



Nature
HISTORY
Discovery

OPRD Safety Module



03-04 Before You Dig

How to avoid underground utility lines, fuel storage tanks and other things you shouldn't cut into, sever or break!

It's the Law

- Did you know it's the law to find out where buried utility pipes, wires and cables are located before you dig?
- It's free. And if you don't find out and then damage an underground utility line, you'll have to pay to get it repaired. A quick call to 811 is worth it. You can also go online to digsafelyoregon.com.
- **NOTE:** This service only locates public lines (Supply lines to natural gas, water, power, telephone and cable) from the meter out to the street.
- Private lines (from meter to the manager's house, booth, office) on OPRD property are **our** responsibility. There are private companies that will help you locate those lines.

Once most people get started on a project, they don't want to stop. But, you've got to admit, making a call is a small thing and you can do it anytime. The call line is open 24/7. You do have to plan ahead! Plan on two days for them to come out and mark any PUBLIC UTILITIES you have to avoid.

(Not your private irrigation system, plumbing, etc.)



Backhoes are great, but don't wait until you are at this point to find out you cut in to a sewer line near a 2,000 GPM pumping station!



When do I have to call?

- The general rule of thumb is: Less than 6", you don't need to call. That means you can plant perennials or small shrubs without a call.
- If you are putting in a sidewalk that requires excavating and backfilling with gravel (most do), digging a deep hole for a toilet vault or trenches for a waste water drain field you **BETTER** make a call.
- Make sure any contractors or excavators you hire call "LOCATE" at 811 or go online. Again, **no matter who does the work, you will be liable.**
- The 811 call will be answered by "One Call Center" located in Portland. The center will notify the appropriate local utilities that send the necessary crews to mark the area free of charge.

It's that easy.

What you need before the Call

- What day and time you want to begin work.
- Will work be done within 10 feet of overhead lines?
- Type of work (reason for excavation)
- Address of work site and nearest intersecting street
- Any special remarks or considerations
- Location of worksite. (e.g. From flag 100 yards SE of Booth, running along road to rest room)
 - You must mark the area off with white paint and/or stakes. Be obvious if it is “in the woods!”

How close do they mark the utility?

OAR 952-001-0010 (14)

- “Reasonable accuracy” means location within twenty-four (24) inches of the outside dimensions of both sides of an underground facility.
- Offset marking, when used will have the same tolerance of accuracy.



6/19/2009

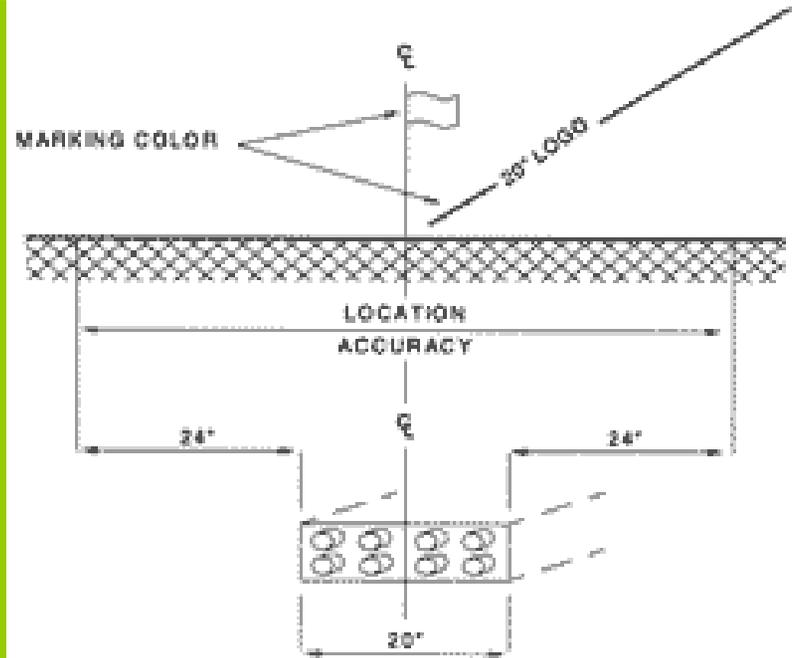


- Within 24 inches of the line.

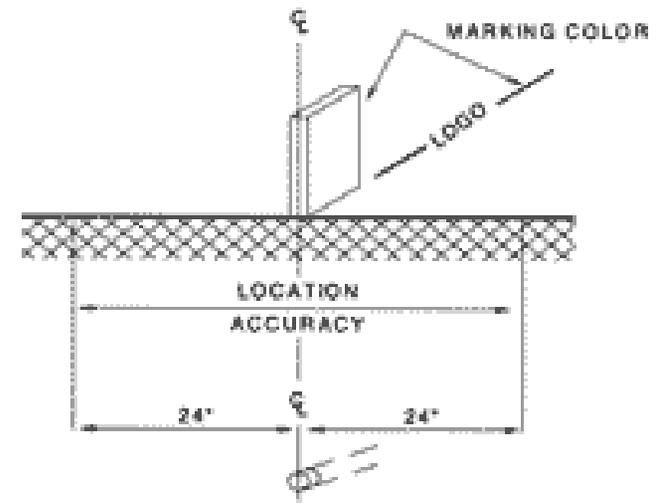


EM Locator Used to Locate Underground Utilities

6/19/2009



FACILITY LARGER THAN 2'



SMALL FACILITY 2' OR LESS

The Call Before You Dig Service will mark the site!
Each color means something...





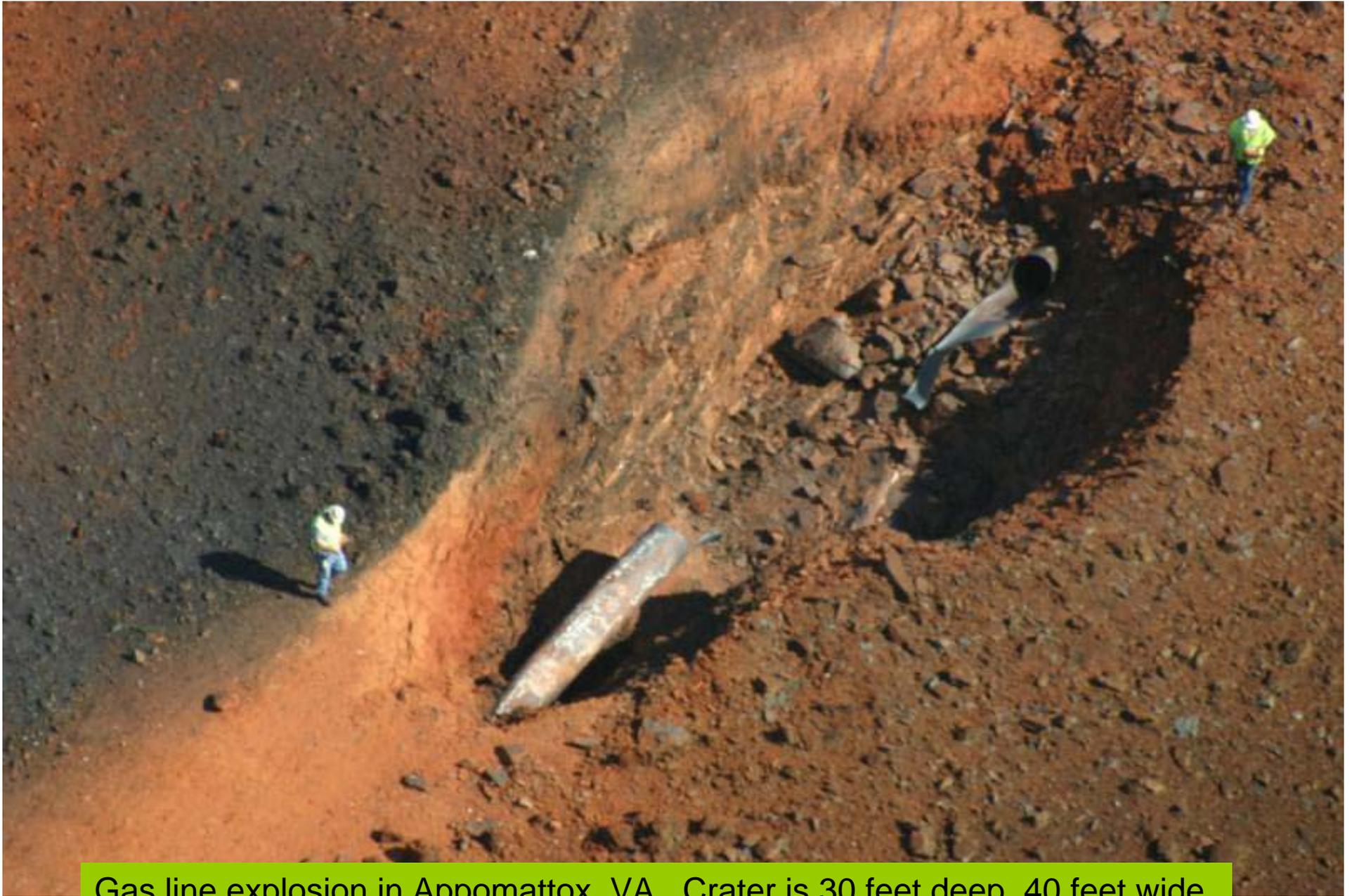
“We just need to do a little digging around the museum... why call, I mean what could happen out here in John Day?”

Silver Falls ranger digs a test pit out in the back 40 acres. No visitors are around, no overhead wires.... What could happen?

See next slide for what could happen!

6/19/2009





Gas line explosion in Appomattox, VA. Crater is 30 feet deep, 40 feet wide.

6/19/2009

Underground Storage Tanks

- Sometimes OPRD will need to determine if a former mill site, gas station or private dwelling used an underground storage tank (UST's) and determine if it is still onsite.
- Based on records, interviews and site planning you may believe the tank was removed, however, the OPRD Engineering Division may want you to be SURE!
- Commercial companies should be called in. Many use Ground Penetrating Radar (GPR) to determine the presence of underground storage tanks.

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They said the tank was about 5 feet from a tree that used to be about here... ☹



Underground storage tanks can be found anywhere!

- Once on site, GPR can survey the entire area and determine if the tank has been removed. In many cases the tank may have been removed, but they find the original vent piping and electrical conduits still in the ground.



Many a concrete slab has been ruined by pouring over an underground storage tank, and then it rusts out...

As the ground settles, water lines break, sewer lines fill in...and it doesn't get any better with time.



Recent Beverly Beach project. The utility company located the underground utility lines from the power pole to the meter on the building. When the contractor was digging a trench to the building they hit a de-commissioned gas tank that was part of a gas station that was on the site before it became a park,... 35 years ago! A long time employee (now a Region Manager) confirmed that yes, there was a tank there, that they filled with water and covered over. The tank was still filled with fluids. Park staff rushed out to stem the flow back in to the trench with absorbent pads. Fortunately the clay soil restricted ground contamination. Today's DEQ disposal procedures were followed (that were non-existent years ago) then they were able to continue the project!

Are you excavating when you use a sledge hammer?

- Recently an Oregon contractor was installing a new sidewalk and replacing some old sections. This required the removal of the old failed sidewalk, and the removal of about 6" of the soil to properly prepare the sub grade, rock and compact the area.
- The contractor, having heard of the "call before you dig" laws, knew he needed to call and LOCATES were done prior to beginning work.
- Once they removed the old sidewalk, excavated the new area, placed rock and compacted it, it was time to set the concrete forms. Normally they use short form support stakes. The person setting the forms noticed loose rock in a couple areas, and the short stakes would not hold well, so he replaced them with longer stakes and drove them deeper to insure that they where "solid".

Sledge and stake contact city water line!



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Interviewing the worker...

- The worker said that the ground got real hard, so he got the big sledge hammer instead of the normal hammer.
- He was surprised when he hit the stake good and hard, water shot out of the ground, right next to the stake.
- **He said he noticed the blue paint on the water meter box about 2 feet away, but figured the water line was deeper**, besides the stake was small, and he had never hit anything before.
- Lucky for him it was only a water service line and he got to go home only a little bit wet at the end of the day.
- Had it been an Internet Service Line, he could have been charged about \$10,000 per hour until it was fixed.

All these pictures are from the Oregon LOCATE website!

Note location
of water
shutoff box.
What do you
suppose is
buried in line
with this
box?



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Fire!

- On April 12, 2007 a contractor working in Keizer, OR. was amending the soil with a large dozer sized tiller. While tilling the operator ran into a 6" poly gas main shredding approximately 22 feet of the main before the gas migrated into the tiller's engine compartment igniting the escaping fuel.
- This contractor failed to call 811 for locates.



- The operator was injured by the fire while escaping from his tiller and one other employee was injured rushing to help the operator.



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The Worst Case Scenario

- The following slides depict a worst case scenario. Although not a Call Before You Dig situation, gasoline and natural gas pipelines run underground all over Oregon.

On Sept 14, 2008 a natural gas pipeline rusted through and exploded. Note the depth and size of the pipeline.



- The explosion created a 30-40 ft. crater, and threw debris ¼ mile.
- Fortunately no one was killed.



Appomattox, VA Gas Line Explosion

<http://www.appomattoxnews.com/2008/appomattox-gas-line-explosion-part-ii.html>



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Source: <http://www.snopes.com/photos/accident/gasmain.asp#photos>

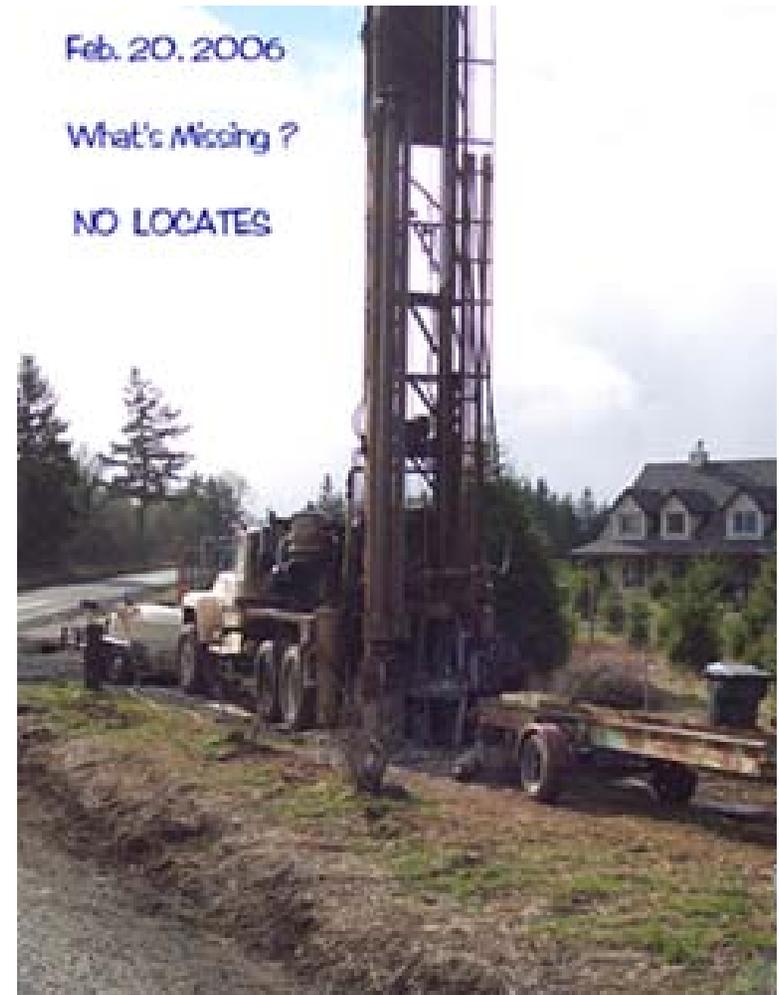
A well driller, or ranger with a backhoe could just as easily have created the previous situation in Virginia.

A well driller was about to drill in Polk County and discovered the property owner had not called for a Locate!

A buried underground electric primary conductor was between them and the edge of this road. They DID NOT know that at the time they began drilling.

Whenever you are excavating around a right-of-way or easement, you “SHOULD SEE LOCATE MARKS”

Source: “They did What!?” , Call before you dig website.



Two examples of recent OPRD projects:



Devils Punchbowl. This trench cuts across a public road that contains 2 drain lines and a public water line running parallel to the road. The contractor is an OPRD contractor. OPRD is installing 9 power conduits and 2 water lines across this road. Locate wire was installed with our installations.

OPRD will have to “locate” our lines anytime the public utilities do work through this section of highway.



Bradley Wayside Rest Room. The orange paint is the location of the existing OPRD-owned power supply line which goes through the center of the **proposed** wastewater treatment facility to the rest room where this picture was taken.

Oregon Utility Notification Center website and phone number

- <http://www.digsafelyoregon.com/index.asp>

Or, call 811.

OYA OFFENDER JOB TRAINING MODULES

MODULE 3-03T	BEFORE YOU DIG TEST
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True/False:

1. _____ You must call Locate before you dig deeper than 6'.
2. _____ The Locate service will mark underground utilities within 24 inches of the line.
3. _____ Once the line is on OPRD property, and past the public distribution box or meter, it is our responsibility to locate the lines.
4. _____ No one can find underground storage tanks without a site map.
5. _____ Plan on at least 2 weeks for Locate to come out.
6. _____ Cable and internet lines don't need to be located since they are all above ground, and out on the power pole.
7. _____ You must tell Locate if work will be done within 10 feet of an overhead lines.

Discussion Questions:

1. What should you look for or do to prepare for a call Locate?
2. What type of inherent hazards does digging without Locate involve?

Employee's Name: _____ Pass ____ No Pass ____ Date _____