



A ROUNDTABLE DISCUSSION

Reflections on Gas Lines and Trees

Photos: Michelle Buckstrup



Recent discussions on the SMA Listserve prompted this forum with Society members Paul Dykema, Scott Cullen, Keith Martin, and Mark Foster.

Paul Dykema
Forestry Manager
Lansing, Michigan

The foundation for our relationship with the gas company was laid over fourteen years ago and has worked with only a few minor problems since. At that time, the gas company that serves the Lansing area was starting to move its lines from under the street into the parkway where our trees are located.

They made this transition for two reasons. The first is that the lines

themselves were old and breaking with increasing frequency. The second reason was the cost being charged to the gas company by the city for the repair of the street after the gas company repaired or replaced lines. At one time, the gas company owed Lansing well over \$500,000.

The question for forestry staff became, “How do we preserve our trees during the installation of the gas lines?” The first step was to determine what authority we had over the gas company’s work. City ordinance turned out to be the governing document. Our city tree ordinance states no one may perform work on a tree without a permit from the city forester. The second step was to learn as much as possible about the requirements of the utility’s work and about different techniques needed to accomplish those tasks.

After we expressed concerns to the DPW and the gas company about the possibility of tree roots crushing gas lines and the resultant problems, we began more in-depth research into the subject. The gas company took the position that the only way to install the lines was in an open trench, but this seemed to be contradicted by the techniques utilized by their contractors when installing lines crossing roadways. In the latter case, we observed directional bores being employed to avoid the cost of pavement repair. We asked contractor field staff to educate us on the capabilities of the boring technology, and we determined that, using directional boring, it was possible

to install the gas lines in the parkway with an acceptable level of root damage.

Forestry staff subsequently met with gas company staff to establish construction standards. No contractor work activity would be allowed within ten feet of any tree unless there was no other way for the work to be accomplished. This meant no equipment, supplies, or digging was allowed in the ten-foot zone. The ten-foot zone was established by examining the need for tree structural stability, the size of most residential lots in Lansing, and current directional boring technology.

The next step in the process was to present the construction standard to gas installation contractors and explain the reasoning



behind the standard. All the contractors liked trees and did their best to understand the damage being done to trees and the need to minimize that damage. When presented with the recommendation that almost all of the lines be installed with directional boring, the contractors all questioned us about the cost and who would be responsible for it. The answer was the gas company would pay a fair price for the boring work. All the contractors agreed this was an excellent idea and that they could avoid most damage to tree roots. The contractors' one concern was about situations where they could not meet the standard. We asked them to contact forestry staff as those situations arose.

The final step in the process was to provide support to the contractors so they could accomplish the work in a timely manner. This was accomplished by having a forestry inspector visit project sites on a daily basis and respond promptly to telephone calls for help from the contractors.

The construction standard established over 13 years ago has worked well for Lansing's trees and the gas company. Contractors have been able to nearly finish replacing the worst of the old lines with a relatively small impact on our trees.

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Scott Cullen, RCA

Northern Suburbs of New York City

As an independent consultant, a number of my clients are small municipalities that do not have a staff arborist or urban forester. Most of my work for them involves planning and land use approvals rather than management of public trees. So most of the trees are privately owned. These trees are, of course, of public concern and that's why they are regulated during development.

Many suburban areas are not served by gas lines. In some areas there are no sewer or water mains either, with each residence served by its own septic system and water well. Electric service is as frequently overhead as it is underground. In some respects that's great for the trees since there is less need for trenching. It means, however, that utilities and their subcontractors, design professionals, and the regulators are not faced with trench-tree conflict issues as frequently as their more urban counterparts. In those settings where we do have underground services for any combination of gas, sewer, water, electricity, and cable, the project arborist may have to be forceful with all the players to get the issue on the table.

The most effective strategy I've found, particularly when I can work with the design professionals and the regulators early in the process, is to identify a single corridor for all underground utilities from the street to the structure. This is wider than a single trench, of course, because maintenance concerns typically require each service to be in its own space. Even though it is relatively wide, this single corridor impacts fewer trees, and we can sometimes site the corridor to altogether avoid the most important trees.

Keith Martin, CF

Landscape Administrator

City of Southlake, Texas

For the past eight years, Southlake has been one of the fastest growing cities in the Dallas-Fort Worth metropolitan area. With this growth spurt came the installation and upgrading of public and franchise utilities to serve the new residents and commercial developments.

We soon began having issues with franchise utility contractors installing and upgrading

lines for natural gas, electric, cable, and fiber optics in the rights-of-way and easements of both existing and developing properties. The contractors would damage trees, destroy public and private property, and not apply proper tree protection or erosion control measures.

We saw that we were lacking a permitting process that would allow us to monitor specific utility contractors performing work in areas covered by our Tree Preservation Ordinance (TPO). We revised our existing Earth Disturbance Permit (EDP) regulations to include the installation of franchise utilities. We required contractors to submit an application for the permit along with construction plans showing all locations of their proposed lines, bores, and scope of work.



The EDP regulations now also require that utility contractors follow all aspects of the city's TPO for the protection and mitigation of damage to trees that might be affected by their work and that they install proper erosion control measures to reduce potential storm water pollution. In addition, the EDP requires that all excavation contractors working in a city right-of-way or easement must register with the city prior to performing the work.

The franchise utility providers and their contractors soon found that their previous practice of trenching to install lines was costly to them, because the city would hold them liable for the destruction of trees and property. As a result, the contractors adopted widespread use of directional boring in their installations.

Since we have initiated the EDPs, the destruction of trees and property has practically ceased. The permitting process also allows us to track and map the installations by franchise utilities within rights-of-way and public easements so that there is not a conflict with existing public utilities, existing trees, or future tree plantings.

Southlake also has a major cross-country fuel supply line that runs directly through the middle of the city. This fuel supply line transports different types of fuel to holding tanks located on the south

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side of the city that in turn supply fuel for the Dallas-Fort Worth Airport. Much like electrical transmission line easements, the gas pipeline easement must be clear of trees, overgrown vegetation, buildings, and other structures so that there is not a conflict with maintenance, safety, and integrity of the pipeline.

The operators of the pipeline conduct routine aerial surveys of the easement to ensure that there are no obstructions within the easement that would prevent them from accessing it in the event of a rupture or accident. In many areas there are native trees growing along the edges of the easement, but the pipeline is encased in concrete and is deep enough that tree roots

would not normally cause any problems. The operators of the pipeline submit tree removal permits to remove overgrown vegetation and prune trees that interfere with accessing the easement or visibility while surveying. However, tree removals are seldom needed.

Mark Foster
Arborist, Public Works Department
Asheville, NC

I was really excited to be asked if I would weigh in on the topic of conflicts between gas lines and trees, until it dawned on me a second later what a low-stress working relationship I have with the gas company. Sure, we have had some small-scale neighborhood controversies in the past involving less-than-ideal excavation near public trees. But on the whole, things are improving.

One of our gas company reps serves on the tree boards of two different cities. Another one invited me to give a presentation to a group of engineers. And the contract we have between my city and the gas company spells out our expectations—and they have done a good job of living up to them.

So back to my dilemma, how was I going to come up with horror stories about our gas company by the article deadline? Then, while I was reflecting on it at the monthly tree commission meeting (reflecting, not daydreaming), an interesting irony came rushing to mind.

The commission was considering a letter from some folks who were pretty mad about the line clearance trimming the local power company contractor was doing in their neighborhood. The citizens felt sure, as many on our tree commission do, that the best solution is to move the power lines underground. That would end the “excessive” pruning or the “butchering,” as it is often called. I always wince when I hear the word “butchering,” since unlike many utility tree pruners, the “butchers” I’ve seen have a decent grasp of anatomy and make skillfully placed cuts. But I digress.

Many folks think that the very expensive process of relocating overhead utilities to the subterranean realm where they will be out of sight and out of mind will make life wonderful. The trees

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will grow large and beautiful, untouched by the careless hands of people... or something. Yet I hear these horror stories from other communities about the root damage that their gas companies create (or that the water department causes, or the sidewalk repair crews), and I start to wonder when the “wonderful” part of this subterranean scenario is going to kick in. I further wonder if the folks who have trees damaged by the gas company wish the gas lines were mounted high up on utility poles.

I attend monthly utility coordinating commission meetings, as hopefully many of you may, and at those meetings I try to stress that my trees are like utilities or infrastructure—if you break my stuff while you’re digging, just tell me. I won’t cry or scream, or stage a sit-in. We will just fix the situation. But if you broke it, you bought it—just as if my tree roots were fiber optic cables.

Clearly, space constraints below ground are a big problem for tree managers and utility managers alike. The utility representatives at those coordinating meetings I mentioned are there both to keep each other apprised of upcoming work and to complain when one of the other agencies fails to call for location marking and damages their stuff. I like the former proactive approach, and I hope as many other tree managers as possible attend their local utility coordinating meetings. You will know what these folks are up to and make your concerns clear before the first shovel hits dirt. When the time comes that the utility folks are smiling warmly and greeting you by name rather than giving you suspicious, sidelong glances, then I guess a good working relationship has taken root. 🌿

