

Relocation of 100-Year-Old Dogwood — Cooperation Between Public and Private Entities

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INTRODUCTION

This is a story about the physical act and skill required to move a massive one hundred year old dogwood out of season. The successive transplanting of this specimen dogwood was the result of the cooperation and collaboration between several public and private entities. Equally important was the tremendous public relations that was generated from the effort which greatly benefited the nursery industry and the Huntsville Botanical Garden.

BACKGROUND

On March 27, 1995, a local citizen called the Mayor's office of the City of Huntsville with a complaint. She wanted to know why the City was not going to try and save the beautiful flowering dogwood (*Cornus florida*) from the path of bulldozers as they were widening an existing roadway. The Mayor gave her a very candid answer — he did not know why and he would look into this matter. Mayor Hettinger contacted the City Arborist, Chuck Weber, and asked Mr. Weber to investigate the situation. Weber visited the construction site and indeed found a magnificent dogwood standing 6.7 meter (22 ft) tall with a wingspan of 18 meter (45 ft) about to burst into full bloom. Also, he saw the bulldozers from the construction crew about to make firewood of this beautiful tree. Immediately three problems were apparent:

- The road construction was a state of Alabama project, not a city of Huntsville.
- The time to act was very short.
- The city did not have the equipment or expertise to successfully handle the relocation.

Weber reported back to the mayor his findings and called me at the Huntsville Botanical Garden for a second opinion. I serve with Weber on the Huntsville Tree Commission, a committee established by the city council to promote urban forestry in our community. I concurred with Weber's observation that we were unable to handle the relocation without outside consultation and expertise. Weber recommended to the Mayor that he bring in a consulting arborist he knew from Tennessee who had vast experience in the process of moving such a tree. Steve Clark of Brentwood, Tennessee, agreed to visit the site and develop the process of how such a project could be done if deemed feasible. Clark's arrival on site found the tree in full bloom and he was impressed with the beauty and grace of this old dogwood. Clark has been involved with many large-scale tree moving projects across the country, primarily with the Wal-Mart corporation after they have purchased a site for constructing a new store. He stated that the tree was worthy of saving, that there was a 90% to 95% possibility that it could be transplanted successfully. He estimated that the cost might be up to \$30,000, depending upon the level of local cooperation. With this report in hand, the Mayor chose to proceed and announced at a press conference the intent to save the dogwood.

PREPARATION

As consulting arborist and project manager, Clark began to layout the resources needed to undertake the move. He contracted the company, Environmental Design of Houston, Texas, to actually transplant the tree. Environmental Design has expertise in the field of transplanting large trees and Clark had worked with them in the past. The Tree Commission and the division of landscape management of the city of Huntsville developed a plan to raise money through local elementary schools for the project. Flyers were prepared for distribution to every classroom in K-5th grade. The city of Huntsville was able to persuade the state of Alabama to give us some time to move the tree and 30 days was granted. The week of 10-13 May was chosen as the target. This fit the work schedule of Environmental Design and also allowed the tree to finish flowering and to harden off the new foliage. A list of additional resources was compiled by Clark and we set about to line up the needed equipment to complete the move. This included dump trucks, track hoes, a crane, a house-moving trailer, bucket trucks, and a gas-line tunneler. Publicity went out to the local schools, and the school children gathered there coins in each classroom. Meanwhile, Clark and Weber developed the plan of action which had to be implemented in a very short window of opportunity.

PROCESS

As 10 May 1995 arrived a meeting was called for all individuals participating in the project to meet and plan the following 2 days. Clark outlined the process and made sure everyone understood the plan. To make matters worse, the weather was beginning to turn inclement. Severe storms were predicted for the following day. To combat this, we immediately sent heavy equipment out to the site to remove topsoil from the area to use at the new site and to cover the area around the tree to keep it as dry as possible. The following day, the first order was to lift up the arching branches of the dogwood. We did not want to remove these branches for they added so much architecturally. The branches were pulled up off the ground with rigging. Next a backhoe began removing soil outside of the drip line to a depth of 1.2 m (4 ft). The digging was done completely around the tree, creating an island on which the tree was still resting. The digging crew then shaped the root ball by hand and wrapped the prepared ball with burlap and hog wire. The next step was to drive 4-in. steel pipe under the root ball, spaced 2 ft apart. This was done with a pneumatic gas line mole. One had to be very careful to drive these pipes in level in order that they did not destroy the root ball. The pipes were necessary to take the weight off of the root ball when lifting with the crane. After all the pipes were in place, a steel cable was placed under the pipes and pulled across the root ball to slice the roots below the pipes. Cables were attached to the steel pipes and hooked to a 72,727-kg (80-ton) crane. The crane was able to lift the tree quite easily and place it onto the bed of a house moving trailer. The height from the road bed was critical at this juncture for we had numerous traffic lights and power lines to cross on our 5-mile trek from the digging site to the transplanting site at the Botanical Garden. The tree on the flat bed was 7.6 meters (25 ft), which was too tall to drive under most electrical power lines. The Transportation Department was able to push up most of the traffic wires without having to disconnect them at each pole. With a police escort the tree set off on its journey at a speed of 5 km (three miles) per h.

At the Garden, we had selected an appropriate site for planting — one where the dogwood tree would be seen by all our visitors. Also, we were very sensitive to the

cultural needs of the tree. We literally planted the dogwood on top of the ground and placed the topsoil from the original site around the root ball. This insured adequate drainage in our clay soils. We mulched the whole root zone area out to the drip line with wood chips and installed a drip irrigation system. This whole process from initial digging of the root ball to final mulching took 30 h.

AFTERCARE

Since we moved the tree on 13 May 1995 we were very sensitive to the moisture requirements of the newly transplanted tree. We discussed placing a mist system in the tree to syringe the foliage intermittently. Due to the fungal leaf problems associated with dogwoods we did not do this procedure. As an afterthought, we added two soil moisture meters to monitor the root zone. This proved to be the smartest thing we did in taking care of the tree. The ensuing summer proved to be the hottest and driest in many years. I am convinced we would have drowned the tree if we did not have the soil tensiometers present to accurately tell us the moisture of the root zone. Due to the mulch layer and shading of the root zone by the canopy, we did not add additional water after the initial planting throughout the summer. New growth initiated in June and a heavy bud set was initiated in September. The Winter of 1995-96 was one of our coldest in years, but the tree was not affected. Easter week of 1996 brought out the blossoms and the whole community trekked to the Garden to see the tree which was saved from the bulldozers.

SIGNIFICANCE TO THE INDUSTRY

The moving of a tree this size is not something that is unique. Larger trees have been moved successfully. The real significance of this project was in allying oneself within the community. The media exposure was phenomenal. Everywhere I went, I was asked about the tree and how it was managing. It offered a platform in which to promote horticulture, gardening, tree planting, and care — without paying for it or sounding like a commercial. This offered a wonderful opportunity to educate the public about dogwood anthracnose without sounding defensive and protective of future sales. It exposed future gardeners, the school children, to the importance of trees and tree planting. I believe all who participated reaped much greater benefits than the level of their in-kind contribution. It is important that we be inventive in our promotion of the nursery industry, landscape horticulture, and gardening.