

How to Protect Trees During Underground Work



from the **TREE CITY USA® BULLETIN**

Damage to roots can cause the sudden, tragic fall of a tree during even a light wind. More commonly, however, root damage leads to the slow, insidious decline of otherwise healthy trees. In either case, this unnecessary risk to life and property and loss of trees can be prevented by using proper procedures during underground work.

How Tunneling Works

Tunneling is an increasingly common tool used by electric, gas, telephone, cable TV, and other industries to install and maintain pipes and transmission lines. The highly mobile equipment can produce hole diameters of 2 to 47 inches. Terminology varies, but boring, moling, and trenchless technology are some of the other names used for tunneling. Regardless of name, the methods used fall into one or a combination of three basic procedures:

COMPACTION

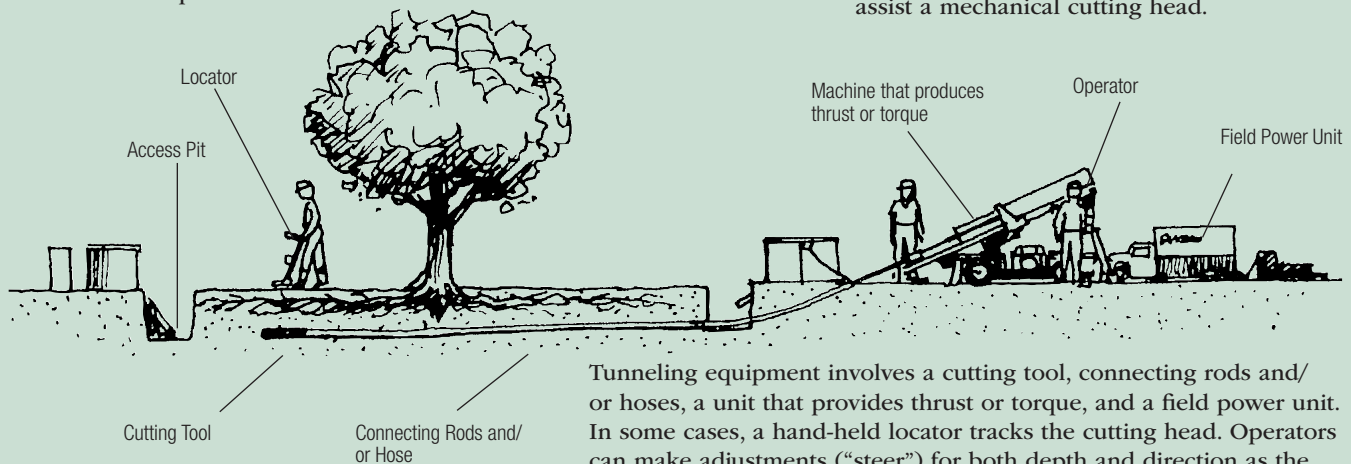
Pneumatic/hydraulic equipment forces a piercing tool through the soil, displacing or squeezing soil to form a void.

EXCAVATION

This method has been around for more than 30 years. Tools are more sophisticated now but essentially involve a rotating auger that drills through the soil and pushes spoil material out behind it.

WET BORING

In wet boring methods, water or some other fluid is either used as the cutting agent or to assist a mechanical cutting head.



Tunneling equipment involves a cutting tool, connecting rods and/or hoses, a unit that provides thrust or torque, and a field power unit. In some cases, a hand-held locator tracks the cutting head. Operators can make adjustments (“steer”) for both depth and direction as the tunneling proceeds. Accuracy of some methods is within inches of a target (usually an access pit) at the end of the tunneled span.



OTHER INFORMATION IN THIS HIGHLY ILLUSTRATED BULLETIN:

- When tunneling is not possible, techniques that reduce the impact of trenches
- The truth about where roots grow
- Examples from city ordinances that protect tree roots
- And much more

Tunneling equipment may be owned by a utility or construction firm, or available — complete with operators — on a contract basis. Equipment can be matched to virtually any soil or site conditions. Left, tunneling equipment that requires no access pit. Right, equipment that begins in an access pit, but that is narrow enough to fit into the end of the trench. Eliminating or minimizing access pits near trees is another way to reduce root damage.

Courtesy of Ditch Witch®



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