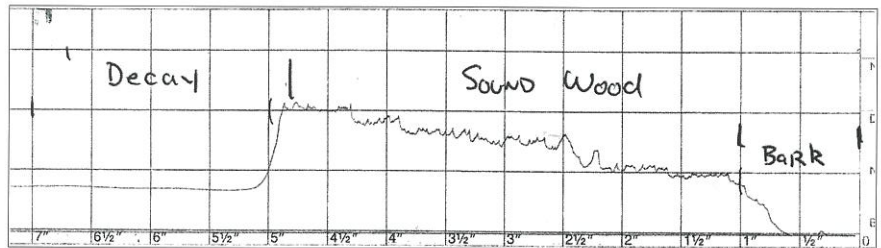


## ADVANCED DECAY DETECTION USING THE RESISTOGRAPH

### WHY TEST FOR DECAY?

Wood decay in shade and ornamental trees is the most common disease in the urban forest. Decay and other tree defects can result in failure of branches, large stems or the entire tree. Importantly, not all trees with decay require treatment. The presence of decay does not necessarily mean that the tree is hazardous or requires treatment. More important than the presence of decay is the location and amount of decay.

In many cases, visual assessment of decay, simply sounding with a hammer, or probing with a sharp tool can provide adequate information to judge the amount of decay in a tree. However, because decay is often hidden internally by the bark, more advanced tools may be needed to make better judgments on how much decay is present.



*Labeled Resistograph chart.*

**SYMPTOMS OF DECAY:** There are many symptoms or indicators of decay in trees. A few examples include cavities; decayed branch stubs; loose or missing bark; fruiting bodies of wood decay fungi on roots, the trunk, or stems; or the presence of carpenter ants. These indicators do not tell how much decay might be present in a tree.

**CAUSE:** Wood decay in trees is caused by a closely related group of basidiomycete fungi that can digest the cellulose and lignin components of wood. These fungi may fruit on a tree in the area where the decay is present.

**SOLUTION:** The first step in the treatment of trees with indicators or symptoms of decay is to make an assessment of the amount of decay. If visual observation, sounding or probing techniques cannot adequately provide enough information, more advanced techniques may be needed.

The Resistograph is a relatively new tool in arboriculture that provides a means to assess and document hidden decay in a tree. This tool has a very small (3 mm), non-spiraled bit that can probe areas in the tree where decay is suspected. The distance the bit has traveled and the resistance to the bit are recorded on graphs. Reading these charts allows your Davey arborist to determine the presence and amount of decay in a particular location.

Once an evaluation of the amount of decay in a tree is made, treatment options can be developed. Unfortunately, there are no treatments to stop decay once it starts inside a tree. Treatments such as removal, pruning, cabling, bracing or moving of the target (what the tree might hit if it or a part of it fails) are potential options that can be developed with your Davey arborist.



*Drilling into a sycamore with a Resistograph.*



*Fungal conks indicate internal decay in a tree.*