

## DCA Employs New Efforts to Mitigate Cross Bores

BY EBEN M. WYMAN

Damage prevention, although rudimentary in concept, becomes complicated quickly when roles and responsibilities are evaluated. Generally speaking, the basics of damage prevention entail excavators calling “811” before digging and facility operators ensuring accurate location and marking of their facilities, all according to state damage prevention law. However, when looking at the underlying causes of, and alternative ways to, address and reduce cross bores, roles and responsibilities are put under the microscope... and for good reason. One thing is certain: consistency and clarity is needed to reduce and mitigate the enduring problem of cross bores, which carry potentially disastrous consequences.

### **TRENCHLESS OPERATIONS ACCENTUATE NEED FOR SOLUTIONS**

According to the Cross Bore Safety Association (CBSA), cross bores are defined as “an intersection of an existing underground utility or underground structure by a second utility resulting in direct contact between the transactions of the utilities that compromises the integrity of either utility or underground structure.”

Trenchless excavation practices such as horizontal directional drilling (HDD) are increasingly utilized because of their effectiveness in providing safe and environmentally sound installation of gas distribution pipelines and other underground facilities. Trenchless operations offer reduced surface disturbances to municipalities, homeowners and businesses at a reduced cost; but do not allow the installer to see if another utility is intersected. Simply put, a cross



Photo courtesy of Arizona State University

bore can be created unless existing facilities are located and marked. Increased use of trenchless technology underscores the essential need to identify what exists and where it lies below.

### **SEWER LATERALS CONSIDERED MAIN CULPRIT**

Although they present a significant hazard under any circumstances, cross bores resulting from unmarked sewer service laterals unquestionably present the biggest threat to public safety, as well as environmental and property damage.

Consider this scenario: A sewer pipe in poor condition backs up. The homeowner calls a drain cleaner to clear the line. As part of an “interior cleanout,” the drain cleaner runs a mechanical cutting tool through the sewer line to clear the blockage. If this blockage is the result of a natural gas cross bore, the mechanical tool can easily cut through a plastic gas line. Because the gas is pressurized, it escapes the plastic line and follows the path of least resistance, which is commonly through the sewer pipe and back into the house, creating a ticking time bomb where any ignition source can cause a catastrophic explosion at any time. Accurate location and marking of the sewer ser-

vice lateral when the gas line was installed would significantly reduce the likelihood of the cross bore occurring in the first place.

While the vast majority of state damage prevention statutes require owners and operators to locate and mark their underground facilities, it gets sticky when talking about locating service laterals on private property. Municipalities, which generally own/operate public water and sewer facilities, point out that sewer service laterals are located on private property, which absolves them from the responsibility of locating and marking them. The fact that many municipal facilities are made of clay piping rather than readily locatable (metallic) material exacerbates the problem.

### **IMPORTANCE OF “REVENUE” DERIVATION**

In 2010, after literally years of deliberation within a committee of virtually all stakeholders in the damage prevention community, the Common Ground Alliance (CGA) approved a Best Practice on locating service lines. As with other underground facilities, the Best Practice places the responsibility of locating and marking service laterals on the entity that derives revenue through products and/or services

from that service line. Specifically, the CGA Best Practice statement and description are as follows:

### **CGA BEST PRACTICE 4-21: SERVICE LINES**

#### **Practice Statement:**

A service line is marked in response to a locate request to the operator who uses the service line to pursue a business that derives revenue by providing a product or service to an end-use customer via the service line. A service line is marked in response to a locate request to a governmental entity that provides a product or service to an end-use customer via the service line.

#### **Practice Description:**

A service line is a type of underground facility that is connected to a main facility. The service line is used by the following entities:

- An operator who provides a product or service within a right-of-way, an easement, or an allowed access to or through private property while pursuing a business that generates revenue by providing a product or service to an end-use customer (other than another operator of like kind or themselves).
- A governmental entity that provides a product or service via that service line.

The operator or the governmental entity locates and marks these service lines within the bounds of the locate request up to either: 1) the point of their operational responsibility, 2) the point the service line enters a building, or 3) where the access to locate the line terminates, as designated by the prevailing law.

Since it was established in 2000,



## VACUUM EXCAVATION/WATER & SEWER



Photo courtesy of Arizona State University

the CGA has become the largest and most influential damage prevention organization in the country. The CGA Best Practice on service laterals was developed over several years of often intense debate among any and all stakeholders who wanted a seat at the table. Consistent with "shared responsibility" promoted by the CGA and the Best Practices' focus on those who benefit from revenue derived

from the service line, the Distribution Contractors Association (DCA) believes that municipalities should be required by state law to belong to their respective One Call center and adhere to related locating requirements of municipal facilities, including sewer service laterals.

### ASU LOOKS AT CONTRACTOR PERSPECTIVES

In October of 2013, the American Society of Civil Engineers Journal of Pipeline Systems Engineering and Practice published the *Analysis of Cross Bores in Unmarked Sewer Service Laterals*, prepared by Dr. Samuel Ariaratnam, professor and

chair of Arizona State University's (ASU) Construction Engineering Program. The paper included results of a survey conducted with scores of distribution contractors who ranked unmarked sewer laterals high among concerns in their daily work.

In his analysis of the survey results, Dr. Ariaratnam states that "it is alarming that owners of water and sewer infrastructure were generally not required to mark their facilities. Sewer service laterals are typically composed of non-metallic material, subsequently creating an additional challenge for locating and marking. It is also more difficult to de-

tect the presence of a cross bore in a water or sewer service lateral compared with electrical and communication lines where the end user would immediately notice an interruption in service."

DCA appreciates Dr. Ariaratnam's efforts and will use this analysis in future efforts to improve state damage prevention laws to assign or confirm locating responsibilities



Photo courtesy of Arizona State University

**VIVAX  
METROTECH**

Locate buried utilities with accuracy, confidence, and speed with the vLoc and VM range of utility locators.



### vLocPro2 Receiver

- Lightweight and ergonomic
- Lightning fast LCD response
- Long battery life
- Fault locate, Bluetooth, and GPS options



1 Watt, 5 Watt, and 10 Watt Transmitters



### VM-810 Locator

- True left/right guidance
- One button operation
- Backlit LCD
- Full crisp digital sound



VM-810 Transmitter



**Please call us to schedule an on site, no obligation demonstration!**

**Vivax-Metrotech Corporation**

3251 Olcott Street  
Santa Clara, CA 95054, USA

Toll Free: 800-446-3392  
Fax: +1-408-734-1415

Email: sales@vxmt.com  
www.vivax-metrotech.com

# ISSUESPOTLIGHT



Photo courtesy of Arizona State University

to those who operate and derive revenue from service laterals.

## **NPL REMAINS A CHAMPION OF THE CAUSE**

NPL, a full-service pipeline construction contractor providing installation & maintenance services of energy distribution systems in every state, has worked to raise awareness about the persistent problem of natural gas cross bores for more than 20 years. Dan Weaklend, NPL's Vice President of Safety, Quality & Regulatory Compliance, suggests several key steps to effectively mitigate cross bore situations. These include the following practices:

- All underground facilities, including sewer lines, should be marked by the entity that receives revenue from the facility.
- All new sewer laterals should be installed with a location device (i.e. tracer wire, marker balls, etc.).
- All new gas lines should be installed only after verifying no conflict with all utilities, especially unmarked sewer line.

"At NPL we have taken the issue of cross bores very seriously and have put in-house policies and procedures in place to mitigate the risk," Weaklend said. "Lack of laws requiring the locating of sewer mains and laterals is a national problem

and has resulted in injuries, fatalities and millions of dollars in property damage. Action needs to be taken now and these sewer mains and laterals need to be located and marked by the entities that control their construction."

## **FEDERAL ACTION ALSO NEEDED**

The Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011 included language that restricts federal dollars from being allocated to state damage prevention programs that exempt municipalities and their contractors from One Call notification requirements. While DCA supports all efforts to reduce and eliminate exemptions from One Call and damage prevention requirements, the association believes the 2011 pipeline act stopped short of ensuring "shared responsibility" in damage prevention by not including One Call membership in eligibility requirements for federal pipeline grant assistance.

Municipal exemptions to One Call membership requirements effectively exempt them from their responsibility to locate their sewer mains. While cross bores of sewer laterals are of primary concern, cross bores also occur on sewer mains. All municipal facilities need to be included in the One Call process.

In 2012, DCA spearheaded an in-

dustry position paper encouraging balanced and consistent enforcement of damage prevention law and supporting the reduction of exemptions in state damage prevention statutes. This document, which was signed on by seven national associations representing the pipeline industry, construction contractors, and underground facility locators, stated that "the responsibilities are clear: excavators must call 811 before they dig, wait the required time before excavating, respect facility markings and dig with care. Equally important, all underground facility operators must belong to their respective One Call center and ensure that facilities are marked accurately and in a timely manner (according to state law). Any exemptions or failure to hold all parties accountable for their responsibilities in this process only compromises safety, and state law should address that."

Given the solidarity shown among government and industry in their positions on damage prevention exemptions, DCA plans to work with several allies over the next several months to encourage additional steps to reduce exemptions from state damage prevention statutes through advocacy at the federal and state level.

## **CONCLUSION**

In a recent conversation with DCA Government Relations Committee co-chairman Greg Dahl of ARB, Inc., of Lake Forest, California, he effectively provided the contractor's perspective.

"The cross bore issue revolves principally around sewer laterals to homes and businesses," Dahl said. "These laterals are generally composed of clay pipe. Because this material is non-metallic, it is not detectable by sub-surface ferromagnetic

locators used by most utilities or their agents to locate their facilities. Even if the clay pipe was detectable by these locating devices, some operators or municipalities are exempt from laws that require marking and locating of underground utilities. So, while the operators accrue the benefits (revenue) from owning the system, they are under no obligation to locate the laterals that are an integral part of that system.

"Of course, there are other methods that are employed to locate the laterals. They are more expensive and time consuming. We, as contractors, are obliged to use them to locate sewer laterals. One way or another, others pay to locate the municipalities' lines. As usual, the issues are economic and legal. Virtually all the liability and risk falls on the contractor. The entity deriving revenue from the operation of the utility ought to bear the responsibility to locate their mains and laterals as is required of other utilities. This is in the public interest and does not in any way mitigate a contractor's responsibility under the law to locate and protect existing substructures during construction."

DCA is ramping up a multi-tiered strategy to further the discussion of cross bores and effective alternatives to reduce them. This will take significant public awareness, targeted advocacy, and a dedicated group of organizations that are committed to the effort at the federal, state, and local levels. **DP**

*Eben M. Wyman, principal of Wyman Associates, represents the Distribution Contractors Association (DCA) in Washington, D.C. The DCA is comprised of contractors, suppliers and manufacturers who provide gas distribution and transmission pipeline construction services in communities across the country. If you are interested in learning more, contact Eben Wyman at 703-750-1326 or at eben@wymanassociates.net.*

