtual WhiteLine is attached to the locate request ticket and is distributed to utility locators. Once on site, a locate technician is able to access the one-call ticket data as well as the "marked up" image and know precisely where the excavator plans to dig.

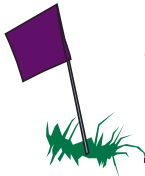
Enhanced electronic white lining claims all of the cost and public safety benefits as the pilot in Virginia, but further reduces excavator expenses by minimizing the need to travel to the dig site. Fewer white line trips diminish the carbon footprint of an excavator's enterprise and improve profitability through more efficient asset utilization. Enhanced electronic white lining is also a resource for excavators to use as public criticism of over-painting intensifies.

New technologies lower the cost of white lining for excavators while simultaneously enhancing public safety. These tools provide attractive alternatives for pre-marking, which can encourage adoption of this damage prevention best practice.



VIRTUAL WHITELINE EXAMPLE





Where the Shovel Meets the Dirt: FAQ's from Front Line Workers

By Bob Nighswonger, President, Utility Training Academy

LOCATING AND MARKING

Below is a list of questions frequently asked by participants attending UTA's underground utility locating and safe excavation training programs. The answers to these questions were taken from the responses given by the instructor and class participants.

Q. Why won't the locators provide depth measurements of the facility?

Answer: Line markings are estimations of horizontal location of underground pipes and cables. The only 100% accurate method for determining depth is to safely expose, visually confirm the location and then measure from surface to the top and the bottom of the exposed line. There are a number of variables that can cause an electronic depth estimation to error. This is why depth measurements are rarely provided by line locating technicians paint marks.

Q. What types of underground facilities can I reasonably expect to find on my dig site?

Answer: There are an assortment of underground wires, cables, pipes, cables and pipes inside of pipes, manholes/vaults and other concrete or fiberglass structures and reinforcement casings. You can expect to find these facilities at various depths and in an assortment of sizes, materials and colors buried alone or as part of a bundle or joint trench buried beneath the ground at your dig site.

Q. What is the difference between an easement and a right of way?

Answer: Both can contain high profile facilities, distribution and service facilities buried below. An easement is a non-possessory interest to use real property in possession of another person for a stated purpose. An example is a utility easement. A right of way is a strip of land granted for a transportation facility. An example is a pipeline or long haul fiber optic right that provides transportation of product and communications as well as traffic and road right of ways.

Q. What is a "high profile facility stand-by"?

Answer: A high profile (HP) facility standby is required by most utility and pipeline owners with high profile facilities near or within the excavation area. Before sending a crew out to perform excavating activities, an onsite standby schedule is arranged between HP inspector and excavation crew. The HP Facility Standby is a provision in some states laws and DOT regulations. These provisions normally require the HP facility owner to contact the excavator to notify and arrange a meeting onsite during excavation. Many HP facility owners perform this task as an added security level for their critical lines.

Q. What is considered an emergency excavation?

Answer: In most states an "Emergency" excavation means that excavation is needed in response to a sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or

mitigate loss of, or damage to, life, health, property, or essential public services.

Q. What is a positive response requirement?

Answer: Many states have a positive response clause written into their law. For excavators, the positive response clause may require an excavator to account for all utilities owners that were notified by the excavation notification process prior to any excavation activities. For utility owners, this clause may require utility owners to positively respond to every locate request by marking their lines onsite or declaring no conflict exist on site by using paint, a clear flag, documented phone call, fax back or online positive response program offered by the one call notification center.

Q. What should I do if a utility company does not mark their lines or give a positive response to clear the area?

Answer: Call the one call notification center back and notify them of the specific utility that did give a positive response also known as a utility "no show."

Q. How close can I dig with power equipment?

Answer: Most states require an excavator to hand expose the marked line before using any mechanical equipment within the state specific tolerance zone. A tolerance zone is an area on each side of the utility markings in which you must "tolerate" error of the mark. You can also consider the tolerance zone as the "buffer zone of accuracy". Some states forbid any mechanical equipment within the tolerance zone.

Q. Do the locators mark all underground lines at the location including private lines?

Answer: In most cases, only public utilities are located up to the meter, demarcation point or property line. The lines buried beyond these points are often considered private lines which are not marked by public utility owners. Normally private lines are located by the excavation crew or by a private locator hired by the crew. In most cases, private utility owners are not notified by the 811 call to the regional utility notification center.

Q. What is considered a reportable damage to an underground facility?

Answer: The majority of states require excavators to report any and all breaks, leaks, nicks, dents, gouges, grooves, or other damage to underground pipes, cables and structures during excavation.



DIGGING UP MORE...

Contact the Author *Bob Nighswonger* is President of Utility Training Academy (www.utasearch.com). You can reach him at 1-888-882-8777 or by e-mailing him at bob@utasearch.com



The Art of Locating

By Christopher Koch, Hance Utility Services

LOCATING AND MARKING

“No offense, but that looks pretty easy.”

It was a sunny afternoon in the late ‘90s when a homeowner made that comment to me while I was locating his electric service. It was true I was having a good day. The sun was shining. My ticket load was reasonable, and in fact locating his electric service was pretty easy.

I was polite about it, but a little offended anyway. I’m not sure if I’d heard the comment before, but that was the first time I remember being irritated by it. I know I’ve heard it since – or at least variations of it. Probably the most popular version comes from excavators who’ve spent time looking for a line that wasn’t there or hit something that wasn’t marked: “How hard can it be?” they ask. “How hard can it be to just do your job right?”

Putting aside the routine frustrations that exist with any job, there are some things about line locating that can make it very tough, if not impossible, to do correctly. Not often, but sometimes.

Limitations of the Technology

To start with, it’s important to understand that for the vast majority of locates performed every year in the United States, the method used (electromagnetic induction) doesn’t actually detect buried utilities. Instead it relies on the presence of a moving magnetic field in place around a conductor – meaning as a rule that it is only effective in finding things that are metallic in nature. Electromagnetic induction will not find polyethylene gas lines or dielectric fiber lines that aren’t accompanied by a conductor. Nor can it be used to find empty ducts or nonmetallic sewer and water lines without the presence of a conductor or sonde (a portable battery-operated transmitter that can be propelled through a pipe or duct).

Another important thing to understand about utility locating is that the moving magnetic field (commonly known as signal) used, while typically quite reliable in determining the location of a line, can be acted upon by both other magnetic fields and other metallic conductors in ways that can dramatically affect the accuracy of a locate. That means areas with a lot of conductors in or on the ground can be problematic – like crowded rights of way.

In addition to the challenges posed by busy utility easements, locators also struggle in the presence of

metallic conductors that closely parallel the utility being indicated. Common offenders include railroad tracks, chain link fencing, and rebar. The presence of shallow conductors in the vicinity can also cause trouble when a technician is attempting to locate something buried below them.

Grounding grids, cable television service lines, sprinklers, and invisible dog fences all can be sources of frustration. The presence of multiple shallow conductors can make locating accurately in mobile home parks particularly tough.



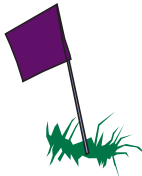
Other Challenges

There are a number of steps that competent technicians can take to mitigate the negative effects posed by competing conductors and magnetic fields. The training programs in place at all major locating contractors as well as those offered by third party vendors stress techniques designed to provide the most accurate locate available at a given site. However, there are still some things beyond a technician’s control including the age, condition and composition of the utility being indicated as well as the type of soil in which it’s buried. All of which means that the marks you’re working on may well be the result of some pretty intense effort and creative problem solving on the part of the technician and sometimes, a site is simply not suitable for accurate electromagnetic locating.

“No offense, but that looks pretty easy.”

I’ve spent some time thinking about that comment over the years and have come to view it as a compliment. Usually when a job looks easy, it has a lot to do with the skill of the person performing it. These days I find myself admiring the multitude of people I come across every day who make their jobs look easy. It’s a pleasure to watch them work.





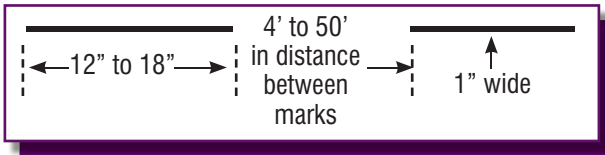
Understanding the Marks: Locating & Marking Practices

Taken from the latest version of the CGA Best Practices.
Download the entire document at www.CommonGroundAlliance.com.

Guidelines for Operator's Facility Field Delineation

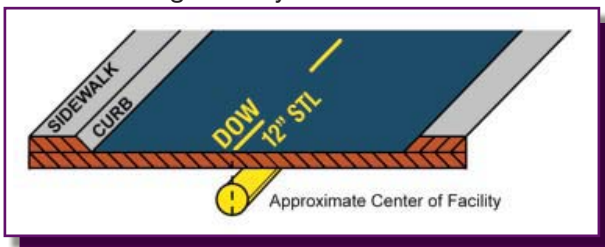
Operator markings of facilities include; the appropriate color for their facility type; their company identifier (name, initials, or abbreviation) when other companies are using the same color, the number and width of their facilities and a description of the facility (HP, FO, STL etc). Use paint, flags, stakes, whiskers or a combination to identify the operator's facility(s) at or near an excavation site.

1. Marks in the appropriate color are to be approximately 12" to 18" in length and 1" inch in width and separated by approximately 4' to 50' in distance as an example. When marking facilities the operator is to consider the type of facility being located, the terrain of the land, the type of excavation being done and the method to adequately mark its facilities for the excavator.

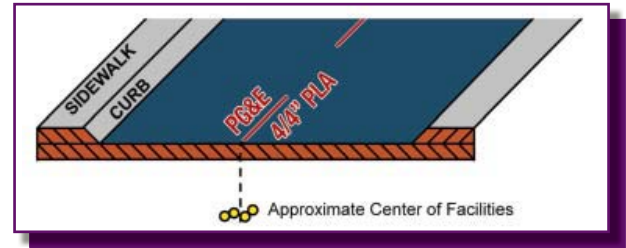


2. The following marking illustrations are examples of how an operator may choose to mark their subsurface installations:

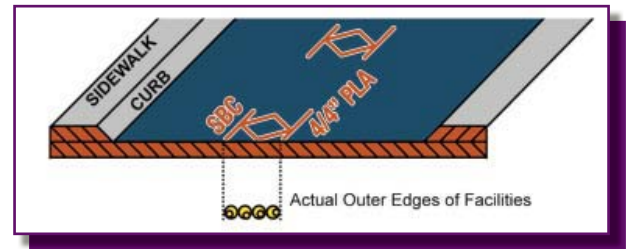
a. Single Facility Marking: Used to mark a single facility, marks are placed over the approximate center of the facility. This example indicates an operator's 12" facility. When a facility can be located or toned separately from other facilities of the same type it is marked as a single facility.



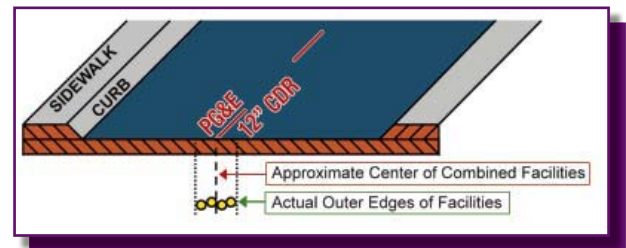
b. Multiple Facility Marking: Used to mark multiple facilities of the same type (e.g. electric), where the separation does not allow for a separate tone for each facility but the number and width of the facilities is known. Marks are placed over the approximate center of the facilities and indicate the number and width of the facilities. This example indicates 4 plastic facilities that are 4" in diameter (4/4" PLA).



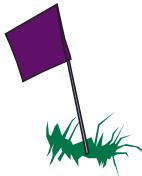
c. Conduit Marking: Used for any locatable facility being carried inside conduits or ducts. The marks indicating the outer extremities denote the actual located edges of the facilities being represented. An example would be 4 plastic conduits that are 4" in diameter (4/4" PLA), and the marks are 16" apart indicating the actual left and right edges of the facilities.



d. Corridor Marking: Used to mark multiple facilities of the same type (e.g. electric), in the same trench where the total number of facilities is not readily known (operator has no record on file for the number facilities) and that are bundled or intertwined. Marks are placed over the approximate center of the facilities and indicate the width of the corridor. The width of the corridor is the distance between the actual located outside edges of the combined facilities. This example indicates a 12" corridor (12" CDR).

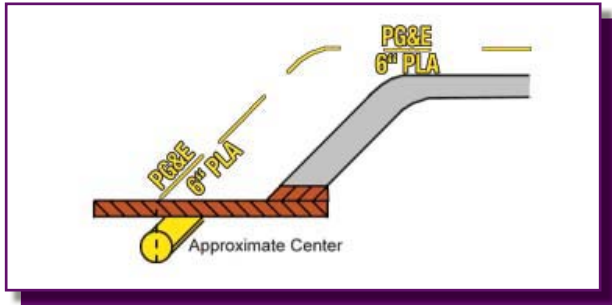


3. Changes in direction and lateral connections are to be clearly indicated at the point where the change in direction or connection occurs with an arrow indicating the path of the facility. A radius is indicated with marks describing the arc. When providing offset markings, (paint or stakes), show the direction of the facility and distance to the facility from the markings.

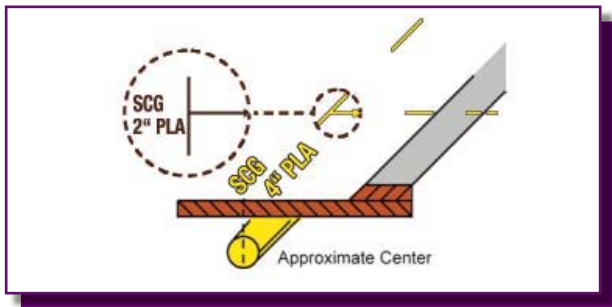


Understanding the Marks: Locating & Marking Practices

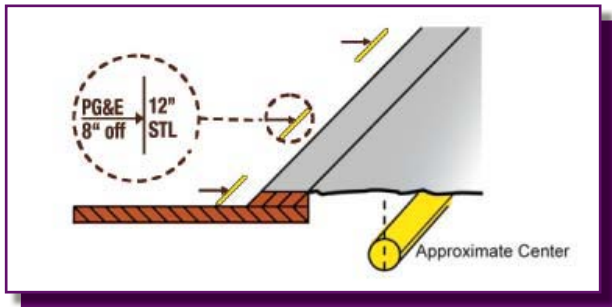
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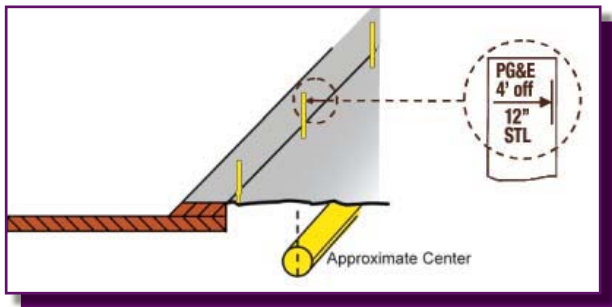
RADIUS EXAMPLE



LATERAL CONNECTION EXAMPLE



PAINTED OFFSET (OFF) EXAMPLE



STAKED OFFSET (OFF) EXAMPLE

4. An operator's identifier (name, abbreviation or initials) is to be placed at the beginning and at the end of the proposed work. In addition to the previous, subsequent operators using the same color will mark their company identifier at all points where their facility crosses another operator's facility using the same color. The maximum separation of identifiers is to be

reduced to a length that can be reasonably seen by the excavator when the terrain at the excavation site warrants it.

CTYSAC CITIZENS VERIZON

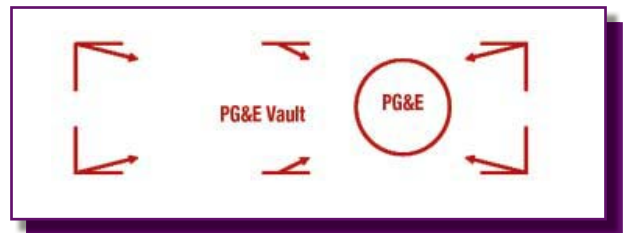
5. Information as to the size and composition of the facility is to be marked at an appropriate frequency. Examples are: the number of ducts in a multi-duct structure, width of a pipeline, and whether it is steel, plastic, cable, etc.

CCWD RSVTEL DOW
4\"/>

6. Facilities installed in a casing should be identified as such. Two examples are: 6" plastic in 12" steel = 6"PLA/12"STL and fiber optic in 4" steel = FO(4"STL).

ACWD AT&T
6\"/>

7. Structures, such as vaults, inlets, lift stations that are physically larger than obvious surface indications, are to be marked so as to define the parameters of the structure.



8. Termination points or dead ends are to be indicated as such.



9. When there is "No Conflict" with the excavation complete one or more of the following:

- Operators of a single type of facility (e.g. AT&T) would mark the area "NO" followed by the appropriate company identifier in the matching APWA color code for that facility (e.g. "NO AT&T")



- Operators of multiple facilities would mark the area “NO” followed by the appropriate company identifier in the matching APWA color code for that facility with a slash and the abbreviation for the type of facility that there is “No Conflict” (e.g. “NO PG&E/G/D”). The example illustrates that PG&E has no gas distribution facilities at this excavation site. The abbreviation for; gas transmission facilities is “/G/T”, electric distribution is “/E/D” and electric transmission is “E/T” these should be used when appropriate.

- Place a clear plastic (translucent) flag that states “No Conflict” in lettering matching the APWA color code of the facility that is not in conflict. Include on the flag the operator’s identifier, phone number, a place to write the locate ticket number and date. Operators of multiple facilities would indicate on the flag, which facilities were in “No Conflict” with the excavation as in the previous example.

- If it can be determined through maps or records that the proposed excavation is obviously not in conflict with their facility(s) the locator or operator of the facility may notify the excavator of “No Conflict” by phone, fax, or email, or through the One-Call Center, where electronic positive response is used. Operators of multiple facilities would indicate a “No Conflict” for each facility as in the previous examples.

- Place “No Conflict” markings or flags in a location that can be observed by the excavator and/or notify the excavator

by phone, fax, or email that there is “No Conflict” with your facilities. When the excavation is delineated by the use of white markings, place “No Conflict” markings or flags in or as near as practicable to the delineated area.

* Caution - Allow adequate space for all facility mark-outs.

“No Conflict” indicates; that the operator providing the “No Conflict” has no facilities within the scope of the delineation, or when there is no delineation, there are no facilities within the work area as described on the locate ticket.



COLOR CODE IDENTIFIERS	
WHITE	Proposed Excavation
PINK	Temporary Survey Markings
RED	Electric Power Lines, Cables, Conduit and Lighting Cables
YELLOW	Gas, Oil, Steam, Petroleum or Gaseous Materials
ORANGE	Communication, Alarm or Signal Lines, Cables or Conduits
BLUE	Potable Water
PURPLE	Reclaimed Water, Irrigation and Slurry Lines
GREEN	Sewers and Drain Lines

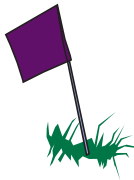
Guide for Abbreviation Use

This is a guide for placing the accompanying abbreviations in the field. The Company Identifier is to be placed at the top or at the left of the abbreviations. Place the abbreviations in the following order, Company Identifier / Facility Identifier / Underground Construction Descriptions / Infrastructure Material (e.g. SBC/TEL/FO/PLA). This example indicates that SBC has a Telecommunication Fiber Optic line in a single Plastic conduit. The use of the abbreviation /TEL is not necessary, because the orange marking would indicate that the facility was a communication line, but its use is optional. To leave out one or more of the abbreviation types you would continue to follow the order of the abbreviations above leaving out the slash and abbreviation that does not apply (e.g. /TEL), the result would be the following (e.g. SBC/FO/PLA).

UNDERGROUND CONSTRUCTION DESCRIPTION			
C	Conduit	HH	Hand Hole
CDR	Corridor	MH	Manhole
D	Distribution Facility	PB	Pull Box
DB	Direct Buried	R	Radius
DE	Dead End	STR	Structure (vaults, junction boxes, inlets, lift station)
JT	Joint Trench		
HP	High Pressure	T	Transmission Facility

FACILITY IDENTIFIER	
CH	Chemical
E	Electric
FO	Fiber Optic
G	Gas
LPG	Liquified Petroleum Gas
PP	Petroleum Products
RR	Railroad Signal
S	Sewer
SD	Storm Drain
SS	Storm Sewer
SL	Street Lighting
STM	Steam
SP	Slurry System
TEL	Telephone
TS	Traffic Signal
TV	Television
W	Water
W	Reclaimed Water (purple)

INFRASTRUCTURE MATERIALS	
ABS	Acrylonitrile-Butadiene-Styrene
ACP	Asbestos Cement Pipe
CI	Cast Iron
CMC	Cement Mortar Coated
CML	Cement Mortar Lined
CPP	Corrugated Plastic Pipe
CMP	Corrugated Metal Pipe
CU	Copper
CWD	Creosote Wood Duct
HDPE	High Density Polyethylene
MTD	Multiple Tile Duct
PLA	Plastic (conduit or pipe)
RCB	Reinforced Concrete Box
RCP	Reinforced Concrete Pipe
RF	Reinforced Fiberglass
SCCP	Street Cylinder Concrete Pipe
STL	Steel
VCP	Vertrified Clay Pipe



Know the Signs: Sometimes They're Not So Obvious

By Dave Stark, Event Planner, Excavation Safety Expo

LOCATING AND MARKING

There are many types of warning signs that an excavator will see at a typical job site to indicate the existence of buried utilities. The most common form of markers are above ground permanent markers or temporary markers such as flags or paint, but there are also underground warning signs that an excavator must be aware of. The world of utility marking devices installed underground have been around for years, but their awareness and the variety of options has been growing rapidly.

Additional Warning Signs

When an excavator arrives at a job site after contacting the local One Call Center to get the job site located, the first thing he/she should do is look for signs of underground utilities. Typically, these signs are obvious, such as marking flags and paint, pedestals, fire hydrants and other above ground indicators. Once the above ground buried utilities are noted and verified the excavator should feel reasonably sure that it is safe to dig.

BUT, WHAT IF – things just aren't what they appear to be. As you start the excavation process, could there be other visual warning signs you may come across? **YES!** There is a variety, such as: polyethylene underground marking tape (detectable or non-detectable), polypropylene warning mesh with an integrated stainless steel tracer wire (detectable), aluminum foil-backed laminated polypropylene warning tape (detectable), and color bedding material to surround the underground utility. This is not an all inclusive list, but is meant to give you an idea of what you could see when excavating.

Proceeding Safely After Visual Detection

If you see any visual signs of a buried utility while you are excavating, what should you do? Stop immediately, and hand dig until the utility is exposed. Continue the excavation work only after you are sure all of the utilities have been exposed. Should you need to contact the owner of the utility, many times, warning tape will have the owner of the utility printed on the tape.

In 2008 on Friday, March 21, there was a trench being dug behind the Rio Hotel & Casino in Las Vegas. This was for a demonstration the following week for a conference & expo. This area had been located and the facilities department at the Rio checked all their

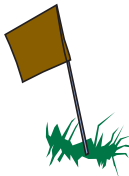


prints, to verify there was nothing in the area of the excavation. The asphalt was cut and the back-hoe operator proceeded to dig the trench. After removing the asphalt and after a few scoops of soil, he noticed red tape. He stopped and called for instructions as to what he should do. He was instructed to hand dig and see if he could uncover what utility was below. He came upon three lines, but had no idea what they were.

After calling a locator and the Rio facility department, they were able to determine what the utilities were. Two of the lines were to parking lot lights and the third was a satellite feed for the sports-book from the Rio to Harrah's Casino. This was the day before the 2008 NCAA Basketball Division 1 Championship Second Round was to start – 16 games to follow over the next two days. Undoubtedly, this would have caused serious problems.

The event related here is a true story, and I'm sure there are others that could be told which are similar. In this instance the visual signs of a buried utility were not obvious until the excavation work had begun. Warning tape and an observant back-hoe operator both did their job in this instance and prevented a potential costly disaster.





Times Are Changing

By Bradford Barringer, CEO, B.R.S. Inc.

DIGGING SAFELY

I've been digging longer than most people have been alive. I was laying sewer lines before we had push joints, before we had line and grade lasers, before we had hydraulic excavators, before we had trench boxes, and before we had One Call Centers. Everything has changed, and everything has stayed the same. We still dig ditches and lay pipe, but the process is different.

Safety in the sixties

About 1961 or '62, I was boring holes for R/W markers on a highway improvement project. At about two feet down, the auger pulled out a mass of wires – 800 pair, I think. It was a Bell Telephone cable, as I recall, and, of course, that was before one call and CGA and all the other entities that have been formed to keep such things from happening. Bell came to the site and repaired the damage. My best recollection is that it took several days.

In another incident I cut an underground electric service with a trencher – big bang, lots of smoke, and scared silly. The power company made the repair, and that was that. During the 60's and 70's, my company – and many times it was me – probably cut hundreds of gas lines, phone lines and electric lines. We were lucky to never have anyone hurt due to a cut. And we were only vaguely aware of the safety issues. That's how it was back then. An excavator cut a facility, and the owner/operator repaired it. End of story.

One Calls emerge in the seventies

During the late 70's, things began to change. One Calls were being formed, and underground damage prevention laws were being passed. I've never felt that the damage prevention laws were ever about damage prevention or about safety. I have always viewed them as a liability issue. Suddenly, with the one call laws in force, we now have someone that can be billed for the damage, someone to pay for the repair, someone to point the finger at. Damage was not a big issue when there was someone to pay for the repair. Safety was not a big issue when there was someone else to blame.

Pulling it together in the nineties

Fast forward to the 90's. In 1994, the USDOT called together a diverse group of stakeholders and held the Excavation Damage Prevention Workshop. I took part in that workshop. Our report was published in September and was soon just a memory. It was a good report and contained a lot of the Best Practices later included in the Best Practices Study, but nobody seemed to know just what to do with it. The really good thing was that



Bradford Barringer

finally safety and shared responsibility were becoming part of the damage prevention concept.

In June of '98, TEA 21 was signed into law, and that act gave legislative authority for a new study. Common Ground, Study of One-Call Systems and Damage Prevention Best Practices was published in August 1999. There was a real desire to ensure that the '99 report had meaningful, far reaching impact. The Common Ground Alliance was organized in order to continue to grow the concept established by the previous studies.

CGA: A force for change

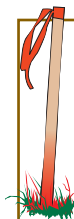
Change seldom comes without resistance, and it has been no different with the CGA. Some stakeholders are still of the old school. Some will cut a mismarked cable just for fun, some will move their marks after the fact, some will send an invoice before establishing the facts, and some will resist updating state one call laws, for whatever reason.

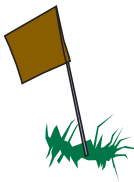
The CGA has done a remarkable job in bringing stakeholders together under the shared responsibility umbrella using the consensus process. Often we hear people say "things will get worse before they get better." But, with the CGA in place, things will only get better.



DIGGING UP MORE...

For more information To find out more about the history of Common Ground Alliance as well as current initiatives and projects, visit www.CommonGroundAlliance.com





Getting Utilities Back in One-Call

By Monty Zimmerman, UPROW Committee Chair, APWA

DIGGING SAFELY

APWA and UPROW spotlight municipal involvement

At the APWA Congress in Columbus Ohio last month (September 2009), an educational session sponsored by the Utilities and Public Right of Way Committee (UPROW) titled "Utility Damage Prevention: What can your agency do?" featured information on how municipalities can effect changes in their communities to reduce underground damages. Having a Right of Way Management Department or Division is a crucial step in the over-all effort to prevent damage to underground utilities.

APWA and UPROW feels that Right of Way Managers and Utility Coordinators in the various municipalities across the country are the first tier to effectively reducing underground damages through strong right of way ordinances and permitting practices. By working with CGA and local one call operators, those communities that do have strong right of way ordinances and permitting practices have seen a reduction in overall damages in their communities.

Other constructive steps were offered

Other activities crucial to reducing underground damages with a strong Right of Way Management ordinance are:

- Coordination with other agencies and utility operators
- Utility research and potholing prior to construction
- Timely and accurate locates; enforce call-ins for your projects
- Report underground damages to DIRT
- Public outreach

Is "opting out" happening in your area?

After this presentation was concluded the panel answered many questions about how to implement

a Right of Way Management Program and how to submit to DIRT. However the most interesting question which caused the most discussion was how utility operators were able to opt out of one calls across the country.

With all of the interest in this issue, the

Right of Way Management Sub-Committee decided to research this problem to determine if there have been situations where a utility has opted out of a state one call, why this happened, and also if a utility has opted out and then through efforts by damage prevention groups were able to bring that utility back into the one call system.



This will be the focus of this UPROW Sub-Committee over the next year. We know of some limited success in the state of Kansas bringing Water Districts back into the one call system on a limited basis, and work is still under way to fully incorporate them into the system without the stipulations that they now enjoy. Our committee has heard that there are other stories out there that are similar to those in Kansas and we will continue to investigate these instances to find out why these utilities were able to opt out, and, if possible, what was done to bring them back to the one call system.

Municipal involvement is essential

Damage prevention laws are designed to help insure the safety of those who work or live in the vicinity of underground facilities, but these laws are only effective if everyone participates in the process. The UPROW committee encourages all municipalities to participate in their local one call system as a means of reducing underground utility damages.

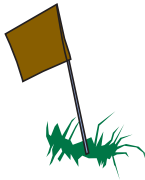


DIGGING UP MORE...

You can help! The UPROW committee would like to hear about instances where municipalities have opted out of the one call system as well as instances where they have been successively brought back into the system.

If you have information that will help with our investigation please contact Monty Zimmerman by e-mailing him at mzimmerman@ci.lenexa.ks.us





Trenchless Technology Moves Forward to Enhance Safety and Productivity

By Mohammad Najafi, Director, Center for Underground Infrastructure Research and Education (CUIRE), The University of Texas at Arlington

Since 1990, when the trenchless technology industry as a whole started and organized in the U.S., many major accomplishments have been made. The organizational activities have been led by many developments in trenchless equipment and methods. These developments include manufacturing more powerful and versatile horizontal directional drilling equipment including locating and tracking equipment, the manufacturing of first microtunneling equipment in the U.S. in 1997, and the development of more capable pipe bursting and pipe ramming equipment.

In the area of renewing deteriorated and old pipelines, we have seen developments in pipeline inspection technologies, and new pipeline and manhole renewal methods, the latest of which is the Sekisui Sustainable Pipeline Renewal (SPR) method. This article presents some of these developments in new technologies that enhance safety and productivity to construction and renewal of underground pipeline systems.

The Sekisui SPR (Sustainable Pipeline Renewal) Method

The Sekisui SPR method consists of a rigid PVC profile which is spirally wound into an existing pipeline. Successive wraps of profile are locked together, and the annular space between the liner and the existing pipe is grouted. The result is a strong composite pipe integrated with the existing pipeline. The fundamental steps of the SPR method are: cleaning the host pipe, winding the liner, and grouting the annular space.

Two winding methods can be used depending on the site conditions. These are the “Pushing” machine and the “Self Running” machine winding methods. The Self Running method has two variants, the Super SPR and the SPR Out-of-Round technology.

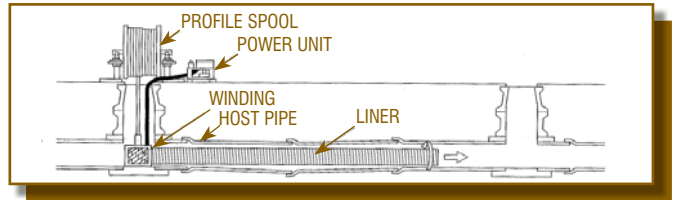
The Pushing Machine Winding Method

The winding machine is placed in the channel of the existing access chamber. The plastic profile strip is then fed from a spool above ground down to the machine. As the profile is spirally wound onto itself by the winding machine the interlocking edges of the profile are locked together to form a liner within the existing pipe.

The Self Running Machine Winding Method

The winding machine is positioned in the channel of the existing access chamber or at any point within the pipeline. Profile is fed to the machine from the center of a spool designed specifically for this process. The

machine then rotates and advances down the pipeline. As the machine rotates it spirally winds the profile to form a pipe behind it. As this process leaves the wound pipe behind it, there is no friction between the liner and the host pipe. As a result, liners of much longer lengths can be produced.



Formation of liner inside the old pipe

SPR Out-of-Round Technology

The Out-of-Round technology has been developed to cope with all different shapes of noncircular pipes. The winding machine consists of a guide frame which is manufactured to the same shape as the existing pipe. Around this frame a series of driven rollers rotate which wind the profile together and move the machine forward. The machine is suitable for winding both normal and reinforced profiles into any prescribed cross-sectional shape.

Making Lateral Connection

After completion of the grouting process an initial hole is cut through the profile by feeding a cutter down the lateral pipe. The opening of the lateral connection is completed using a cutting machine inside the main line.

The Los Angeles County Trunk Sewer Project

This project has advanced the state-of-the-art in the trenchless industry by renewing 1800 feet of a



Condition of the old trunk sewer after cleaning

114-inch diameter semi-elliptical trunk sewer. The original host pipe material was reinforced concrete with clay lining. Due to extensive corrosion, the clay tiles and most of the concrete cover on the reinforcement were pulverized. This added another challenge to the project, since due to shallow slope, debris was deposited inside the pipe. The cleaning of the host pipe was possible using high pressure spin jet to wash out the grease and to knock off tiles, cement, and rebar that were

loosely attached to the host pipe structure. The cleaning of leftover debris was a major task.



Liner installation through access pit



Liner installation with the winding machine



Conclusions

The trenchless industry as a whole has experienced tremendous growth over the past 15 years. The market will expand more once design professionals, municipalities and other decision makers begin to realize the benefits of trenchless technology methods and are provided with publications, reference books, standard guidelines and specifications. Training contractors, equipment operators, engineers, inspectors and other professionals involved in the use of these technologies, will enhance project safety, productivity and cost effectiveness.

The project was possible by designing a self supporting grout between the spiral wounded PVC pipe liner and the host pipe. This is a purely trenchless technology project, and the entire winding machine and the braces (formwork) were brought into the sewer from the access pits. This project was the first trial in the United States with an extraordinary method which has revolutionized the renewal industry for large diameter, odd-shape sewer pipes without any requirements for bypassing. Another breakthrough with this project is speed of the operation, since a winding machine was able to line the pipe at the speed of one foot per minute. The project location was challenging, since it was adjacent to a major oil refinery and the new liner pipe had to be designed to resist the major challenge of corrosive flow coming from the plant.

DIGGING UP MORE...

We suggest the following references

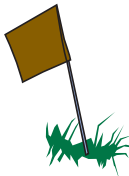
- *The Trenchless Technology Book*
- *Trenchless Technoloy Piping: Installation and Inspection Book*
- *Pipe Bursting Good Practices book*
- *HDD Good Practices book*

both available from www.Amazon.com

both available from www.benjaminmedia.com

Contact the Author *Mohammad Najafi* can be reached at the University of Texas at Arlington (Arlington, Texas 76019) by phone at 817-272-0507 or by e-mailing him at najafi@uta.edu

You can also visit the CUIRE web site at www.cuire.org



Preservation of Underground Assets: Who is Responsible?

By Arvid Veidmark III, EVP/Sr. Estimator, Specialized Services Co. (SSC)

DIGGING SAFELY

Going “green” has become a global environmental movement to insure the sustainability of our natural assets. While we consider these valuable resources critical to our long term survival, we don’t often consider the preservation of our underground utility assets in the same light.

It’s doubtful anyone really knows the true number of buried utilities here in the States, let alone globally. We do know that the average number of utility lines that are damaged each year is approximately 400,000 and rising, and with numbers this high it’s just a matter of time before we start experiencing more large scale disasters.

Filling the infrastructure hole

Today a gaping hole exists in the area of sound infrastructure management. The culprit is a lack of ownership due to an inadequate understanding of the importance of damage prevention. Twenty years ago we didn’t understand the impact our actions were having on our environment; now through education and implementation of policy we realize our responsibility and are taking action. Preservation of our underground resources is similar in that only through awareness can we work together to create better solutions.

One such solution is the One Call System, which has been in existence for more than twenty-years and currently plays a crucial role in damage prevention, especially here in the U.S. However, each program is operated independently, lacks central coordination, and is not supported on a global scale. As an example, I recently completed an auger bore project in the Virgin Islands for one of the largest oil refineries in the world. One Call was a completely new concept to the project managers. This is unfortunate but not uncommon.

We can’t afford to cut corners

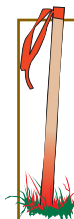
Our current economy has not helped the situation. In an effort to make up for lost revenues, contractors are cutting corners. Boundaries are not being called in correctly, excavation areas are miscalculated, and often workers are not waiting for verification from facility owners. One Call centers have also been affected and are cutting back on personnel. As a result locators are doing twice the number of tickets per day.

Regardless of the economy, we as utility sub-contractors need to set an example for our peers. As the guys in the ground, we need to be diligent when



it comes to locating and record keeping, competently exposing and mapping all possible conflicts. Whether public or private, marked or unmarked, utilizing safe and effective surface and sub-surface investigation techniques. Vacuum Technology is an excellent example. Vacuum excavating can expose an underground utility without the risk associated with other mechanized devices or even hand digs. While there are costs involved they are minimal compared to possible loss of life and valuable resources.

Utility management is a serious topic that needs to be addressed at all levels, nationally and internationally. Thankfully trenchless associations such as the Common Ground Alliance are currently working hard to address important issues such as education and regulation. The bottom line is, however, that we, as a global community, all need to take responsibility and do our part to insure a sustainable future.



DIGGING UP MORE...

Contact the Author Arvid Veidmark, III is Executive Vice-President at Specialized Services Company. You can contact him at 602-997-6164 or by e-mailing him at arvid@ssc boring.com





Avoid Complacency

By Joseph Igel, Vice President, George J. Igel and Company

Your safety and risk management programs seem to be doing their job. Safety issues on jobs have been minor, if not non-existent. Your insurance provider is happy because there are very few insurable losses and your company's reserves are very low. So what is your biggest issue, if you even have one? If you do not, you will, and it will most likely be complacency.

Why complacency? When things are going well, it seems unnecessary to "preach to the choir". Tips and concerns seem to be repetitive. So what should you do? How can you avoid slipping backwards? What do you do to keep your approach fresh?

Analyze Trends

Look at your company's history. Hopefully you track all incidents, accidents and near-misses; if you don't, you should. And if you track only accidents, start tracking near-misses now (some safety professionals prefer the term "near-hits"). It often is only a split second that separates a near-miss from a tragedy. Also, see what your competitors are encountering. Hopefully your relationship with them allows you to cooperate on industry issues like safety management and risk and loss control. Remember, loss rates as well as workers' compensation rates are set for industry groups—helping a competitor with a safety problem may also help your company.



Repeat Training

Based upon your findings when analyzing trends, design your training. To avoid redundancy, look at new trainers, PowerPoints, etc. The same basic message maybe should stay the same, but then change the delivery or deliverer, maybe using your employees to teach an element of the program. Remember the

importance of feedback, whether positive or negative; it will promote better training in the future.

Protection of the Underground

Work with your partners in underground protection and use the broadest interpretation of who your partners are. Strive to understand their issues and their role in the process. Remember that you can be an advocate of your own company, procedures and programs, but that does not mean that you are free to be an adversary towards everyone else. The same rule should apply to them.

Do "sweat the small stuff"

Often times, small issues are overlooked. Trench boxes were installed properly, fall protection was erected correctly, everyone was wearing their personal protective equipment, and so smaller items – like a damaged sling that missed inspection or a damaged extension cord – are overlooked. Unfortunately, as small issues start occurring, our tolerance for them increases. As that happens, it is easy to fall into a "well, everything seemed okay" mode that can, if unchecked, allow the problems to worsen. Remain vigilant and take the time to check everything. Look at your jobsite as if it is your first time seeing it; keep your view fresh.

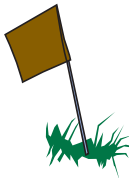
What is success?

There are books, webinars, articles and presentations that deal with developing the proper safety metric. Many contractors look at workers compensation loss rates, insurance reserves and especially severity and frequency rates from recordable incidents on the OSHA log. Since these record, and thus indicate, after the fact, they are not proactive. Involve field personnel in inspections. If they call with a problem, do not give them the answer first. Ask them for what they think is the answer and help them evaluate it. See if they are thinking safely. Safety success is best measured by the endorsement of your employees.

Where's the finish line?

If you are looking for some accomplishment as an outward display of safety success, I am not sure there is one. Safety is a process, not a finished product. Unlike many elements that are measured in a corporation, success in safety may seem elusive. It may be obtainable but can prove to be impossible to hold on to.





Sewer Lateral Locating

By Walt Kelly, Walt Kelly Consulting

DIGGING SAFELY

Getting to the Root of the Problem

A friend called. His sewer was backing up in his basement. He had tried to clear it himself, but the snake would not go through. Whatever it was, it was tough and needed some real power to cut it out.

Sounded like classic tree roots, but these days it can be something more, so I asked if they had new gas mains installed recently. Yes, he said, about 5 years ago, shortly after they moved in. Uh-oh. Tree roots like moisture and nutrients, and sewage is fast food for tree roots when gas mains get directionally drilled through sewer laterals.

So what is a gas main doing in a sewer lateral? Isn't "one-call" supposed to prevent that? Not always. In many municipalities, sewer and water laterals are not marked, and in other cases, excavators don't always pothole or don't properly calibrate the sonde on the directional drill head. The result is sewer mains and laterals with utilities drilled through them.

Following an incident in a large city, a survey using remote cameras showed that 2% of 11,000 sewer laterals had gas mains bored through them. Another survey showed that there were utilities bored through sewer mains at the rate of one or two per mile of main.

Fortunately, this problem is getting attention and solutions are being developed. Legislative and regulatory changes are being made in some states, and in others, cooperative initiatives are starting.

Finding a Cooperative Solution

A major cooperative effort by a city and gas company involves sewer cleaning and Closed Circuit TV (CCTV) inspection and a Gas Main Renewal Program, according to Mark Bruce, President of the Cross Bore Safety Association. The Cincinnati Metropolitan Sewer District website indicated qualified bidders were being solicited for inspection of main sanitary and storm pipe sewers as well as connected building sewers (Laterals), in conjunction with Duke Energy Gas Main Installations.

The work would include: Sewer cleaning to enable CCTV Inspection; Pre and post-gas main installation CCTV Inspection of sewers and laterals (both sanitary and storm); Electronic locating of laterals and manholes; Surveying located points, and Documentation of data and activities.

At the end of this project, the city would know the condition and location (within an inch) of its sewer lines, the gas company would have its mains upgraded, and the citizens would not have to worry that cleaning out their sewer might blow up their house.



Logically it would appear that mapping of lines during pre-inspection should be sufficient to avoid damage during boring operations, but post-drilling inspections on several projects have found lines were damaged anyway, possibly due to improper calibration of the drill sonde.

Increased Focus to Come

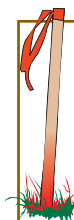
The American Public Works Association's "Utilities in the Public Right Of Way" committee has taken the crossbore issue as one to spotlight in the upcoming year, according to committeeman, Murv Morehead, of the City of Overland Park, KS. Morehead says of pre and post-inspections of laterals: "The post inspection would be far more beneficial than pre construction,,, It's helpful to know where the laterals are but even more important to know that they haven't been compromised." He and Monte Zimmerman of Lenexa, KS will give a presentation dealing with crossbores at next years' APWA Congress.

Although many cities are not yet locating laterals, more and more are. California is one of the few states that specifically exempts gravity sewers from the "one-call" law. But when members of the municipal sewer association, the California Water Environment Association (CWEA) were surveyed at a meeting several years ago, better than three-quarters of the attendees said they did locate and mark laterals. Why? "Because it is the right thing to do."

How did my friend come out? He had the gas line located prior to the plumber's arrival and found the main was not near the blockage, and after a few hours of grinding, the roots were out. The plumber's anxiety was also much lower.

DIGGING UP MORE...

For more information The Cross Bore Safety Association is a community of industry professionals that have joined together to address all aspects of utility cross bores for protection against loss of life, injury and property damage. Find out more at www.CrossBoreSafety.org





Damage Investigation from a Contractor's Perspective

By Ron Peterson, Vice President, TWS Technical Services

WHEN THINGS GO WRONG

As contractors, our industry moves millions of tons of dirt everyday. With more and more utilities being placed underground, the task of safe excavation becomes increasingly difficult. Despite our best efforts, sometimes things go wrong and utilities are damaged. For this reason, we must be prepared to perform a thorough root cause damage investigation.

“An ounce of prevention...”

The best way to insure that we don't pay for a utility damage is to not have one in the first place. Three things can help us to prevent these damages. First, know your excavation laws and responsibilities. Second, utilize white lining whenever possible. And third, take plenty of pre-excavation/post-locate photographs and/or videotape. For more information on these and other safety topics you can visit ExcavationSafetyOnline.com.

In addition, each crew should be equipped with the necessary forms, measuring devices and cameras to perform a quality investigation. A sample form can be found at www.CGA-DIRT.com.

A measuring device is a valuable tool in the documentation process. The HIT Kit (pictured below) can significantly improve the quality of your documentation and help to tell the story of the incident. Last but not least, a good camera is a must. For more information on the HIT Kit and other documentation tools, visit www.excavationsafetyonline.com/eso_videos.php.



Safety is Number One

In the event of utility damage, safety is the most important concern. Secure the area and ensure the safety of your crew and the public. Follow the mandated reporting requirements (which vary from state to state), but make sure that the utility is notified immediately. Don't leave the site. If locate

request information is not available on site, request this information as well as any pre-excavation documentation from the individual or department in your company that maintains it. This is information that the facility owner will need at some point in the process.

As soon as it is safe to do so, start the investigation process. Take plenty of pictures and make sure to utilize a measuring device in your pictures. This should eliminate any interpretation that comes from pictures with no measuring references.

Remember, twelve pictures of a hole in the ground with a damaged utility at the bottom do little to help the situation. Tell a story with the pictures. Start away from the damage and work towards it.

If videotape is used, make sure to talk about what is being taped and stick to the facts. Leave opinion and theories out of the equation.

Eye witness accounts are invaluable

Get statements from all parties involved. If there were witnesses to the event, get their contact information and have them write a statement that explains what they saw. Try to get statements from the utility and locator as well. If possible, have them sign and date their statement. Have each member of the crew write a statement as well. It should be in their own words and tell what they were doing at the time of the incident as well as what they saw.

These statements are important, because an invoice may not come for months or, in some cases, even years. By the time the invoice is received, the damage may be only a distant memory. The statement will help each individual remember details that would otherwise be lost.

Down time is another critical piece of information that should be captured. If you are at fault with regard to liability, repair is not the only cost to your company. Collecting down time information will help to put a true cost to the damage. If you are not liable, down time in some cases may be recoverable from the liable party.

After all the information is gathered, make sure to complete the damage investigation form on site. Include a detailed drawing or sketch of the incident.

Take all of this documentation, as well as the pictures/ videotape, and create a file to archive this information. It may not be needed for months or years, but it will be there when you do need it.

None of us want to have a utility damage, but in the event that one occurs, we must be prepared to document the incident.





Damage Information Reporting Tool: The DIRT Scoop

WHEN THINGS
GO WRONG

The Common Ground Alliance (CGA) Data Reporting and Evaluation Committee (DR&EC) encourages all stakeholders in the damage prevention arena to submit facility event data to the Damage Information Reporting Tool (DIRT). We believe damage prevention is a shared responsibility, which includes providing facility event data. Events include damages and near-misses.

All stakeholders are important

Currently, one-call centers, natural gas transporters and telecommunication companies provide most of the facility event data in DIRT. One of the goals of the DR&EC is to increase the amount of data received from other stakeholders including excavators, electric, cable TV and water and sewer facility owners.

Near-Miss events should be reported, too

The DR&EC encourages the submittal of near-miss events. This data is easy to submit to DIRT using the same form you use to submit damage events. Damage Reporting Field Forms can be found at www.cga-dirt.com.

The DIRT User's Guide linked to the www.cga-dirt.com website provides the following definitions.

Damage: Any impact or exposure that results in the need to repair an underground facility due to a weakening or the partial or complete destruction of the facility, including, but not limited to, the protective coating, lateral support, cathodic protection or the housing for the line device or facility.

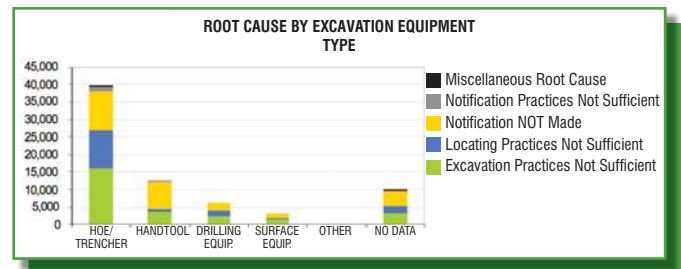
Near Miss: An event where a damage (as defined above) did not occur, but a clear potential for damage was identified. Some examples include, but are not limited to the following:

- a. An excavator discovers a buried facility that was not marked or not marked accurately.
- b. An excavator is found digging without having notified the One-Call Center.
- c. An operator fails to respond to a locate request.
- d. A One-Call Center incorrectly entered data regarding the work site.

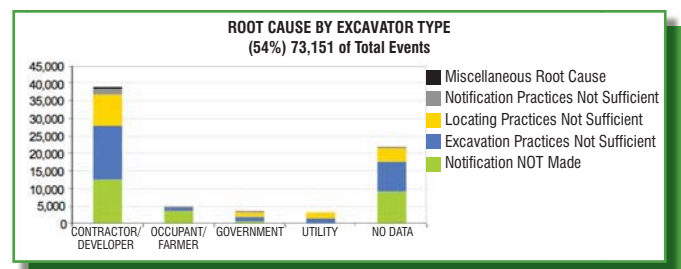
The information on the following page is designed to help you identify the "root cause" of a near miss or damage to a buried facility. The Root Cause Tip Card helps clarify the information that needs to be reported on the Damage Report Field Form.

Root cause by excavation equipment and excavator type: Summaries

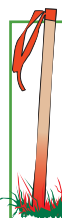
The 2008 DIRT annual report included multi-field analysis including a review of root cause data and the related equipment and excavator type. The findings presented in the following charts remain consistent with those from the 2007 report, illustrating that professional excavators are involved in a significant share of the incidents while operating excavation equipment. However, the reader is advised that DR&EC does not know what percentage of excavation is done by the "Hoe/Trencher" group or by "Contractor/Developer" group. For example, if 90% of the excavation is done by the "Contractor/Developer" group and only 70% of the damages are attributed to the same group, it would show this group works in a relatively safe manner.



ROOT CAUSE SUMMARY #1



ROOT CAUSE SUMMARY #2



DIGGING UP MORE...

The full Scoop is available to you any time simply by visiting www.cga-dirt.com





Near Missed or Damaged Facility Root Cause Tip Card

Courtesy of DIRT

WHEN THINGS
GO WRONG

OPERATOR ISSUES

Facility Was Not Located or Marked: No locating or marking was completed prior to excavation activities.

Example:

- The company received a valid ticket, but did not mark, locate, or communicate with excavator prior to start of work.

Facility Marking or Location Not Sufficient: Includes all areas where marking was insufficient.

Example:

- Locator marked the work zone, but missed a service.
- Locator misread the ticket and did not locate the entire work zone.
- Facility was outside the tolerance zone.

Facility Could Not be Found/Located: Type of facility, depth, or lack of records prevented locating of facility.

Example:

- Plastic pipelines installed without tracer wires.
- HDD installed facilities at depths that cannot be located.
- Lack of records prevented locating the facility.

Abandoned Facility: This damage was caused by an abandoned facility issue.

Example:

- The abandoned facility may have been located, instead of the active facility.
- An abandoned facility may have been located, but it may have been found active after the excavation exposed the facility or damaged it.

Incorrect Facility Records/Maps: Incorrect facility records or maps led to an incorrect locate.

Example:

- Records show the facility located on the wrong side of the street, and ticket was cleared.
- This does not include facilities that are missing from maps.
- Considered selecting "Abandoned Facility" if this is the case.

Deteriorated Facility: Those situations in which an excavation disrupts the soil around the facility resulting in damage, failure, or interruption of service. However, the deterioration and not the excavation caused the facility damage.

Example:

- An excavator reports a gas odor, investigation proves it is coming from a old cast iron pipeline.

Previous Damage: A significant period of time has passed from the actual damage to the failure or discovery of the damages.

Example:

- Pipe coating was damaged during previous a excavation and was not reported. Subsequently, a corrosion leak occurred.

EXCAVATOR ISSUES

No Notification Made to the One-Call Center: Excavator did not call the one-call center, includes occasions when notification was not required.

Excavation Practices Not Sufficient: The excavator did not use proper care or follow the correct procedures when excavating near a facility.

Failure to Maintain Clearances While Using Power Equipment: as defined by applicable state regulations or underground facility owner.

Failure to Maintain Marks: The marks deteriorated or were lost and the excavator failed to request that they be restored/refreshed.

Failure to Support Exposed Facilities: Facility damage due to lack of support in accordance with generally accepted engineering practices or instructions provided by the facility operator.

Failure to Use Hand Tools: Failure to use hand tools where required.

Failure to Verify Facility by Test Hole: Some state regulations define a "tolerance zone" around buried facilities and require that the accuracy of the facility marks be verified by exposing the facility by hand digging prior to excavation within the tolerance zone, or require hand digging or special precautions when working within the tolerance zone.

Improper Backfilling: Damage caused by improper materials (ex: large/sharp rocks) in the backfill or improper compaction of the backfill.

Excavation Practices Not Sufficient-Other: Select this option when the above options do not apply.

Wrong Information Provided: This damage because an excavator provided the wrong excavation location to the notification center, or there was a miscommunication between stakeholders.

Example:

- Excavator used website to notify and indicated the wrong dig site.
- The locator cleared the ticket based on inaccurate information from the excavator.

Notification to the One-Call Center Made, But Not Sufficient: The excavator contacted the notification center, but did not provide sufficient information, or the excavator did not provide sufficient notification time according to state law.

Example:

- Excavator did not wait required time before digging.
- Excavator was excavating on an expired ticket.

ONE-CALL CENTER ISSUES

One-Call Center Notification Error: Includes all issues related to the center such as incorrectly entered data, ticket transmission failures, and stakeholder omissions, et al.

Example:

- This would include damages that occurred because the center's database registry had not been updated to reflect correct location of gas facilities.
- The one-call center system crashed and failed to deliver the ticket





The Winds of Change Are Driving Renewable Energy

Global demand creates opportunities for underground contractors

By Greg Ehm, Two Rivers Marketing

THE BIGGER PICTURE



For years travelers making their way across the Midwest and Great Plains witnessed American agriculture at its best. Miles upon miles of lush cornfields and pastures provided a scenic setting and reassurance that rural America truly is the breadbasket for our nutritional needs.

Today, a new technology is appearing on the horizon, one that many believe is a new kind of breadbasket; one that will help meet the ever-increasing global "appetite." Wind energy has found a home in the Midwest and Great Plains, where the wind is plentiful and turbine farms can be seen for miles. However, the American heartland isn't the only place adopting this new renewable technology.

Global wind energy adoption is incredible, and by the end of 2008, the world's installed capacity reached 120 gigawatts (GW), enough energy to power up to 120 million average sized homes.

Sporadic but steady growth expected for the future

The massive growth in the U.S. wind market in 2008 increased the country's total wind-power-generating capacity by half. However, Europe continues to be the global leader in wind energy adoption. So what's driving this demand? A number of factors, including the need to find alternative energy sources, the rising profile of environmental issues such as climate change, and improvements in wind-power technology. In addition, there is much political support in terms of financial incentives and clout for the advancement of this industry.

Experts predict growth will decline as financing for new projects becomes limited and orders for new turbines and components decrease due to the global financial crisis. Despite these short-term setbacks, the wind industry continues to be in a strong strategic

position, and the U.S. Department of Energy predicts that wind power could provide 20 percent of the United States' electricity by 2030. The Global Wind energy Council (GWeC) predicts that in 2013, global wind-generating capacity will stand at 332 GW, a nearly three-fold increase from current levels.

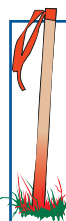
From growth come new opportunities

This growth is fueling new opportunities for contractors to be involved in the construction of these stately towers. The construction process includes site preparation at individual turbine locations, laying turbine foundations, access road construction and transmission line installation.

Underground contractors have a unique opportunity to help install the vast network of underground transmission lines.

These cables form the infrastructure for transporting the energy generated by the turbines to the grid and, eventually, customers several hundreds of miles away. While each wind-farm design is different, a majority of installations use a common network of lines including three high-voltage cables, one fiber optic transmission line and a ground wire.

The adoption of wind energy is staggering and creating many new and exciting opportunities for the underground construction industry.



DIGGING UP MORE...

For Additional Information on Wind Energy, visit the following web sites.

American Wind Energy Association

www.awea.org

Global Wind Energy Council

www.gwec.net

North American Wind Power

www.nawindpower.com

Photos courtesy of Morse Electric and Al Franseen



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Common Ground Alliance Excavation Best Practices 6.0

For complete listing of Common Ground Alliance Best Practices, visit CommonGroundAlliance.com

Starting with Version 5.0, the CGA uses icons to assist readers in identifying the practices that pertain to their specific industry/stakeholder group.



5-1: One-call Facility Locate Request

Practice Statement: The excavator requests the location of underground facilities at each site by notifying the facility owner/operator through the one call center. Unless otherwise specified in state/provincial law, the excavator calls the one call center at least two working days and no more than ten working days prior to beginning excavation.

5-2: White Lining

Practice Statement: When the excavation site can not be clearly and adequately identified on the locate ticket, the excavator designates the route and/or area to be excavated using white pre-marking prior to the arrival of the locator.

5-3: Locate Reference Number

Practice Statement: The excavator receives and maintains a reference number from the one call center that verifies the locate was requested.

5-4: Pre-excavation Meeting

Practice Statement: When practical, the excavator requests a meeting with the facility locator at the job site prior to the actual marking of facility locations. Such pre-job meetings are important for major, or unusual, excavations.

5-5: Facility Relocations

Practice Statement: The excavator coordinates work which requires temporary or permanent interruption of a facility owner/operator's service with the affected facility owner/operator in all cases.

5-6: Separate Locate Requests

Practice Statement: Every excavator on the job has a separate one call reference number before excavating.

5-7: One Call Access (24/7)

Practice Statement: The excavator has access to a one call center 24 hours per day, 7 days a week.

5-8: Positive Response

Practice Statement: The excavator is notified by the underground facility owner/operator of the tolerance zone of the underground facility by marking, flagging, or other acceptable methods at the work site, or is notified that a no conflict situation exists. This takes place after notification from the one call center to the underground facility owner/operator and within the time specified by state/provincial law.

5-9: Facility Owner/operator Failure To Respond

Practice Statement: If the facility owner/operator fails to respond

to the excavator's timely request for a locate (e.g., within the time specified by state/provincial requirements) or if the facility owner/operator notifies the excavator that the underground facility cannot be marked within the time frame and a mutually agreeable date for marking cannot be arrived at, the excavator re-calls the one call center. However, this does not preclude the excavator from going on with the project. The excavator may proceed with excavation at the end of two working days, unless otherwise specified in state/provincial law, provided the excavator exercises due care in his endeavors.

5-10: Locate Verification

Practice Statement: Prior to excavation, excavators verify they are at the correct location and verify locate markings and, to the best of their ability, check for unmarked facilities.

5-11: Documentation Of Marks

Practice Statement: An excavator uses dated pictures, videos, or sketches with distance from markings to fixed objects recorded, to document the actual placement of markings.

5-12: Work Site Review With Company Personnel

Practice Statement: Prior to starting work, the excavator reviews the location of underground facilities with site personnel.

5-13: One call Reference Number At Site

Practice Statement: The excavator's designated competent person at each job site has the one call ticket number.

5-14: Contact Names And Numbers

Practice Statement: The excavator's designated competent person at each job site has access to the names and phone numbers of all facility owner/operator contacts and the one call center.

5-15: Facility Avoidance

Practice Statement: The excavator uses reasonable care to avoid damaging underground facilities. The excavator plans the excavation so as to avoid damage or minimize interference with the underground facilities in or near the work area.

5-16: Federal And State Regulations

Practice Statement: The excavator adheres to all applicable federal and state/provincial safety regulations, which includes training as it relates to the protection of underground facilities.

5-17: Marking Preservation

Practice Statement: The excavator protects and preserves the staking, marking, or other designations for underground facilities until no longer required for proper and safe excavation. The excavator stops excavating and notifies the one call center for re-marks if any facility mark is removed or no longer visible.

5-18: Excavation Observer

Practice Statement: The excavator has an observer to assist the equipment operator when operating excavation equipment around known underground facilities.

Common Ground Alliance Excavation Best Practices 6.0 (Continued from Page 28)

5-19: Excavation Tolerance Zone

Practice Statement: The excavator observes a tolerance zone which is comprised of the width of the facility plus 18" on either side of the outside edge of the underground facility on a horizontal plane. This practice is not intended to preempt any existing state/provincial requirements that currently specify more than 18".

5-20: Excavation Within Tolerance Zone

Practice Statement: When excavation is to take place within the specified tolerance zone, the excavator exercises such reasonable care as may be necessary for the protection of any underground facility in or near the excavation area. Methods to consider, based on certain climate or geographical conditions, include: hand digging when practical (pot holing), soft digging, vacuum excavation methods, pneumatic hand tools, other mechanical methods with the approval of the facility owner/operator, or other technical methods that may be developed. Hand digging and non-invasive methods are not required for pavement removal.

5-21: Mis-marked Facilities

Practice Statement: The excavator notifies the facility owner/operator directly or through the one call center if an underground facility is not found where one has been marked or if an unmarked underground facility is found. Following this notification, the excavator may continue work if the excavation can be performed without damaging the facility, unless specified otherwise in state/provincial law.

5-22: Exposed Facility Protection

Practice Statement: Excavators support and protect exposed underground facilities from damage.

5-23: Locate Request Updates

Practice Statement: The excavator calls the one call center to refresh the ticket when excavation continues past the life of the ticket (sometimes, but not always, defined by state/provincial law). This recognizes that it is a best practice to define ticket life. If not currently defined in state/provincial law, ticket life would best be 10 working days but not to exceed 20 working days.

5-24: Facility Damage Notification

Practice Statement: An excavator discovering or causing damage to underground facilities notifies the facility owner/operator and the one call center. All breaks, leaks, nicks, dents, gouges, groves, or other damages to facility lines, conduits, coatings or cathodic protection will be reported.

5-25: Notification Of Emergency Personnel

Practice Statement: If the damage results in the escape of any flammable, toxic, or corrosive gas or liquid or endangers life, health, or property, the excavator responsible immediately notifies 911 and the facility owner/operator.* The excavator takes reasonable measures to protect themselves and those in immediate danger, general public, property, and the environment until the facility owner operator or emergency responders have arrived and completed their assessment.**

5-26: Emergency Excavation

Practice Statement: In the case of an emergency excavation, maintenance or repairs may be made immediately provided that the excavator notifies the one call center and facility owner/

operator as soon as reasonably possible. This includes situations that involve danger to life, health or property, or that require immediate correction in order to continue the operation of or to assure the continuity of public utility service or public transportation.

5-27: Backfilling

Practice Statement: The excavator protects all facilities from damage when backfilling an excavation. Trash, debris, coiled wire, or other material that could damage existing facilities or interfere with the accuracy of future locates are not to be buried in the excavation.

5-28: As-built Documentation

Practice Statement: Contractors installing underground facilities notify the facility owner/operator if the actual placement is different from expected placement.

5-29: Trenchless Excavation †

Practice Statement: All stakeholders adhere to all Best Practices and the following general guidelines prior to, during and after any trenchless excavation (as applicable):

- The excavator requests the location of underground facilities at the entrance pit, trenchless excavation path, and the exit pit by notifying the facility owner/operator through the one call center.
- The trenchless equipment operator performs a site inspection walking the trenchless excavation path prior to commencing work and has a good understanding of the job.
- The trenchless excavation operator confirms and maintains the path and minimum clearances established by the project owner and design engineer by tracking and recording the path of the trenchless excavation until complete. Means of tracking trenchless excavations include: electronic locating / guidance devices, pipe lasers, water levels, visual inspection, etc.
- When existing facilities are known to be present but cannot be potholed due to local conditions the facility owner and the excavator meet to discuss how to safely proceed with the excavation.
- Stop the trenchless excavation operations if an abnormal condition, unknown substructure or other hidden hazard is encountered. Proceed safely only after positive identification has been made. (Additional Information: Refer to practices 2-13 & 4-19)

5-30: Emergency Coordination with Adjacent Facilities ††

Practice Statement: Emergency response planning includes coordination with emergency responders and other above and/or underground infrastructure facility owner/operators identified by the Incident Commander through the Incident Command System/Unified Command (ICS/UC) during an emergency.

5-30: No Charge for Providing Underground Facility Locations †††

Practice Statement: Upon notification by one call centers, locations of underground facilities are provided by operators at no cost to excavators.

* TR-2001-02A: Amendment Approved by CGA Board on November 30, 2001

** TR-2001-02B: Amendment Approved by CGA Board on September 27, 2002

† TR-2002-03: Amendment Approved by CGA Board on September 16, 2005

†† TR-2005-02: Amendment Approved by CGA Board on September 8, 2006

††† TR-2007-06: Amendment Approved by CGA Board on August 8, 2008

One-Call and State Law Directory

The following is presented for informational purposes only. One-call center information and laws are subject to change. Please consult the one-call center website for current information. Infrastructure Resources, LLC attempted to verify all information for accuracy as of the date of this publication, but is not responsible for incorrect or missing information.

You can reach your local one-call center in the United States by dialing 811.



ONE-CALL & STATE LAW
Alabama - Connecticut

ONE-CALL & STATE LAW
Illinois - Massachusetts

ONE-CALL & STATE LAW
New Jersey - Oklahoma

ONE-CALL & STATE LAW
Utah - Wyoming

State	One-Call Center	State Laws & Provisions	Exemptions	Notifications Accepted	Tolerance zone	Law Link	
ALABAMA	Alabama One-Call 800-292-8525 • www.al1call.com Hours: 7:00 AM - 5:00 PM, M-F FAX Tickets Available: N Online Ticket: Y Advance Notice: Two working days	Coverage Statewide Y Civil Penalties Y Emergency Clause Y	Mandatory Membership N Excavator Permits Issued N Mandatory Premarks N	Positive Response Y Hand Dig Clause Y Damage Reporting Y	DOT Y Homeowner Y Railroad Y Agriculture Y Depth 12''*	DOT Y Damage Y Design Y Emergency Y Overhead N	www.al1call.com/state_law.html
	Marks Valid: 14 calendar days						
ALASKA	Alaska Digline, Inc. • www.akonecall.com 907-278-3121 • 800-478-3121 Hours: M-F: 7:00 AM - 7:00 PM, May - August; 8:00 AM - 5:00 PM, September - April FAX Tickets Available: 907-278-0696 Online Ticket: Y Advance Notice: Two business days Marks Valid: 14 days	Coverage Statewide Y Civil Penalties Y Emergency Clause Y	Mandatory Membership N Excavator Permits Issued N Mandatory Premarks N	Positive Response N Hand Dig Clause Y Damage Reporting N	DOT N Homeowner N Railroad N Agriculture N Depth N	DOT N Damage Y Design Y Emergency Y Overhead N	www.akonecall.com/faq.htm
	Marks Valid: 14 days						
ARIZONA	Arizona Blue Stake, Inc. 800-782-5348 or 602-263-1100 • www.azbluestake.com Hours: 6:00 AM - 5:00 PM, M-F FAX Tickets Available: N Online Ticket: Y Advance Notice: Two full working days**	Coverage Statewide Y Civil Penalties Y Emergency Clause Y	Mandatory Membership Y Excavator Permits Issued N Mandatory Premarks N	Positive Response Y Hand Dig Clause Y Damage Reporting N	DOT N Homeowner N Railroad N Agriculture Y Depth N	DOT N Damage N Design Y Emergency Y Overhead N	www.azbluestake.com/main/law/law.html
	Marks Valid: 15 working days*						
ARKANSAS	Arkansas One-Call System, Inc. 800-482-8998 • www.arkonecall.com Hours: 24 hours, 7 days FAX Tickets Available: 501-328-2522 Online Ticket: Y Advance Notice: Two to ten working days	Coverage Statewide Y Civil Penalties Y Emergency Clause Y	Mandatory Membership Y Excavator Permits Issued N Mandatory Premarks Y	Positive Response Y Hand Dig Clause Y Damage Reporting N	DOT Y Homeowner N Railroad N Agriculture N Depth N	DOT Y Damage Y Design Y Emergency Y Overhead N	www.arkonecall.com/statelaw/statelaw.html
	Marks Valid: 20 working days						
CALIFORNIA	Underground Service Alert North 800-227-2600 • www.usanorth.org Hours: 6:00 AM - 7:00 PM (PST), M-F FAX Tickets Available: N Online Ticket: Y Advance Notice: Two working days, but not more than 14 calendar days Marks Valid: 28 days	Coverage Statewide N Civil Penalties Y Emergency Clause Y	Mandatory Membership Y Excavator Permits Issued Y Mandatory Premarks Y	Positive Response Y Hand Dig Clause Y Damage Reporting N	DOT Y Homeowner Y Railroad N Agriculture N Depth N	DOT Y Damage Y Design N Emergency Y Overhead N	www.usanorth.org/markings.php?user=excavators
	Marks Valid: 28 days						
CALIFORNIA	Underground Service Alert Southern California 800-227-2600 • www.digalert.org Hours: 6:00 AM - 7:00 PM (PST), M-F FAX Tickets Available: N Online Ticket: Y Advance Notice: Two working days, but not more than 14 calendar days Marks Valid: 28 days	Coverage Statewide N Civil Penalties Y Emergency Clause Y	Mandatory Membership Y Excavator Permits Issued Y Mandatory Premarks Y	Positive Response Y Hand Dig Clause Y Damage Reporting N	DOT Y Homeowner Y Railroad N Agriculture Y Depth N	DOT Y Damage N Design N Emergency Y Overhead N	www.digalert.org/statelaw.asp
	Marks Valid: 28 days						
COLORADO	Utility Notification Center of Colorado 800-922-1987 • www.uncc.org Hours: 24 hours FAX Tickets Available: N Online Ticket: Y Advance Notice: Two days, not to include the day of notice Marks Valid: 30 days	Coverage Statewide Y Civil Penalties Y Emergency Clause Y	Mandatory Membership Y Excavator Permits Issued N Mandatory Premarks N	Positive Response Y Hand Dig Clause N Damage Reporting Y	DOT Y Homeowner N Railroad Y Agriculture Y Depth N	DOT Y Damage Y Design Y Emergency Y Overhead N	www.uncc2.org/web/pdf/colorado_one_call_law.pdf
	Marks Valid: 30 days						
CONNECTICUT	Call Before You Dig 800-922-4455 • www.cbyd.com Hours: 7:00 AM - 5:00 PM FAX Tickets Available: N Online Ticket: Y Advance Notice: Two days minimum, but not more than 30 calendar days Marks Valid: 30 days	Coverage Statewide Y Civil Penalties Y Emergency Clause Y	Mandatory Membership Y Excavator Permits Issued N Mandatory Premarks Y	Positive Response Y Hand Dig Clause Y Damage Reporting Y	DOT N Homeowner N Railroad N Agriculture Y Depth N	DOT N Damage Y Design N Emergency Y Overhead N	www.cbyd.com/education_excavator.html
	Marks Valid: 30 days						

* the depth of 12" is the exemption for Agricultural purpose less than this depth
 ** excludes weekends and state-recognized holidays

DELAWARE

Miss Utility of Delmarva www.missutilitydelmarva.com
800-282-8555 (DE) • 800-441-8355 (Eastern Shore MD)
Hours: 24 hours, 7 days
FAX Tickets Available: 410-712-0062
Online Tickets: Y
Advance Notice: 48 hours in Eastern Shore MD;
2 full working days in DE
Marks Valid: Ten working days

State Laws & Provisions

Coverage Statewide	Y	Mandatory Membership	Y	Positive Response	Y
Civil Penalties	Y	Excavator Permits Issued	N	Hand Dig Clause	Y
Emergency Clause	Y	Mandatory Premarks	N	Damage Reporting	N

Exemptions: DOT N Homeowner Y Railroad N Agriculture N Depth N
Notifications Accepted: Damage N Design Y Emergency Y Overhead N
Tolerance zone: * **Law Link:** www.delcode.gov/title26/c008/index.html

FLORIDA

Sunshine State One-Call of Florida, Inc.
800-432-4770 • www.callsunshine.com
Hours: 7:00 AM - 5:00 PM (EST), M-F
FAX Tickets Available: N
Online Tickets: Y
Advance Notice: Two full business days
(Ten business days if dig site is underwater)
Marks Valid: 30 calendar days

State Laws & Provisions

Coverage Statewide	Y	Mandatory Membership	Y	Positive Response	Y
Civil Penalties	Y	Excavator Permits Issued	N	Hand Dig Clause	Y
Emergency Clause	Y	Mandatory Premarks	Y	Damage Reporting	N

Exemptions: DOT Y Homeowner Y Railroad Y Agriculture Y Depth Y
Notifications Accepted: Damage N Design Y Emergency Y Overhead N
Tolerance zone: 24" **Law Link:** www.callsunshine.com/ssocf/enforce/enforcement.htm

GEORGIA

Utilities Protection Center, Inc.
800-282-7411 • www.gaupc.com
Hours: 7:00 AM - 6:00 PM, M-F • (24/7 emergency)
FAX Tickets Available: N
Online Tickets: Y
Advance Notice: 48 hours
(excluding the day called in)
Marks Valid: 21 calendar days

State Laws & Provisions

Coverage Statewide	Y	Mandatory Membership	Y	Positive Response	Y
Civil Penalties	Y	Excavator Permits Issued	N	Hand Dig Clause	Y
Emergency Clause	Y	Mandatory Premarks	Y	Damage Reporting	Y

Exemptions: DOT Y Homeowner Y Railroad Y Agriculture Y Depth N
Notifications Accepted: Damage Y Design Y Emergency Y Overhead Y
Tolerance zone: 24" **Law Link:** www.psc.state.ga.us/facilitiesprotect/fp_gufpa/GUFPADigLaw.pdf

HAWAII

Hawaii One Call Center
866-423-7287 • www.callbeforeyoudig.org
Hours: 24 hours, 7 days
FAX Tickets Available: 877-695-2466
Online Tickets: Y
Advance Notice: Five working days,
but not more than 28 calendar days
Marks Valid: 28 calendar days

State Laws & Provisions

Coverage Statewide	Y	Mandatory Membership	Y	Positive Response	Y
Civil Penalties	Y	Excavator Permits Issued	N	Hand Dig Clause	Y
Emergency Clause	Y	Mandatory Premarks	Y	Damage Reporting	N

Exemptions: DOT N Homeowner Y Railroad N Agriculture N Depth N
Notifications Accepted: Damage Y Design Y Emergency Y Overhead N
Tolerance zone: 30" **Law Link:** www.CallBeforeYouDig.org/law.htm

IDAHO

Dig Line
800-342-1585 • www.digline.com
Hours: 24 hours
FAX Tickets Available: 208-342-8907
Online Tickets: Y
Advance Notice: Two business days

State Laws & Provisions

Coverage Statewide	N	Mandatory Membership	Y	Positive Response	N
Civil Penalties	Y	Excavator Permits Issued	N	Hand Dig Clause	Y
Emergency Clause	Y	Mandatory Premarks	Y	Damage Reporting	N

Exemptions: DOT N Homeowner 15" Railroad N Agriculture Y Depth 15"
Notifications Accepted: Damage Y Design Y Emergency Y Overhead Y
Tolerance zone: 24" **Law Link:** www.3.state.id.us/idstat/TOC/55022KTOC.html

Marks Valid: Three weeks

Bonner/Boundary One-Call
800-626-4950 • www.passwordinc.com
Hours: 24 hours
FAX Tickets Available: 208-769-2805
Online Tickets: Y
Advance Notice: Two business days

State Laws & Provisions

Coverage Statewide	N	Mandatory Membership	Y	Positive Response	N
Civil Penalties	Y	Excavator Permits Issued	N	Hand Dig Clause	Y
Emergency Clause	Y	Mandatory Premarks	Y	Damage Reporting	N

Exemptions: DOT N Homeowner 15" Railroad N Agriculture Y Depth 15"
Notifications Accepted: Damage Y Design Y Emergency Y Overhead Y
Tolerance zone: 24" **Law Link:** www.password.com/dt_laws.html

Marks Valid: Three weeks

Shoshone/Benewah One-Call
800-398-3285 • www.passwordinc.com
Hours: 24 hours
FAX Tickets Available: 208-769-2805
Online Tickets: Y
Advance Notice: Two business days

State Laws & Provisions

Coverage Statewide	N	Mandatory Membership	Y	Positive Response	N
Civil Penalties	Y	Excavator Permits Issued	N	Hand Dig Clause	Y
Emergency Clause	Y	Mandatory Premarks	Y	Damage Reporting	N

Exemptions: DOT N Homeowner 15" Railroad N Agriculture Y Depth 15"
Notifications Accepted: Damage Y Design Y Emergency Y Overhead Y
Tolerance zone: 24" **Law Link:** www.password.com/dt_laws.html

Marks Valid: Three weeks

Kootenai County One-Call
800-428-4950 • www.passwordinc.com
Hours: 24 hours
FAX Tickets Available: 208-769-2805
Online Tickets: Y
Advance Notice: Two business days

State Laws & Provisions

Coverage Statewide	N	Mandatory Membership	Y	Positive Response	N
Civil Penalties	Y	Excavator Permits Issued	N	Hand Dig Clause	Y
Emergency Clause	Y	Mandatory Premarks	Y	Damage Reporting	N

Exemptions: DOT N Homeowner 15" Railroad N Agriculture Y Depth 15"
Notifications Accepted: Damage Y Design Y Emergency Y Overhead Y
Tolerance zone: 24" **Law Link:** www.password.com/dt_laws.html

Marks Valid: Three weeks

ILLINOIS

JULIE, Inc.
800-892-0123 • www.illinois1call.com
Hours: 24 hours, 7 days
FAX Tickets Available: 800-292-0222
Online Tickets: Y
Advance Notice: Two working days minimum, but
not more than 14 calendar days**
Marks Valid: 28 calendar days

State Laws & Provisions

Coverage Statewide	N	Mandatory Membership	Y	Positive Response	Y
Civil Penalties	Y	Excavator Permits Issued	N	Hand Dig Clause	Y
Emergency Clause	Y	Mandatory Premarks	N	Damage Reporting	Y

Exemptions: DOT Y Homeowner N Railroad Y Agriculture Y Depth Y
Notifications Accepted: Damage Y Design Y Emergency Y Overhead N
Tolerance zone: 18" **Law Link:** www.illinois1call.com/law_policies/law.htm

* 18" in Eastern Shore MD; 24" in DE

** 48 hours notice (two working days), but not more than a 14 calendar day advance notice prior to the start of excavation

ILLINOIS	Chicago Digger 312-744-7000 • www.cityofchicago.org/transportation Hours: 6:00 AM - 10:00 PM FAX Tickets Available: 312-742-0950 Online Tickets: Y Advance Notice: 48 hours	State Laws & Provisions Coverage Statewide N Mandatory Membership N Positive Response Y Civil Penalties Y Excavator Permits Issued Y Hand Dig Clause Y Emergency Clause Y Mandatory Premarks Y Damage Reporting Y
	Marks Valid: 28 days	Exemptions: DOT N Homeowner N Railroad N Agriculture N Depth N Notifications Accepted: Damage Y Design N Emergency Y Overhead N Tolerance zone: 18" Law Link: www.illinois1call.com/law_policies/law.htm
INDIANA	Indiana 811 800-382-5544 • www.indiana811.org Hours: 24 hours, 365 days FAX Tickets Available: N Online Tickets: Y Advance Notice: Two full working days	State Laws & Provisions Coverage Statewide Y Mandatory Membership Y Positive Response Y Civil Penalties Y Excavator Permits Issued N Hand Dig Clause Y Emergency Clause Y Mandatory Premarks N Damage Reporting N
	Marks Valid: 20 calendar days	Exemptions: DOT N Homeowner N Railroad Y Agriculture Y Depth N Notifications Accepted: Damage Y Design Y Emergency Y Overhead N Tolerance zone: 24" Law Link: www.indiana811.org/law.php
IOWA	Iowa One-Call 800-292-8989 • www.iowaonecall.com Hours: 24 hours, 7 days FAX Tickets Available: 515-278-0245 Online Tickets: Y Advance Notice: Two working days	State Laws & Provisions Coverage Statewide Y Mandatory Membership Y Positive Response Y Civil Penalties Y Excavator Permits Issued N Hand Dig Clause Y Emergency Clause Y Mandatory Premarks N Damage Reporting N
	Marks Valid: No expiration*	Exemptions: DOT N Homeowner N Railroad N Agriculture N Depth (Ag only) 15" Notifications Accepted: Damage Y Design Y Emergency Y Overhead N Tolerance zone: 18" Law Link: www.iowaonecall.com/Default.aspx?tabid=404#iowa
KANSAS	Kansas One-Call System, Inc. 800-344-7233 • www.kansasonecall.com Hours: 24 hours, 7 days FAX Tickets Available: N Online Tickets: Y Advance Notice: Two full working days, not including the day the notice was placed Marks Valid: 15 calendar days	State Laws & Provisions Coverage Statewide Y Mandatory Membership Y Positive Response Y Civil Penalties Y Excavator Permits Issued N Hand Dig Clause N Emergency Clause Y Mandatory Premarks N Damage Reporting N
		Exemptions: DOT N Homeowner N Railroad N Agriculture N Depth N Notifications Accepted: Damage N Design Y Emergency Y Overhead N Tolerance zone: 24" Law Link: www.kansasonecall.com/laws2003.shtml
KENTUCKY	Kentucky 811 800-752-6007 • www.kentucky811.org Hours: 24 hours, 365 days FAX Tickets Available: N Online Tickets: Y Advance Notice: Two business days	State Laws & Provisions Coverage Statewide Y Mandatory Membership N Positive Response Y Civil Penalties Y Excavator Permits Issued N Hand Dig Clause Y Emergency Clause Y Mandatory Premarks N Damage Reporting N
	Marks Valid: 21 days	Exemptions: DOT Y Homeowner N Railroad Y Agriculture Y Depth N Notifications Accepted: Damage Y Design Y Emergency Y Overhead N Tolerance zone: 18" Law Link: www.kentucky811.org/law.asp
LOUISIANA	Louisiana One-Call 800-272-3020 • www.laonecall.com Hours: 7:00 AM - 6:00 PM FAX Tickets Available: 225-272-1967 Online Tickets: Y Advance Notice: 48 to 120 hours	State Laws & Provisions Coverage Statewide Y Mandatory Membership Y Positive Response Y Civil Penalties Y Excavator Permits Issued N Hand Dig Clause Y Emergency Clause Y Mandatory Premarks N Damage Reporting N
	Marks Valid: 10 calendar days	Exemptions: DOT N Homeowner Y Railroad N Agriculture N Depth N Notifications Accepted: Damage N Design Y Emergency Y Overhead N Tolerance zone: 18" Law Link: www.laonecall.com/law_frame_page.htm
MAINE	Dig Safe 888-344-7233 • www.digsafe.com Hours: 24 hours, 7 days FAX Tickets Available: N Online Tickets: Y Advance Notice: 72 hours, excluding weekends and holidays Marks Valid: 30 days	State Laws & Provisions Coverage Statewide Y Mandatory Membership Y Positive Response Y Civil Penalties Y Excavator Permits Issued Y Hand Dig Clause Y Emergency Clause Y Mandatory Premarks Y Damage Reporting Y
		Exemptions: DOT N Homeowner N Railroad N Agriculture Y Depth N Notifications Accepted: Damage Y Design N Emergency Y Overhead N Tolerance zone: 18" Law Link: www.digsafe.com/laws_statelaws.htm
MARYLAND	Miss Utility Call Center 800-257-7777 • www.missutility.net Hours: 24 hours, 7 days FAX Tickets Available: 410-712-0062 Online Tickets: Y Advance Notice: 48 hours	State Laws & Provisions Coverage Statewide Y Mandatory Membership Y Positive Response Y Civil Penalties Y Excavator Permits Issued N Hand Dig Clause Y Emergency Clause Y Mandatory Premarks N Damage Reporting N
	Marks Valid: 10 days	Exemptions: DOT N Homeowner Y Railroad N Agriculture N Depth N Notifications Accepted: Damage N Design N Emergency Y Overhead N Tolerance zone: 18*** Law Link: www.missutility.net/maryland/mdstatalaw.asp
MASSACHUSETTS	Dig Safe 888-344-7233 • www.digsafe.com Hours: 24 hours, 7 days FAX Tickets Available: N Online Tickets: Y Advance Notice: 72 hours, excluding weekends and holidays Marks Valid: Work must begin 30 days from ticket date	State Laws & Provisions Coverage Statewide Y Mandatory Membership Y Positive Response N Civil Penalties Y Excavator Permits Issued Y Hand Dig Clause Y Emergency Clause Y Mandatory Premarks Y Damage Reporting Y
		Exemptions: DOT N Homeowner N Railroad N Agriculture Y Depth N Notifications Accepted: Damage Y Design N Emergency Y Overhead N Tolerance zone: 18" Law Link: www.digsafe.com/laws_statelaws.htm

* Markings will be done in a manner that will last for a minimum of five working days on any non-permanent surface, or a minimum of ten working days on any permanent surface. If the excavation will continue for a longer period of time, the excavator may contact the Iowa One Call Center to have the lines re-marked.
 ** 36" in Montgomery County

MICHIGAN

MISS DIG System, Inc.
800-482-7171 • www.missdig.org
Hours: 24 hours
FAX Tickets Available: N
Online Tickets: Y
Advance Notice: Three business days, excluding weekends and holidays
Marks Valid: 3 weeks to 6 months

State Laws & Provisions

Coverage Statewide	Y	Mandatory Membership	Y	Positive Response	Y
Civil Penalties	N	Excavator Permits Issued	N	Hand Dig Clause	Y
Emergency Clause	Y	Mandatory Premarks	N	Damage Reporting	N

Exemptions: DOT Y Homeowner N Railroad N Agriculture N Depth N
Notifications Accepted: Damage N Design Y Emergency Y Overhead Y
Tolerance zone: 18" **Law Link:** www.missdig.org/MissDig/PublicAct53.htm

MINNESOTA

Gopher State One-Call
800-252-1166 or 651-454-0002 • **Hours:** 24 hours
www.gopherstateonecall.org
FAX Tickets Available: 651-454-0170 or 800-236-4697
Online Tickets: Y
Advance Notice: 48 hours, excluding weekends and holidays
Marks Valid: 14 days

State Laws & Provisions

Coverage Statewide	Y	Mandatory Membership	Y	Positive Response	Y
Civil Penalties	Y	Excavator Permits Issued	Y	Hand Dig Clause	Y
Emergency Clause	Y	Mandatory Premarks	N	Damage Reporting	N

Exemptions: DOT N Homeowner N Railroad N Agriculture N Depth N
Notifications Accepted: Damage N Design Y Emergency Y Overhead N
Tolerance zone: 24" **Law Link:** www.revisor.leg.state.mn.us/statutes/?id=216D

MISSISSIPPI

Mississippi 811, Inc.
800-227-6477 or 811 • www.ms811.org
Hours: 24 hours, 7 days
FAX Tickets Available: 601-362-7533
Online Tickets: Y
Advance Notice: Two working days

State Laws & Provisions

Coverage Statewide	Y	Mandatory Membership	Y	Positive Response	Y
Civil Penalties	N	Excavator Permits Issued	N	Hand Dig Clause	Y
Emergency Clause	Y	Mandatory Premarks	N	Damage Reporting	Y

Exemptions: DOT N Homeowner N Railroad N Agriculture N Depth 12"
Notifications Accepted: Damage Y Design Y Emergency Y Overhead N
Tolerance zone: 18" **Law Link:** www.ms1call.org/excavation.html

MISSOURI

Missouri One Call System
800-334-7483 • www.mo1call.com
Hours: 24 hours, 7 days
FAX Tickets Available: 573-635-8402
Online Tickets: Y
Advance Notice: Two working days

State Laws & Provisions

Coverage Statewide	Y	Mandatory Membership	Y	Positive Response	Y
Civil Penalties	Y	Excavator Permits Issued	N	Hand Dig Clause	N
Emergency Clause	Y	Mandatory Premarks	N	Damage Reporting	Y

Exemptions: DOT N Homeowner N Railroad Y Agriculture Y Depth N
Notifications Accepted: Damage Y Design Y Emergency Y Overhead N
Tolerance zone: 24" **Law Link:** www.mo1call.com/manual_law.php

MONTANA

Utilities Underground Location Center
800-424-5555 • www.callbeforeyoudig.com
Hours: 24 hours, 365 days
FAX Tickets Available: 800-424-5555
Online Tickets: Y
Advance Notice: Two business days

State Laws & Provisions

Coverage Statewide	N	Mandatory Membership	Y	Positive Response	N
Civil Penalties	Y	Excavator Permits Issued	N	Hand Dig Clause	N
Emergency Clause	Y	Mandatory Premarks	N	Damage Reporting	N

Exemptions: DOT N Homeowner N Railroad N Agriculture N Depth N
Notifications Accepted: Damage N Design Y Emergency Y Overhead Y
Tolerance zone: 18" **Law Link:** http://data.opi.state.mt.us/bills/mca/69/4/69-4-501.htm

Montana One-Call Center
800-551-8344 • www.udig.org
Hours: 24 hours
FAX Tickets Available: 406-752-7306
Online Tickets: N
Advance Notice: Two business days

State Laws & Provisions

Coverage Statewide	N	Mandatory Membership	Y	Positive Response	N
Civil Penalties	Y	Excavator Permits Issued	N	Hand Dig Clause	N
Emergency Clause	Y	Mandatory Premarks	N	Damage Reporting	N

Exemptions: DOT N Homeowner N Railroad N Agriculture N Depth N
Notifications Accepted: Damage N Design Y Emergency Y Overhead Y
Tolerance zone: 18" **Law Link:** http://data.opi.state.mt.us/bills/mca_toc/69_4_5.htm

NEBRASKA

Diggers Hotline of Nebraska
800-331-5666 • www.ne-diggers.com
Hours: 24 hours, 365 days
FAX Tickets Available: 402-330-5626
Online Tickets: Y
Advance Notice: 48 hours, excluding weekends and state/federal holidays
Marks Valid: Ten days

State Laws & Provisions

Coverage Statewide	Y	Mandatory Membership	Y	Positive Response	N
Civil Penalties	Y	Excavator Permits Issued	N	Hand Dig Clause	N
Emergency Clause	Y	Mandatory Premarks	N	Damage Reporting	Y

Exemptions: DOT Y Homeowner N Railroad Y Agriculture Y Depth N
Notifications Accepted: Damage Y Design Y Emergency Y Overhead N
Tolerance zone: 18" **Law Link:** www.ne-diggers.com/statelaw/stateordinances.aspx

NEVADA

Underground Service Alert North
800-227-2600 • www.usanorth.org
Hours: 6:00 AM - 7:00 PM (PST), M-F
FAX Tickets Available: N
Online Tickets: Y
Advance Notice: Two working days, but not more than 28 calendar days
Marks Valid: 28 days

State Laws & Provisions

Coverage Statewide	Y	Mandatory Membership	Y	Positive Response	Y
Civil Penalties	Y	Excavator Permits Issued	Y	Hand Dig Clause	Y
Emergency Clause	Y	Mandatory Premarks	Y	Damage Reporting	N

Exemptions: DOT Y Homeowner N Railroad N Agriculture N Depth N
Notifications Accepted: Damage Y Design N Emergency Y Overhead N
Tolerance zone: 24" **Law Link:** www.usanorth.org/markings.php?user-excavators

NEW HAMPSHIRE

Dig Safe
888-344-7233 • www.digsafe.com
Hours: 24 hours, 7 days
FAX Tickets Available: N
Online Tickets: Y
Advance Notice: 72 hours, excluding weekends and holidays
Marks Valid: 30 days

State Laws & Provisions

Coverage Statewide	Y	Mandatory Membership	Y	Positive Response	N
Civil Penalties	Y	Excavator Permits Issued	Y	Hand Dig Clause	Y
Emergency Clause	Y	Mandatory Premarks	Y	Damage Reporting	Y

Exemptions: DOT N Homeowner N Railroad N Agriculture Y Depth N
Notifications Accepted: Damage Y Design N Emergency Y Overhead N
Tolerance zone: 18" **Law Link:** www.digsafe.com/laws_statelaws.htm

NEW JERSEY

New Jersey One-Call

800-272-1000 • www.nj1-call.org

Hours: 24 hours

FAX Tickets Available: 732-394-3011

Online Tickets: Y

Advance Notice: Three full business days

Marks Valid: 45 business days

State Laws & Provisions

Coverage Statewide Y

Civil Penalties Y

Emergency Clause N

Mandatory Membership Y

Excavator Permits Issued N

Mandatory Premarks N

Positive Response Y

Hand Dig Clause Y

Damage Reporting Y

Exemptions: DOT N

Homeowner N

Railroad N

Agriculture N

Depth N

Notifications Accepted:

Damage Y

Design N

Emergency Y

Overhead N

Tolerance zone: 18"

Law Link: www.nj1-call.org/ufa-law.php

NEW MEXICO

New Mexico One-Call, Inc.

800-321-2537 • www.nmonecall.org

Hours: 7:00 AM - 5:00 PM, M-F

FAX Tickets Available: 800-727-8809

Online Tickets: Y

Advance Notice: Two working days

Marks Valid: Ten working days

State Laws & Provisions

Coverage Statewide Y

Civil Penalties Y

Emergency Clause Y

Mandatory Membership Y

Excavator Permits Issued N

Mandatory Premarks N

Positive Response Y

Hand Dig Clause Y

Damage Reporting Y

Exemptions: DOT N

Homeowner N

Railroad N

Agriculture N

Depth N

Notifications Accepted:

Damage Y

Design Y

Emergency Y

Overhead N

Tolerance zone: 18"

Law Link: www.nmonecall.org/law_main.htm

NEW YORK

Dig Safely New York

800-962-7962 • www.digsafelynewyork.com

Hours: 24 hours, 365 days

FAX Tickets Available: N

Online Tickets: Y

Advance Notice: Two to ten working days, excluding the day of call

Marks Valid: Ten working days

State Laws & Provisions

Coverage Statewide N

Civil Penalties Y

Emergency Clause Y

Mandatory Membership Y

Excavator Permits Issued N

Mandatory Premarks N

Positive Response Y

Hand Dig Clause Y

Damage Reporting N

Exemptions: DOT N

Homeowner N

Railroad N

Agriculture N

Depth N

Notifications Accepted:

Damage Y

Design Y

Emergency Y

Overhead N

Tolerance zone: 24"

Law Link: www.digsafelynewyork.com/res/coderule.asp

DigNet of New York City/Long Island

800-272-4480 • www.dignetycli.com

Hours: 24 hours, 7 days

FAX Tickets Available: N

Online Tickets: Y

Advance Notice: Two business days, excluding the day of call

Marks Valid: Ten working days

State Laws & Provisions

Coverage Statewide N

Civil Penalties Y

Emergency Clause Y

Mandatory Membership Y

Excavator Permits Issued N

Mandatory Premarks N

Positive Response Y

Hand Dig Clause Y

Damage Reporting N

Exemptions: DOT N

Homeowner N

Railroad N

Agriculture N

Depth N

Notifications Accepted:

Damage Y

Design Y

Emergency Y

Overhead N

Tolerance zone: 24"

Law Link: www.dignetycli.com

NORTH CAROLINA

North Carolina One-Call Center, Inc.

800-632-4949 • www.ncocc.org

Hours: 24 hours, 365 days

FAX Tickets Available: 366-299-1914

Online Tickets: Y

Advance Notice: 48 hours

Marks Valid: 15 working days

State Laws & Provisions

Coverage Statewide Y

Civil Penalties N

Emergency Clause Y

Mandatory Membership N

Excavator Permits Issued N

Mandatory Premarks N

Positive Response Y

Hand Dig Clause N

Damage Reporting Y

Exemptions: DOT Y

Homeowner N

Railroad N

Agriculture Y

Depth N

Notifications Accepted:

Damage Y

Design Y

Emergency Y

Overhead Y

Tolerance zone: 30"

Law Link: www2.ncocc.org/ncocc/nclaws.htm

NORTH DAKOTA

North Dakota One-Call

800-795-0555 • www.ndonecall.com

Hours: 24 hours

FAX Tickets Available: N

Online Tickets: Y

Advance Notice: 48 hours, excluding weekends and holidays

Marks Valid: 10 calendar days

State Laws & Provisions

Coverage Statewide Y

Civil Penalties Y

Emergency Clause Y

Mandatory Membership Y

Excavator Permits Issued N

Mandatory Premarks N

Positive Response N

Hand Dig Clause Y

Damage Reporting N

Exemptions: DOT N

Homeowner Y

Railroad N

Agriculture Y

Depth N

Notifications Accepted:

Damage N

Design N

Emergency Y

Overhead N

Tolerance zone: 24"

Law Link: www.ndonecall.com/laws.html

OHIO

Ohio Utilities Protection Service

800-362-2764 • www.oups.org

Hours: 24 hours, 7 days

FAX Tickets Available: N

Online Tickets: Y

Advance Notice: 48 hours

Marks Valid: As long as visible

State Laws & Provisions

Coverage Statewide Y

Civil Penalties N

Emergency Clause Y

Mandatory Membership Y

Excavator Permits Issued N

Mandatory Premarks N

Positive Response N

Hand Dig Clause Y

Damage Reporting N

Exemptions: DOT N

Homeowner N

Railroad N

Agriculture Y

Depth N

Notifications Accepted:

Damage Y

Design Y

Emergency Y

Overhead N

Tolerance zone: 18"

Law Link: www.oups.org/law/Law_law.html

Oil and Gas Underground Protection Service

800-925-0988 • www.ogpups.org

Hours: 8:00 AM - 5:00 PM, M-F (except holidays)

FAX Tickets Available: 740-587-0446

Online Tickets: N

Advance Notice: 48 hours

Marks Valid: Seven days

State Laws & Provisions

Coverage Statewide Y

Civil Penalties N

Emergency Clause Y

Mandatory Membership Y

Excavator Permits Issued N

Mandatory Premarks N

Positive Response N

Hand Dig Clause Y

Damage Reporting N

Exemptions: DOT N

Homeowner N

Railroad N

Agriculture N

Depth N

Notifications Accepted:

Damage Y

Design Y

Emergency N

Overhead N

Tolerance zone: 18"

Law Link: www.oups.org/law/Law_law.html

OKLAHOMA

Call Okie

800-522-6543 • www.callokie.com

Hours: 24 hours, 7 days

FAX Tickets Available: 800-377-1339

Online Tickets: Y

Advance Notice: 48 hours

Marks Valid: 10 business days

State Laws & Provisions

Coverage Statewide Y

Civil Penalties N

Emergency Clause Y

Mandatory Membership N

Excavator Permits Issued Y

Mandatory Premarks N

Positive Response Y

Hand Dig Clause Y

Damage Reporting N

Exemptions: DOT N

Homeowner N

Railroad N

Agriculture Y

Depth N

Notifications Accepted:

Damage N

Design Y

Emergency Y

Overhead N

Tolerance zone: 24"

Law Link: www.callokie.com/information/law/default.asp

OREGON

Oregon Utility Notification Center
800-332-2344 • www.digsafelyoregon.com
Hours: 24 hours, 7 days
FAX Tickets Available: 503-293-0826
Online Tickets: Y
Advance Notice: Two days to the life of the project
Marks Valid: The life of the project

State Laws & Provisions

Coverage Statewide	Y	Mandatory Membership	Y	Positive Response	Y
Civil Penalties	Y	Excavator Permits Issued	N	Hand Dig Clause	Y
Emergency Clause	Y	Mandatory Premarks	Y	Damage Reporting	N

Exemptions: DOT N Homeowner 12" Railroad N Agriculture N Depth N
Notifications Accepted: Damage N Design Y Emergency Y Overhead N
Tolerance zone: 24" **Law Link:** www.digsafelyoregon.com/faqs/ounc_ors_oar.htm

PENNSYLVANIA

Pennsylvania One Call System, Inc.
800-242-1776 • www.paonecall.org
Hours: 24 hours, 7 days
FAX Tickets Available: N
Online Tickets: Y
Advance Notice: Three to ten business days during construction phase; ten to 90 days, design phase
Marks Valid: As long as equipment is on site

State Laws & Provisions

Coverage Statewide	Y	Mandatory Membership	Y	Positive Response	Y
Civil Penalties	Y	Excavator Permits Issued	Y	Hand Dig Clause	Y
Emergency Clause	Y	Mandatory Premarks	Y	Damage Reporting	Y

Exemptions: DOT N Homeowner N Railroad N Agriculture Y Depth N
Notifications Accepted: Damage Y Design Y Emergency Y Overhead N
Tolerance zone: 18" **Law Link:** www.paonecall.org/palaw

RHODE ISLAND

Dig Safe
888-344-7233 • www.digsafe.com
Hours: 24 hours, 7 days
FAX Tickets Available: N
Online Tickets: Y
Advance Notice: 48 hours, excluding weekends and holidays
Marks Valid: 30 days (exemption state contract work)

State Laws & Provisions

Coverage Statewide	Y	Mandatory Membership	Y	Positive Response	N
Civil Penalties	Y	Excavator Permits Issued	Y	Hand Dig Clause	Y
Emergency Clause	Y	Mandatory Premarks	N	Damage Reporting	Y

Exemptions: DOT N Homeowner N Railroad N Agriculture Y Depth N
Notifications Accepted: Damage Y Design N Emergency Y Overhead N
Tolerance zone: 18" **Law Link:** www.digsafe.com/laws_statelaws.htm

SOUTH CAROLINA

Palmetto Utility Protection Services, Inc.
888-721-7877 • www.sc1pups.org
Hours: 7:30 AM - 5:30 PM, M-F
FAX Tickets Available: 803-750-4867
Online Tickets: Y
Advance Notice: 72 hours, no more than ten days
Marks Valid: 15 working days

State Laws & Provisions

Coverage Statewide	Y	Mandatory Membership	N	Positive Response	N
Civil Penalties	Y	Excavator Permits Issued	N	Hand Dig Clause	N
Emergency Clause	Y	Mandatory Premarks	N	Damage Reporting	Y

Exemptions: DOT Y Homeowner Y Railroad N Agriculture N Depth N
Notifications Accepted: Damage N Design Y Emergency Y Overhead N
Tolerance zone: 30" **Law Link:** www.scstatehouse.net/code/t58c035.htm

SOUTH DAKOTA

South Dakota One-Call Center
800-781-7474 • www.sdonecall.com
Hours: 24 hours
FAX Tickets Available: N
Online Tickets: Y
Advance Notice: 48 hours, excluding weekends and holidays
Marks Valid: 21 working days from start date on ticket

State Laws & Provisions

Coverage Statewide	Y	Mandatory Membership	Y	Positive Response	N
Civil Penalties	Y	Excavator Permits Issued	N	Hand Dig Clause	Y
Emergency Clause	Y	Mandatory Premarks	N	Damage Reporting	N

Exemptions: DOT N Homeowner N Railroad N Agriculture Y Depth 18"
Notifications Accepted: Damage Y Design Y Emergency Y Overhead N
Tolerance zone: 18" **Law Link:** www.sdonecall.com/law.asp

TENNESSEE

Tennessee 811
800-351-1111 • www.tnonecall.com
Hours: 24 hours
FAX Tickets Available: 615-366-5021
Online Tickets: Y
Advance Notice: Not less than three working days and not more than ten working days
Marks Valid: 15 calendar days

State Laws & Provisions

Coverage Statewide	Y	Mandatory Membership	Y	Positive Response	Y
Civil Penalties	Y	Excavator Permits Issued	N	Hand Dig Clause	Y
Emergency Clause	Y	Mandatory Premarks	Y	Damage Reporting	N

Exemptions: DOT N Homeowner N Railroad N Agriculture Y Depth N
Notifications Accepted: Damage N Design Y Emergency Y Overhead N
Tolerance zone: 24"*** **Law Link:** www.tnonecall.com/index-3.html

TEXAS

Texas Excavation Safety System
800-344-8377 • www.digtess.org
Hours: 24 hours
FAX Tickets Available: 800-690-1291
Online Tickets: Y
Advance Notice: Two working days, but not more than 14 days
Marks Valid: 14 working days

State Laws & Provisions

Coverage Statewide	Y	Mandatory Membership	Y	Positive Response	Y
Civil Penalties	Y	Excavator Permits Issued	N	Hand Dig Clause	Y
Emergency Clause	Y	Mandatory Premarks	N	Damage Reporting	Y

Exemptions: DOT N Homeowner N Railroad N Agriculture N Depth 16"
Notifications Accepted: Damage Y Design Y Emergency Y Overhead N
Tolerance zone: 18" plus half the diameter of the pipeline from the outside edge of either side of the pipeline
Law Link: www.rrc.state.tx.us/formpr/tdr.html

Texas Lone Star Notification Center
800-669-8344 • www.lsnconeall.com
Hours: 24 hours, 7 days
FAX Tickets Available: 713-432-0998
Online Tickets: Y
Advance Notice: Two working days, but not more than 14 days
Marks Valid:

Texas One-Call System
800-245-4545 • www.texasonecall.com
Hours: 24 hours
FAX Tickets Available: 800-217-3720
Online Tickets: Y
Advance Notice: Two working days, but not more than ten working days
Marks Valid: 16 days

Effective September 1, 2007, excavators are subject to the requirements of Chapter 18 of the Railroad Commission of Texas. The rule requires excavators to take additional damage prevention and safety measures when excavating near a pipeline. An example of some of the new requirements include, but are not limited to, white lining the area to be excavated when the location of an excavation is unclear, providing the method of positive response to the one-call center, making a second notice to the one-call center if a positive response is not made or evidence of a pipeline is present, and taking additional safety measures when excavating within the tolerance zone. The rule has very limited exemptions, mandatory non-compliance reporting and enforcement of fines and penalties. All excavators should review the new rule requirements.

* Public ROW only ** 2' either side of the facility plus the width of the facility

Please report any changes to this information by calling 866-279-7755.

UTAH	Blue Stakes of Utah 800-662-4111 • www.bluestakes.org Hours: 7:00 AM - 5:00 PM, M-F FAX Tickets Available: N Online Tickets: Y Advance Notice: Two business days, 48 hours notice Marks Valid: 14 calendar days	State Laws & Provisions Coverage Statewide Y Mandatory Membership Y Positive Response Y Civil Penalties Y Excavator Permits Issued N Hand Dig Clause Y Emergency Clause N Mandatory Premarks N Damage Reporting N Exemptions: DOT N Homeowner N Railroad N Agriculture N Depth N Notifications Accepted: Damage N Design N Emergency Y Overhead N Tolerance zone: 24" Law Link: www.le.state.ut.us/%7Ecode/TITLE54/54_08a.htm
	Vermont Dig Safe 888-344-7233 • www.digsafe.com Hours: 24 hours, 7 days FAX Tickets Available: N Online Tickets: Y Advance Notice: 48 hours, excluding weekends and holidays Marks Valid: 30 Days	State Laws & Provisions Coverage Statewide Y Mandatory Membership Y Positive Response N Civil Penalties Y Excavator Permits Issued Y Hand Dig Clause Y Emergency Clause Y Mandatory Premarks Y Damage Reporting Y Exemptions: DOT N Homeowner N Railroad N Agriculture Y Depth N Notifications Accepted: Damage Y Design N Emergency Y Overhead N Tolerance zone: 18" Law Link: www.digsafe.com/laws_statelaws.htm
VIRGINIA	Virginia Utility Protection Service, Inc. 800-552-7001 • www.va811.com Hours: 24 hours, 7 days FAX Tickets Available: N Online Tickets: Y Advance Notice: Two working days, excluding the day of call Marks Valid: 15 working days Tolerance zone: 24"	State Laws & Provisions Coverage Statewide Y Mandatory Membership Y Positive Response Y Civil Penalties Y Excavator Permits Issued N Hand Dig Clause Y Emergency Clause Y Mandatory Premarks N Damage Reporting N Exemptions: DOT N Homeowner Y Railroad Y Agriculture Y Depth N Notifications Accepted: Damage Y Design Y Emergency Y Overhead N Law Link: www.missutilityofvirginia.com/utitoperloc/DamagePreventionAct/tabid/361/Default.aspx
	Utility Notification Center 800-424-5555 • www.callbeforeyoudig.org Hours: 24 hours, 365 days FAX Tickets Available: 503-234-7254 Online Tickets: Y Advance Notice: Two business days Marks Valid: Once marked, excavator must keep visible	State Laws & Provisions Coverage Statewide Y Mandatory Membership Y Positive Response N Civil Penalties Y Excavator Permits Issued N Hand Dig Clause N Emergency Clause Y Mandatory Premarks N Damage Reporting N Exemptions: DOT N Homeowner N Railroad N Agriculture Y Depth Y Notifications Accepted: Damage N Design Y Emergency Y Overhead Y Tolerance zone: 24" Law Link: www.callbeforeyoudig.org/law.htm
WASHINGTON D.C.	District One Call 800-257-7777 • www.missutility.net Hours: 24 hours, 7 days FAX Tickets Available: 301-621-1711 Online Tickets: Y Advance Notice: 48 hours Marks Valid: 15 business days	State Laws & Provisions Coverage Statewide Y Mandatory Membership Y Positive Response Y Civil Penalties Y Excavator Permits Issued N Hand Dig Clause Y Emergency Clause Y Mandatory Premarks N Damage Reporting N Exemptions: DOT N Homeowner N Railroad N Agriculture N Depth N Notifications Accepted: Damage N Design N Emergency Y Overhead N Tolerance zone: 18" Law Link: www.missutility.net/media/pdf/dcTitle34.pdf
	Miss Utility of West Virginia, Inc. 800-245-4848 • www.muwv.org Hours: 24 hours FAX Tickets Available: 800-217-3720 Online Tickets: Y Advance Notice: Two days, but not more than ten days Marks Valid: 10 days	State Laws & Provisions Coverage Statewide Y Mandatory Membership N Positive Response N Civil Penalties Y Excavator Permits Issued N Hand Dig Clause N Emergency Clause Y Mandatory Premarks N Damage Reporting N Exemptions: DOT Y Homeowner N Railroad N Agriculture Y Depth N Notifications Accepted: Damage Y Design Y Emergency Y Overhead N Tolerance zone: 24" Law Link: www.muwv.org/modules.php?name=WV_Law
WISCONSIN	Diggers Hotline 800-242-8511 • www.diggershotline.com Hours: 24 hours, 7 days FAX Tickets Available: 800-338-3860 Online Tickets: Y Advance Notice: Three working days Marks Valid: 10 calendar days	State Laws & Provisions Coverage Statewide Y Mandatory Membership Y Positive Response N Civil Penalties Y Excavator Permits Issued N Hand Dig Clause Y Emergency Clause Y Mandatory Premarks N Damage Reporting N Exemptions: DOT N Homeowner N Railroad N Agriculture N Depth N Notifications Accepted: Damage Y Design Y Emergency Y Overhead Y Tolerance zone: 18" Law Link: www.diggershotline.com/alt-wilaw.htm
	One-Call of Wyoming 800-849-2476 • www.onecallofwyoming.com Hours: 24 hours FAX Tickets Available: 800-217-3719 Online Tickets: N Advance Notice: Two full business days Marks Valid: 14 business days	State Laws & Provisions Coverage Statewide Y Mandatory Membership N Positive Response Y Civil Penalties Y Excavator Permits Issued N Hand Dig Clause Y Emergency Clause Y Mandatory Premarks Y Damage Reporting N Exemptions: DOT N Homeowner N Railroad N Agriculture N Depth N Notifications Accepted: Damage N Design N Emergency Y Overhead N Tolerance zone: 24" Law Link: www.onecallofwyoming.com/law.htm
GULFSAFE	GulfSafe (Covers state and Federal waters in the Gulf of Mexico, the Florida Straits and Atlantic Coast) 888-910-4853 (GULF) • www.gulfsafe.com Hours: 24 hours FAX Tickets Available: N Online Tickets: Y Advance Notice: Seven working days Marks Valid: Not Applicable (NA)	State Laws & Provisions Coverage Statewide N Mandatory Membership N Positive Response N Civil Penalties N Excavator Permits Issued Y Hand Dig Clause N Emergency Clause N Mandatory Premarks N Damage Reporting N Exemptions: DOT Y Homeowner NA Railroad NA Agriculture NA Depth NA Notifications Accepted: Damage Y Design Y Emergency Y Overhead NA Tolerance zone: NA Law Link: NA



Canada One-Call



ALBERTA

Alberta One-Call Corporation
 800-242-3447 • www.alberta1call.com
Hours: 6:00 AM - 8:00 PM, M-F (Emergency: 24/7)
FAX Tickets Available: 800-940-3447
Online Tickets: Y
Advance Notice: Two full working days

Marks Valid: 14 days*

Provincial Laws & Provisions

Coverage Statewide	Y	Mandatory Membership	N	Positive Response	N
Civil Penalties	N	Excavator Permits Issued	N	Hand Dig Clause	Y
Emergency Clause	N	Mandatory Premarks	N	Damage Reporting	Y
Exemptions:	DOT N	Homeowner N	Railroad N	Agriculture N	Depth 300mm (12")*
Notifications Accepted:	Damage Y	Design Y	Emergency Y	Overhead N	
Tolerance zone:	1 m (39")				

BRITISH COLUMBIA

BC One-Call
 800-474-6886 • www.bcone1call.bc.ca
Hours: 7:00 AM - 5:00 PM
FAX Tickets Available: 604-451-0344
Online Tickets: Y
Advance Notice: Three working days excluding Saturdays, Sundays and holidays
Marks Valid: Entire length of project as long as excavation started within 14 days of placing the request

Provincial Laws & Provisions

Coverage Statewide	Y	Mandatory Membership	N	Positive Response	Y
Civil Penalties	N	Excavator Permits Issued	N	Hand Dig Clause	N
Emergency Clause	Y	Mandatory Premarks	N	Damage Reporting	N
Exemptions:	DOT N	Homeowner N	Railroad N	Agriculture N	Depth N
Notifications Accepted:	Damage Y	Design Y	Emergency Y	Overhead N	

ONTARIO

Ontario One-Call, Ltd.
 800-400-2255 • www.on1call.com
Hours: 24 hours, 365 days
FAX Tickets Available: 800-400-8876
Online Tickets: Y
Advance Notice: Minimum of five days for standard requests
Marks Valid: 30 days

Provincial Laws & Provisions

Coverage Statewide	Y	Mandatory Membership	N	Positive Response	Y
Civil Penalties	N	Excavator Permits Issued	N	Hand Dig Clause	Y
Emergency Clause	Y	Mandatory Premarks	N	Damage Reporting	Y
Exemptions:	DOT N	Homeowner N	Railroad N	Agriculture N	Depth N
Notifications Accepted:	Damage Y	Design Y	Emergency Y	Overhead Y	

QUEBEC

Info-Excavation
 800-663-9228 • www.info-ex.com
Hours: 24 hours
FAX Tickets Available: 514-331-0791
Online Tickets: N
Advance Notice: 72 hours (Three working days)
Marks Valid: 30 days

Provincial Laws & Provisions

Coverage Statewide	Y	Mandatory Membership	N	Positive Response	Y
Civil Penalties	N	Excavator Permits Issued	Y	Hand Dig Clause	Y
Emergency Clause	Y	Mandatory Premarks	N	Damage Reporting	Y
Exemptions:	DOT N	Homeowner N	Railroad N	Agriculture N	Depth N
Notifications Accepted:	Damage Y	Design Y	Emergency Y	Overhead N	

SASKATCHEWAN

Sask 1st Call
 866-828-4888 • www.sask1stcall.com
Hours: 8:00 AM - 7:00 PM, M-F ==
FAX Tickets Available: 866-455-5559
Online Tickets: Y
Advance Notice: Two full working days
Marks Valid: Ten working days

Provincial Laws & Provisions

Coverage Statewide	Y	Mandatory Membership	N	Positive Response	N
Civil Penalties	N	Excavator Permits Issued	N	Hand Dig Clause	N
Emergency Clause	N	Mandatory Premarks	N	Damage Reporting	N
Exemptions:	DOT N	Homeowner N	Railroad N	Agriculture N	Depth N
Notifications Accepted:	Damage Y	Design N	Emergency Y	Overhead N	

* extendable to 30 days provided certain conditions are met = hand tools only
 == except provisional holidays

Please report any changes to this information by calling 866-279-7755.

ONE-CALL & STATE LAW Delaware - Illinois
 ONE-CALL & STATE LAW Michigan - New Hampshire
 ONE-CALL & STATE LAW Oregon - Texas

CANADA ONE-CALL AND CATS

Community Assistance and Technical Services (CATS)

www.phmsa.dot.gov/about/org



The Pipeline and Hazardous Materials Safety Administration (PHMSA) works to protect the American public and the environment by ensuring the safe and secure movement of hazardous materials to industries and consumers by all transportation modes, including the nation's pipelines. There are over 2 million miles of pipelines buried in the United States, which is enough to circle the earth 83 times. PHMSA and its Community Assistance & Technical Services (CATS) team are charged with the task of facilitating clear communications among all pipeline stakeholders, including the public, the operators and government officials. CATS managers are located within five geographical regions. Contact information for the CATS managers for your state is noted here.

OPS Central Region
 Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin
 Harold Winnie: harold.winnie@dot.gov
 Phone: 816-329-3836
 Elizabeth Komiskey: elizabeth.komiskey@dot.gov
 Phone: 202-366-3169



OPS Southern Region

Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, Puerto Rico, South Carolina, Tennessee
Joe Mataich: joseph.mataich@dot.gov
 Phone: 404-832-1159
Wayne Lemoi: wayne.lemoi@dot.gov
 Phone: 404-832-1160

OPS Eastern Region

Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Virginia, West Virginia
Alex Dankanich: alex.dankanich@dot.gov
 Phone: 202-550-0481
Karen Gentile: karen.gentile@dot.gov
 Phone: 609-433-6650

OPS Southwest Region

Arkansas, Louisiana, New Mexico, Oklahoma, Texas
John Jacobi: john.jacobi@dot.gov
 Phone: 713-272-2839

OPS Western Region

Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, Oregon, Utah, Washington, Wyoming
Tom Finch: thomas.finch@dot.gov
 Phone: 720-963-3175
Ross Reineke: ross.reineke@dot.gov
 Phone: 720-963-3160
Alaska Contact: Bill Flander: bill.flander@dot.gov
 Phone: 907-271-6518

Industry Publications

Compact Equipment compactequip.com

Compact Equipment is a trade magazine geared toward the owner/operator and business professionals of construction equipment in the commercial, landscape and rental markets. It is produced by the Cleveland-based publishing company Benjamin Media Inc., and its staff covers machines such as skid steers, compact excavators and commercial trucks as well as business and work-related topics including market analysis, training, safety, insurance, rental, financing, project estimating and more.



Contractors Hot Line contractorshotline.com

Contractors Hot Line® is the industry's weekly print & digital source to find the latest equipment for sale from general road building equipment, mine & quarry, cranes, as well as parts and attachments, classifieds, equip pics, want to buys, and current construction auctions. Our print publication is complimented with an exact replica in digital format as well as all the current inventory for sale available to search on our database of over 70,000. Stay in touch with what's going on with the industry as it happens at www.contractorshotline.com



Damage Prevention Professional damagepreventionprofessional.com

Damage Prevention Professional Magazine focuses on providing in-depth solutions and insightful information on applications and technologies that are shaping the future of damage prevention and excavation safety. This quarterly magazine will feature a wide array of articles that will benefit ALL stakeholders. If you work for a company who owns buried assets or if you are involved in any type of excavation work, you can help prevent damage to our buried infrastructure.



Equipment World EquipmentWorld.com

Equipmentworld is the leading trade publication for construction contractors, equipment manufacturers and dealers and providers of services and supplies to the construction industry. Articles cover economic, legislative, general interest, industry and product information of interest to those involved in: utility construction, road and bridge construction, earthmoving and civil engineering and commercial and nonresidential building.



Government Engineering Journal GovEngr.com

Government Engineering Journal and **e-Government Engineering** have a combined circulation of over 55,000 engineers, directors, and superintendents responsible for potable water supplies, wastewater treatment, solid waste collection and disposal, transportation, and grounds maintenance.



Modern Contractor Solutions moderncontractorsolutions.com

Modern Contractor Solutions is a national magazine tailored to meet the day-to-day business needs of commercial, general and concrete contractors. The articles are brief and concise, getting right to the point, which is exactly what contractors have been looking for in a magazine. With a strong focus on today's construction industry, Modern Contractors Solutions offers a unique format for valuable information and insight. We offer solution-driven editorial content that contractors can use every day in running their businesses.



OSP Magazine OSPmag.com

Service Providers rely on the **OSP** brand for concise information about comprehensive network architecture solutions and technology best practices. The **OSP** brand is a multi-channel educational resource integrating print, online, and custom events. The **HOW-TO** educational resource for communications and entertainment providers, **OSP** connects advertisers with key buyers and decision makers for maximum exposure and enhanced brand awareness.



Pipeline & Gas Journal PGJonline.com

Celebrating 150 years in publication, the **Pipeline & Gas Journal** is the worldwide recognized authority on pipelines. Reaching the pipeline transmission, gas utility and related engineering and construction markets, **PG&J** reaches a circulation of almost 29,000 focused exclusively on the oil and gas pipeline market.



Pipeline and Gas Technology hartenergy.com

PipeLine and Gas Technology is read by senior executives, managers and engineers at all levels in the oil and gas operating and gas distribution utility companies and by pipeline contractors. The magazine provides application information to the global oil and gas transportation and gas distribution markets that enables engineers, managers and contractors to perform their jobs more efficiently, safely and economically. Additionally, information is provided on management and market trends that will help the reader make business decisions tailored to future market demands.



Site Prep SitePrepMag.com

Site Prep focuses on the challenges and opportunities of site preparation, including site clearing, earthmoving, utilities and environmental activities. We cover emerging technologies for and the evolving interaction among contractors, engineers and related professions. Through in-depth coverage, we provide useful information on developmental trends, project management strategies, business processes and successful case studies.



Trenchless Technology TrenchlessOnline.com

Trenchless Technology is "Your #1 Trenchless Source". Reaching over 37,000 subscribers, **Trenchless Technology** is the premier communications vehicle for your advertisement. Our readers include industry professionals in the water and wastewater, cable and electric, and gas markets, such as engineers, contractors, city officials, manufacturers and distributors.



Underground Construction

UndergroundConstructionMagazine.com

Underground Construction, with the largest industry circulation of more than 38,000, has an award-winning record of editorial excellence. It is the leading and most respected publication covering the construction and rehabilitation of underground infrastructure, including water, sewer, gas distribution, power, pipelines and telecom.



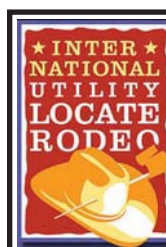
Utility Contractor UtilityContractorOnline.com

Utility Contractor is the official magazine of the National Utility Contractors Association. Reaching 20,000 subscribers, **Utility Contractor** has exclusive market coverage, from legislative issues to managerial issues for the entire utility construction industry.



Utility Products UtilityProducts.com

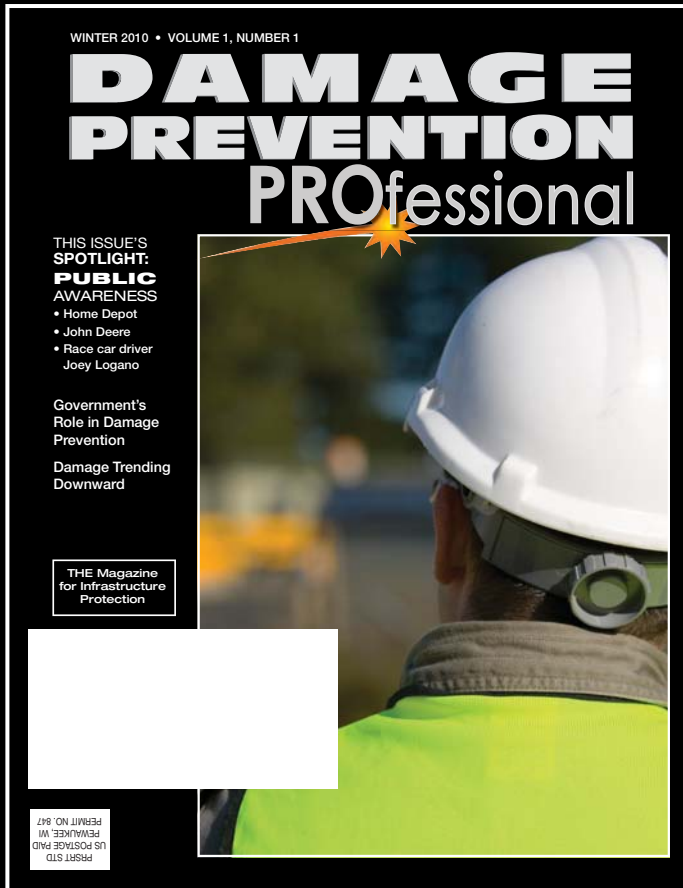
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International Locate Rodeo

Everybody wins. The best competitors win prizes. All competitors win recognition, appreciation, admiration. The public wins, too -- with higher quality utility locates and a higher level of safety. Ultimately, the International Utility Locate Rodeo will lead to higher standards of quality and performance. Visit LocateRodeo.com for more information.

Who knew staying up-to-date would have such a huge impact on my business?



An exciting new publication devoted to protecting the buried infrastructure and the liabilities associated with working around it.

Damage Prevention Professional focuses on providing current solutions and insightful information on applications and technologies shaping the future of damage prevention and excavation safety.

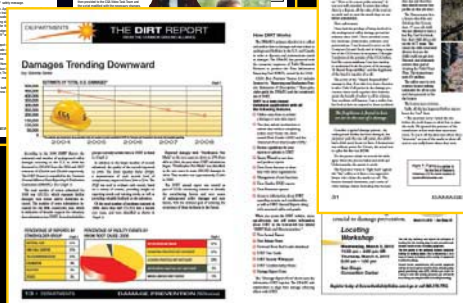
A quarterly magazine featuring a wide array of articles that benefit ALL stakeholders, with a different in-depth focus every issue.

Winter: Public Awareness

Spring: Locating & Marking

Summer: SUE and Vacuum Excavation

Fall: Mapping and Technology



Each issue will contain insights and perspectives from all stakeholder groups.

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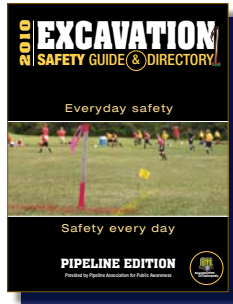
READERSHIP SURVEY

The Excavation Safety Guide is designed to be a reference for readers to use all year. The articles are concise and focused on current industry trends and technologies.

In order for us to make this Guide a useful tool for our readers, we need your comments and suggestions.

Please complete the following survey and fax it back to 952.703.7022. Or, if you prefer, you may complete the survey online at ExcavationSafetyOnline.com/esg.

Thank you.



How important is safety and the culture of safety within your organization? (Check one)

- Very important
- Somewhat important
- Not a priority
- Not important at all

The articles in this publication are designed to provide expert analysis on a variety of subjects regarding excavation safety. How useful are the articles? (Check one)

- Insightful and useful information
- Somewhat useful information
- Factual but little useful information
- Not at all useful information

Do you find the resource information to be helpful? Rank the following on a scale of 1 to 4 with 4 being very helpful.

	1	2	3	4
One-Call and State Law Directory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Excavation Best Practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Pipeline and Hazardous Materials Safety Administration contact list	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Industry publications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pull-out safety poster	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Understanding the Marks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Overall, is the information provided in this directory helpful to you and your co-workers? Rank on a scale of 1 to 4 with 4 being very helpful.

- 1 2 3 4
-

Do you utilize the pull-out poster and post it in your place of work?

- Yes
- No

Is this publication something that you keep with you and refer to all year long?

- Yes
- No

How can we make this a more useful tool for you in the future?

Your Name _____

Your Email address (if you wish to receive a FREE subscription to Damage Prevention Professional _____)

We'd like to thank you for participating in our survey.

You will receive a FREE subscription to Damage Prevention Professional magazine upon completing this survey. Once we receive your survey, we will send you a web link and a subscription code.

Again, thank you for your feedback.

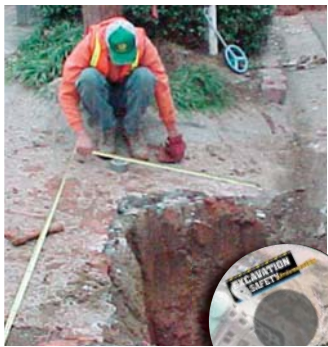




Excavation Safety University Training Video Series!

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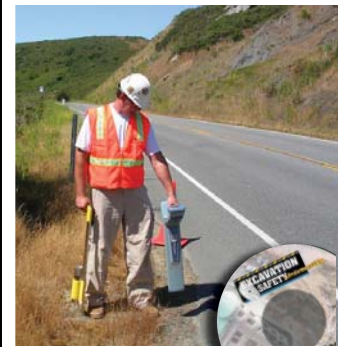
Locating Best Practices

Focused on providing a comprehensive overview of the industry's best practices for locating. A great overview for someone who is new to locating or someone who needs to understand the locating process.



Basic Locating Theory

Explains how and why electromagnetic locating works in terms the layman can understand. Covered topics include the transmitter and receiver as well as signal frequency and methods of connection.



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Expands on the information provided in the "Basic Locating Theory" video, offering practical tips on how to get the most out of your locating set in field applications. Topics include basic troubleshooting and recognizing signal distortion.

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Pipeline Emergency Response Guidelines

PIPELINE EDITION

Recommended Minimum Evacuation Distances for Natural Gas Pipeline Leaks and Ruptures

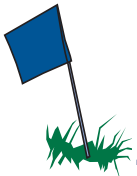
(Not applicable for Butane, Propane or other Hazardous Liquids)

PIPELINE SIZE (IN INCHES)

	4	6	8	10	12	16	20	22	24	30	36	42
100	91	137	182	228	274	365	456	502	547	684	821	958
200	129	193	258	322	387	516	645	709	774	967	1161	1354
300	158	237	316	395	474	632	790	869	948	1185	1422	1659
400	182	274	365	456	547	730	912	1003	1094	1368	1642	1915
500	204	306	408	510	612	816	1020	1122	1224	1529	1835	2141
600	223	335	447	558	670	894	1117	1229	1340	1675	2011	2346
700	241	362	483	603	724	965	1206	1327	1448	1810	2172	2534
800	258	387	516	645	774	1032	1290	1419	1548	1935	2322	2709
900	274	410	547	684	821	1094	1368	1505	1642	2052	2462	2873
1000	288	433	577	721	865	1154	1442	1586	1730	2163	2596	3028
1100	302	454	605	756	907	1210	1512	1664	1815	2269	2722	3176
1200	316	474	632	790	948	1264	1580	1738	1896	2369	2843	3317
1300	329	493	658	822	986	1315	1644	1809	1973	2466	2959	3453
1400	341	512	682	853	1024	1365	1706	1877	2047	2559	3071	3583
1500	353	530	706	883	1060	1413	1766	1943	2119	2649	3179	3709
1600	365	547	730	912	1094	1459	1824	2006	2189	2736	3283	3830
1700	376	564	752	940	1128	1504	1880	2068	2256	2820	3384	3948
1800	387	580	774	967	1161	1548	1935	2128	2322	2902	3482	4063
1900	398	596	795	994	1193	1590	1988	2186	2385	2981	3578	4174
2000	408	612	816	1020	1224	1631	2039	2243	2447	3059	3671	4283
2100	418	627	836	1045	1254	1672	2090	2299	2508	3134	3761	4388
2200	428	642	856	1069	1283	1711	2139	2353	2567	3208	3850	4492

EVACUATION DISTANCE IN FEET

The applicable leak or rupture condition is that of a sustained trench fire fueled by non-toxic natural gas escaping from two full bore pipe ends. Blast overpressure is not addressed. The distances shown in Table 1 are intended to provide protection from burn injury and correspond to a thermal heat flux exposure level of 450 Btu/hr ft². This is the accepted limit of heat exposure for unprotected outdoor areas where people congregate; as established by the US Department of Housing & Urban Development Code 24CFR51, Subpart C, Siting of HUD Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature. The formula used to calculate distance was taken from the Gas Research Institute Report GRI-00/0189, A Model for Sizing High Consequence Areas Associated with Natural Gas Pipelines, 2001, prepared by C-FER Technologies. That model does not take into account wind or other factors which may greatly influence specific conditions. Users are advised that the distances shown in Table 1 are considered to be "general information" only and are not intended to replace a site specific risk analysis. The Pipeline Association for Public Awareness makes no warranty with respect to the usefulness of this information and assumes no liability for any and all damages resulting from its use. Anyone using this information does so at their own risk.



Emergency & Non-Emergency Pipeline Operator Contact Information

PIPELINE EDITION

If you would like any additional information from a pipeline member, call or visit the links below.

COMPANY	EMERGENCY	NON-EMERGENCY	WEB ADDRESS
Aera Energy, LLC	(800) 247-5977	(661) 665-5149	www.aeraenergy.com
Aka Energy Group, LLC	(970) 737-2601	(970) 764-6655	www.akaenergy.com
Alliance Pipeline L.P.	(800) 884-8811	(952) 944-3183	www.alliance-pipeline.com
Alliant Energy - IPL	(800) 255-4268	(800) 255-4268	www.alliantenergy.com
Alliant Energy - WPL	(800) 255-4268	(800) 255-4268	www.alliantenergy.com
Anadarko Midstream	(307) 682-5106	(307) 682-2675	anadarko.com
Anadarko Petroleum	(307) 437-9500	(307) 233-4523	anadarko.com
Archer Daniels Midland Company (ADM)	(563) 242-1121	(563) 241-1612	www.ADMWorld.com
Bear Paw Energy, LLC	(800) 778-7834	(800) 778-7831	www.oneokpartners.com
Bear Paw Energy, LLC - Wyoming	(866) 575-6465	(307) 687-3103	www.oneokpartners.com
Beartooth Pipeline	(866) 800-7677	(307) 864-5593	
Belle Fourche Pipeline Co	(866) 305-3741	(307) 746-4417	www.truecos.com
Bitter Creek Pipeline - CO	(888) 859-7291	(701) 530-1500	www.bittercreekpipeline.com
Black Hills Energy	(800) 694-8989	(888) 890-5554	www.blackhillscorp.com
Black Hills Power, Inc.	(605) 721-2289	(605) 721-2297	www.blackhillspower.com
BP America Production	(970) 247-6916	(970) 247-6800	www.bp.com
Bridger Pipeline LLC	(866) 305-3741	(307) 746-4417	www.truecos.com
Butte Pipe Line Company	(866) 305-3741	(307) 746-4417	www.truecos.com
Cascade Natural Gas	(888) 522-1130	(888) 522-1130	www.cngc.com
Cenex Pipeline LLC	(800) 421-4122	(406) 628-5293	www.chsinc.com
Central Resources, Inc.	(661) 765-7783	(661) 765-2191	www.chevron.com
Chevron Pipe Line Company	(877) 596-2811	(970) 675-2133	www.centralresources.com
Cheyenne Light, Fuel & Power	(800) 246-1109	(307) 778-2145	www.cheyennelight.com
Cimarron Gathering, LLC	(866) 254-4373	(713) 621-9547	www.copanoenergy.com
City of Redding	(530) 245-7009	(661) 549-8518	www.reupower.com
City of Sioux Falls	(605) 941-2351	(605) 367-8162	www.siouxfalls.org
Colorado Interstate Gas Company (CIG)	(877) 712-2288	(713) 420-2600	www.cigco.com
Colorado Natural Gas	(800) 720-8193	(303) 979-7680	www.coloradonaturalgas.com
Colorado Springs Utilities	(719) 448-4800	(719) 668-5426	www.csu.org
ConocoPhillips - Northwest NM	(800) 688-0158	(505) 324-6149	www.conocophillips.com
ConocoPhillips Pipe Line Company - CO	(877) 267-2290	(303) 376-4365	www.conocophillips.com
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CPN Pipeline Company	(877) 432-5555	(707) 374-1505	www.calpine.com
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Dakota Gasification Company	(866) 747-3546	(701) 873-6773	www.dakotagas.com
DCP Midstream, LLC	(800) 435-1679	(303) 605-1992	www.dcpmidstream.com
Devon Energy Production Company LP	(800) 214-2154	(307) 856-8111	www.dvn.com
Dick Brown Technical Services	(888) 764-5147	(661) 549-8518	
El Paso Natural Gas (EPNG)	(800) 334-8047	(713) 420-2600	www.elpaso.com
Enbridge Energy	(800) 858-5253	(218) 755-6712	www.enbridgeus.com
Enbridge Pipelines (North Dakota) LLC	(888) 838-4545	(701) 857-0806	www.enbridge.com
EnCana Oil & Gas (USA) Inc.	(877) 386-2200	(720) 876-5248	www.encana.com
Energy Operations Management Inc.	(877) 723-3344	(916) 859-4700	
Energy West - Montana	(800) 570-5688	(406) 791-7500	www.ewst.com
Energy West - Wyoming	(307) 587-4281	(307) 587-4281	www.ewst.com
Enterprise - Jonah Gas Gathering	(307) 352-2404	(307) 367-8025	www.epco.com
Enterprise Products - Mid America Pipeline	(800) 546-3482	(307) 362-2703	www.eprod.com
Express Pipeline LLC	(888) 449-7539	(307) 233-6196	www.kindermorgan.com
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ExxonMobil Production	(307) 276-6000	(307) 276-6242	www.exxonmobil.com
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Fort Union Gas Gathering	(307) 682-9710	(307) 670-6025	www.fortuniongg.com
Fountain Valley Power LLC	(719) 382-5155	(719) 382-5885	www.southwestgen.com
Front Range Pipeline LLC	(800) 421-4122	(406) 628-5293	www.chsinc.com
Frontier Pipeline Company	(866) 800-7677	(307) 783-7500	www.paalp.com
Garretson Natural Gas	(605) 594-6723	(605) 594-6723	www.garretsonsd.com
Great Lakes Gas Transmission (GLGT)	(800) 447-8066	(248) 205-7515	www.gtgt.com
Great Plains Natural Gas Company	(877) 267-4764	(701) 222-7900	www.gpng.com
Havre Pipeline Company LLC	(406) 357-2233	(406) 357-3643	



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COMPANY	EMERGENCY	NON-EMERGENCY	WEB ADDRESS
Hawthorn Oil Transportation (N. Dakota), Inc.	(888) 814-0188	(701) 628-1635	www.hawthornpipeline.com
Humboldt Municipal Gas Utility	(605) 941-3948	(605) 363-3789	www.humboldtsd.com
Inergy Services	(866) 295-2176	(661) 765-4087	www.inergypropane.com
Intermountain Gas Company	(877) 777-7442	(800) 548-3679	www.intgas.com
Kern River Gas Transmission Company	(800) 272-4817	(866) 415-6165	www.kernrivergas.com
Key Pipeline	(713) 599-5442	(806) 922-5405	
Kinder Morgan - Cochin Pipeline	(800) 265-6000	(701) 252-9013	www.kindermorgan.com
Kinder Morgan Interstate Gas Transmission	(888) 763-3690	(307) 232-4413	www.kindermorgan.com
Koch Pipeline - Northern Operations	(800) 688-7594	(612) 670-2588	www.kochpipeline.com
Koch Pipeline - Southeast Texas	(888) 718-6597	(361) 242-5518	www.kochpipeline.com
Koch Pipeline - Southern Operations	(800) 666-0150	(361) 242-5518	www.kochpipeline.com
Linn Operating Inc.	(281) 840-4174	(713) 458-8719	www.linnenergy.com
Lost Creek Gathering LLC	(877) 534-4117	(307) 328-2833	
Magellan Midstream Partners, L.P.	(800) 720-2417	(701) 282-7134	www.magellanlp.com
Marathon Pipeline Company	(800) 537-6644	(307) 347-9241	www.marathonpipeline.com
Merit Energy Company	(307) 328-2348	(307) 328-2345	
MGTC, Inc.	(307) 682-9710	(307) 670-6025	
MidAmerican Energy Company	(800) 595-5325	(712) 277-7933	www.midamericanenergy.com
MidAmerican Energy Company - IL	(800) 595-5325	(309) 793-3703	www.midamericanenergy.com
MIGC	(307) 682-9710	(307) 670-6025	www.migc.com
Montana Dakota Utilities Company	(800) 638-3278	(701) 222-7900	www.montana-dakota.com
Montana Refining Company Inc.	(406) 761-4100	(406) 781-3093	
Mountain Gas Resources, Inc.	(307) 875-9049	(307) 875-8785	www.anadarko.com
N. G. Transmission	(307) 347-8221	(307) 347-2416	
Northern Border Pipeline Company	(800) 447-8066	(563) 289-3338	www.northernborder.com
Northern California Power Agency	(916) 781-3636	(661) 549-8518	www.ncpa.com
Northern Natural Gas Company	(888) 367-6671	(402) 530-3835	www.northernnaturalgas.com
NorthWestern Energy - MT	(888) 467-2427	(406) 497-2446	www.northwesternenergy.com
NorthWestern Energy - NE and SD	(800) 245-6977	(406) 497-2446	www.northwesternenergy.com
NuStar Logistics, L.P.	(800) 481-0038	(361) 249-9408	www.nustarenergy.com
NuStar Pipeline Operating Partnership L.P.	(800) 759-0033	(605) 883-4866	www.nustarenergy.com
Omimex Canada, Ltd.	(800) 230-9892	(406) 357-3156	
ONEOK NGL Pipeline, LLC	(800) 666-9041	(580) 395-6282	www.oneokpartners.com
Pacific Energy Resources Ltd.	(310) 560-5281	(562) 628-1526	www.pacenergy.com
Pacific Gas and Electric Company	(800) 743-5000	(831) 635-2201	www.pge.com
Pacific Operators Offshore	(805) 643-1195	(805) 899-3144	
Pecan Pipeline (North Dakota) Inc.	(866) 899-2626	(701) 628-4025	www.pecanpipeline.com
Petro - Hunt, LLC	(701) 863-6500	(701) 863-6500	www.petrohunt.com
Pinedale Natural Gas, Inc.	(307) 367-4427	(970) 928-9208	www.pinedalegas.com
Pioneer Natural Resources	(719) 846-7879	(719) 846-7898	www.pioneerncr.com
Pioneer Pipe Line Company	(877) 267-2290	(801) 299-3617	www.conocophillips.com
Plains Exp. & Prod. (PXP) Los Angeles	(800) 766-4108	(805) 934-8223	www.pxp.com
Plains Exp. & Prod. (PXP) Santa Barbara	(805) 739-9111	(805) 934-8223	www.pxp.com
Plains Pipeline	(866) 800-7677	(307) 783-7500	www.paalp.com
Plains Pipeline, L.P.	(800) 708-5071	(701) 575-4254	www.plainsmarketing.com
Plains Pipeline, R.M.P.S.	(866) 800-7677	(701) 575-4254	www.paalp.com
Plains Pipeline, R.M.P.S. - MT	(866) 800-7677	(701) 575-4254	www.paalp.com
Platte Pipe Line	(888) 449-7539	(307) 233-6196	www.kindermorgan.com
Platte River Power Authority	(970) 229-1733	(970) 226-4000	www.prpa.org
Portland Natural Gas Transmission System	(800) 830-9865	(800) 633-1721	www.pngts.com
Questar Gas	(800) 767-1689	(307) 352-7701	www.questargas.com
Questar Gas Management	(800) 628-6157	(307) 922-5639	www.questar.com
Questar Pipeline Company	(800) 300-2025	(307) 382-8882	www.questarpipeline.com
Quicksilver Resources, Inc.	(866) 420-5396	(817) 665-5000	www.qrinc.com
Red Cedar Gathering Company	(970) 382-0828	(970) 764-6900	www.redcedargathering.com
Rockies Express Pipeline LLC	(877) 436-2253	(307) 232-4422	www.rexpipeline.com
Rockies Express Pipeline LLC - Western CO	(877) 436-2253	(970) 208-1266	www.rexpipeline.com
Rosetta Resources	(888) 413-2995	(661) 549-8518	www.rosettaresources.com
San Diego Gas & Electric	(800) 611-7343	(800) 411-7343	www.sdge.com



Emergency & Non-Emergency Pipeline Operator Contact Information

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COMPANY	EMERGENCY	NON-EMERGENCY	WEB ADDRESS
Rosetta Resources	(888) 413-2995	(661) 549-8518	www.rosettaresources.com
San Diego Gas & Electric	(800) 411-7343	(800) 611-7343	www.sdge.com
ScissorTail Energy, LLC	(800) 782-8686	(713) 621-9547	www.copanoenergy.com
SemStream L.P.	(800) 522-3883	(608) 755-0439	www.SemGrouplp.com
Seneca Resources	(888) 595-8595	(661) 549-8518	http:www.natfuel.com/seneca-
Silicon Valley Power	(408) 423-6550	(661) 549-8518	www.siliconvalleypower.com
Sinclair Pipeline Company	(800) 321-3994	(307) 328-3643	www.sinclairoil.com/pipelines.htm
SourceGas Distribution	(800) 563-0012	(303) 243-3541	www.sourcegas.com
SourceGas Transmission	(866) 477-1190	(303) 243-3541	www.sourcegas.com
South Dakota Intrastate Pipeline Co.	(800) 852-0949	(605) 224-0949	www.sdipco.com
Southern California Gas Company	(800) 427-2000	(800) 427-2000	www.socalgas.com
Southern Dome, LLC	(800) 782-8686	(713) 621-9547	www.copanoenergy.com
Southern Natural Gas (SNG)	(800) 252-5960	(713) 420-2600	premier.sonetpremier.com/snghomepage
Southern Star Central Gas Pipeline	(800) 324-9696	(307) 328-8400	www.sscgp.com
St. Mary Land & Exploration Co.	(406) 208-3563	(406) 869-8706	www.stmaryland.com
Suncor Energy (U.S.A.) Pipeline Company	(866) 978-6267	(303) 793-8006	www.suncor.com
Tennessee Gas Pipeline (TGP)	(800) 231-2800	(713) 420-2600	www.tennesseeadvantage.com
Tesoro Alaska Pipeline Company	(907) 776-3549	(907) 776-3520	www.tsocorp.com
Tesoro Hawaii Corporation	(808) 682-3991	(808) 479-0527	www.tsocorp.com
Tesoro High Plains Pipeline Company	(866) 283-7676	(701) 225-8973	www.tsocorp.com
Tesoro Refining - Northern California	(925) 372-3120	(925) 335-3452	www.tsocorp.com
Tesoro Refining - Southern California	(310) 522-6000	(310) 522-8602	www.tsocorp.com
Tesoro Refining and Marketing - Utah	(801) 521-4900	(801) 521-4987	www.tsocorp.com
Thunder Creek Gas Services, LLC	(877) 619-4680	(307) 687-0614	
TransCanada - ANR Pipeline (ANR)	(800) 447-8066	(248) 205-4521	www.anrpl.com
TransCanada - Bison Pipeline Company	(800) 447-8066	(605) 226-2259	www.bisonpipelinellc.com
TransCanada - Gas Transmission Northwest	(800) 447-8066	(541) 548-9243	www.gastransmissionnw.com
TransCanada - Keystone Pipelines L.P.	(800) 447-8066	(402) 492-7454	www.transcanada.com
TransCanada - North Baja Pipeline	(800) 447-8066	(541) 548-9243	www.northbajapipeline.com
TransColorado Gas Transmission Co. LLC	(800) 944-4817	(970) 208-1266	www.kindermorgan.com/public_awareness
Tuscarora Gas Transmission	(800) 447-8066	(541) 548-9243	www.gastransmissionnw.com
Venoco Inc.	(888) 836-6261	(805) 745-2150	www.venocoinc.com
Viking Gas Transmission Company	(888) 417-6275	(218) 379-3160	www.vgt.nborder.com
Vintage Production California, LLC	(866) 746-4293	(661) 869-8072	www.oxy.com
Walden Gas	(970) 723-4662	(970) 928-9208	www.pinedalegas.com
Watertown Municipal Utilities	(605) 882-6233	(605) 882-6233	
White Cliffs Pipeline	(800) 522-3883	(405) 692-5132	www.semgrouplp.com
Whiting Oil and Gas Corporation - ND	(800) 723-4608	(701) 227-8703	www.whiting.com
Whiting Oil and Gas Corporation - WY	(800) 713-3401	(303) 390-4957	www.whiting.com
Wild Goose Storage, LLC	(866) 940-7351	(530) 846-7351	www.niskags.com
Williams Midstream - Colorado	(800) 635-7400	(505) 634-4954	www.williams.com
Williams Midstream - Wyoming	(800) 635-7400	(307) 872-2839	www.williams.com
Williams Northwest Pipeline - Kemmerer Dist.	(800) 972-7733	(307) 872-4061	www.williams.com
Williams Northwest Pipeline - Moab District	(800) 972-7733	(435) 686-2214	www.williams.com
Williams Northwest Pipeline - Vernal District	(800) 972-7733	(435) 781-3200	www.williams.com
Williston Basin Interstate Pipeline	(888) 859-7291	(406) 359-7316	www.wbip.com
Wyoming Gas Company	(307) 347-2416	(307) 347-2416	
Wyoming Refining Company	(307) 746-4931	(307) 746-2379	
Xcel Energy, NSP - MN - Gas Distribution	(800) 895-2999	(800) 895-4999	www.xcelenergy.com
Xcel Energy, NSP - MN - Gas Transmission	(800) 895-2999	(800) 895-4999	www.xcelenergy.com
Xcel Energy, NSP - WI - Gas Distribution	(800) 895-2999	(800) 895-4999	www.xcelenergy.com
Xcel Energy, NSP - WI - Gas Transmission	(800) 895-2999	(800) 895-4999	www.xcelenergy.com
Xcel Energy, PSCo - Gas Distribution	(800) 895-2999	(800) 895-4999	www.xcelenergy.com
Xcel Energy, PSCo - Gas Transmission	(800) 698-7811	(800) 895-4999	www.xcelenergy.com
Xcel Energy, SPS	(800) 895-2999	(800) 895-4999	www.xcelenergy.com
ZIA Natural Gas Company - Central NM	(800) 520-4277	(800) 520-4277	www.zngc.com
ZIA Natural Gas Company - Hobbs, NM	(575) 392-4277	(800) 520-4277	www.zngc.com
ZIA Natural Gas Company - Jal, NM	(575) 395-2080	(800) 520-4277	www.zngc.com
ZIA Natural Gas Company - Northeast NM	(575) 375-2277	(800) 520-4277	www.zngc.com



Federal Laws and Regulations Concerning Underground Facilities

Title 49, Transportation, Subtitle VIII, Pipelines, Chapter 601, Safety § 60123. Criminal Penalties (a) General penalty. A person knowingly and willfully violating section 60114(b), 60118(a), or 60128 of this title or a regulation prescribed or order issued under this chapter [49 USCS § § 60101 et seq.] shall be fined under title 18, imprisoned for not more than 5 years, or both.

(b) Penalty for damaging or destroying facility. A person knowingly and willfully damaging or destroying an interstate gas pipeline facility, an interstate hazardous liquid pipeline facility, or either an intrastate gas pipeline facility or intrastate hazardous liquid pipeline facility that is used in interstate or foreign commerce or in any activity affecting interstate or foreign commerce, or attempting or conspiring to do such an act, shall be fined under title 18, imprisoned for not more than 20 years, or both, and, if death results to any person, shall be imprisoned for any term of years or for life.

(c) Penalty for damaging or destroying sign. A person knowingly and willfully defacing, damaging, removing, or destroying a pipeline sign or right-of-way marker required by a law or regulation of the United States shall be fined under title 18, imprisoned for not more than one year, or both.

(d) Penalty for not using one-call notification system or not heeding location information or markings. A person shall be fined under title 18, imprisoned for not more than 5 years, or both, if the person:

- (1) knowingly and willfully engages in an excavation activity
 - (A) without first using an available one-call notification system to establish the location of underground facilities in the excavation area; or
 - (B) without paying attention to appropriate location information or markings the operator of a pipeline facility establishes; and
- (2) subsequently damages
 - (A) a pipeline facility that results in death, serious bodily harm, or actual damage to property of more than \$50,000;
 - (B) a pipeline facility, and knows or has reason to know of the damage, but does not report the damage promptly to the operator of the pipeline facility and to other appropriate authorities; or
 - (C) a hazardous liquid pipeline facility that results in the release of more than 50 barrels of product.

Penalties under this subsection may be reduced in the case of a violation that is promptly reported by the violator.

OSHA Regulations, 1926.651, Specific Excavation Requirements

At www.osha.gov, under compliance assistance programs, you can get to publications and print out “Working Safely in Trenches” (OSHA 3243), which contains great safety tips in both English and Spanish. Injury rate and fatality statistics can be found at www.bls.gov.

1926.651(b) Underground installations

- (1) The estimated location of utility installations, such as sewer, telephone, fuel, electric, water lines, or any other underground installations that reasonably may be expected to be encountered during excavation work, shall be determined prior to opening an excavation.
- (2) Utility companies or owners shall be contacted within established or customary local response times, advised of the proposed work, and asked to establish the location of the utility underground installations prior to the start of actual excavation. When utility companies or owners cannot respond to a request to locate underground utility installations within 24 hours (unless a longer period is required by state or local law), or cannot establish the exact location of these installations, the employer may proceed, provided the employer does so with caution, and provided detection equipment or other acceptable means to locate utility installations are used.
- (3) When excavation operations approach the estimated location of underground installations, the exact location of the installations shall be determined by safe and acceptable means.
- (4) While the excavation is open, underground installations shall be protected, supported or removed as necessary to safeguard employees.
 - (1) knowingly and willfully engages in an excavation activity
 - (A) without first using an available one-call notification system to establish the location of underground facilities in the excavation area; or
 - (B) without paying attention to appropriate location information or markings the operator of a pipeline facility establishes; and
 - (2) subsequently damages
 - (A) a pipeline facility that results in death, serious bodily harm, or actual damage to property of more than \$50,000;
 - (B) a pipeline facility, and knows or has reason to know of the damage, but does not report the damage promptly to the operator of the pipeline facility and to other appropriate authorities; or
 - (C) a hazardous liquid pipeline facility that results in the release of more than 50 barrels of product.

**PIPELINE ASSOCIATION
FOR PUBLIC AWARENESS**

16361 Table Mountain Parkway
Golden, Colorado 80403

PIPELINE EDITION



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for **Public Awareness**

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BP America Production
Bridger Pipeline LLC
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Pacific Gas and Electric Company
Pacific Operators Offshore
Pecan Pipeline Inc.
Petro - Hunt, LLC
Pinedale Natural Gas, Inc.
Pioneer Natural Resources
Pioneer Pipe Line Company
Plains Exploration & Production (PXP)
Plains Pipeline, L. P.
Platte Pipe Line
Platte River Power Authority
Portland Natural Gas Transmission System
Questar Gas
Questar Gas Management
Questar Pipeline Company
Quicksilver Resources, Inc.
Red Cedar Gathering Company
Rockies Express Pipeline LLC

Rosetta Resources
ScissorTail Energy, LLC
SemStream L.P.
Seneca Resources
Silicon Valley Power
Sinclair Pipeline Company
SourceGas
South Dakota Intrastate Pipeline Co.
Southern Dome, LLC
Southern Natural Gas (SNG)
Southern Star Central Gas Pipeline
St. Mary Land & Exploration Co.
Suncor Energy (U.S.A.) Pipeline Company
Tennessee Gas Pipeline (TGP)
Tesoro Alaska Pipeline Company
Tesoro Hawaii Corporation
Tesoro High Plains Pipeline Company
Tesoro Refining and Marketing
Thunder Creek Gas Services, LLC
TransCanada - ANR Pipeline (ANR)
TransCanada - Bison Pipeline Company
TransCanada - Gas Transmission Northwest
TransCanada - Keystone Pipelines L.P.
TransCanada - North Baja Pipeline
TransColorado Gas Transmission Co. LLC
Tuscarora Gas Transmission
Venoco Inc.
Viking Gas Transmission Company
Vintage Production California, LLC
Walden Gas
Watertown Municipal Utilities
White Cliffs Pipeline
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Wild Goose Storage, LLC
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Williams Northwest Pipeline
Williston Basin Interstate Pipeline
Wyoming Gas Company
Wyoming Refining Company
Xcel Energy

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For more information, contact us at info@pipelineawareness.org**

Please visit www.pipelineawareness.org to request **FREE copies
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While supplies last. See website for details.**