

# Tree Salvaging Requires Skill, Patience

by Jennifer LaForgia, Southwest Lawn & Landscape June 1988

When a desert tree grows to be large and healthy it is a triumph of nature representing decades, even centuries, of slow steady development in a region of fierce sun and little rain.

Until recently, it was assumed these jewels of the desert were unsalvageable because of their deep, extensive root systems. When land was scheduled for development the trees, shrubs and cacti, one and all, were casualties of the bulldozer's blade.

This is no longer the case. With the determined foresight and caring expertise of a few people in Arizona the business of salvaging the desert's mature, native trees is a thriving enterprise that has resulted in a new law and is changing the way some developers approach construction in the desert.

Although there is controversy about who deserves credit for starting the successful salvage of the desert's large trees it is generally agreed that Phil Hebets of Phoenix first conceived the idea and Don Fedock of Ajo, Ariz. was the first to successfully box a specimen.

In 1979, Phil Hebets started a landscape company, Sonoran Desert Designs, to create rugged, natural-looking landscapes with plant material native to the Sonoran Desert. However, in trying to recreate the desert Hebets became frustrated because no mature native trees were available. Until that time no one had been successful at transplanting them and, because of the difficulty of growing natives like mesquites and Ironwood, it was not



*Don working on tree removal*

feasible for nurseries to sell them. Hebets had heard of creosote being salvaged in five-gallon containers and decided to try it himself.

"There was a property to be 'scraped' in Carefree (AZ)" Hebets said, "and I had an opportunity to remove plant material before they cleared the land. I tried to salvage creosote and to prune them to preserve the shape of the plant. I took about a half-dozen plants in 15-gallon containers." "After that," Hebets said, "I talked to a friend (Don Fedock) who has property in Ajo and I persuaded him to dig one blue palo verde. After that at 104th and Shea in Phoenix there was another parcel to be 'scraped' and I asked Don to come up from Ajo and box six trees-the largest had a four-inch diameter trunk and we put it in a 36-inch box."

Since this time Fedock, who works independently, formed Don's Desert Digs to salvage trees and train others to do it. Those first trees, the blue palo verde and the mesquites from Shea and 104th, are still alive and healthy in a miniature golf course in Casa Grande, according to Fedock, who checks their progress from time to time.

The 4-inch-diameter mesquite represented a milestone in the business of salvaging the desert's trees; it was a large tree that was successfully boxed. From this point Fedock and Hebets, who were friends in high school and roommates in college, cooperated to salvage larger-and-larger trees. Once saving trees proved to be a viable process Hebets was able to use them in his landscapes giving his work the look of established desert gardens. On seeing his landscapes one might think the structures and buildings they enhance had been magically transported and set down in the natural desert.

This work earned Hebets, who has no formal landscape training, a contract to do re-vegetation on the innovative Desert Highlands project in northern Scottsdale. Desert Highlands, based on an early creative plan by the Frank Lloyd Wright Foundation and Gage Davis Associates, is an 850-acre planned community with hillside villas, golf cottages and an 18 hole Jack Nicklaus-designed golf course.

Arizona developer Lyle Anderson wanted to spare no effort in saving the desert and hired Hebets in 1982 to salvage the trees and plants that would be disturbed by the road construction necessary for the development. At

that time Hebets enlisted another longtime friend, Al Dunstan, who had an accounting background, to create Desierto Verde Inc., an organization specializing in the salvaging of large native trees, mainly ironwood, mesquite and palo verde. Desierto Verde and Sonoran Desert Designs were separate entities but worked hand in hand on the landscaping of Desert Highlands, the former salvaging and moving plant material for the latter.

Today, Desierto Verde employs approximately 100 persons and has a sales volume of \$2.4 million, with the tree salvage business accounting for 71 percent of this figure. Not only did the successful salvage of the trees result in a new business. It resulted in Scottsdale's native plant law passed in 1981. The law requires developers to save a certain percent--native trees such as mesquites, palo verdes, ironwood, cat claw, acacias, crucifixion thorn, desert willow and desert hackberry.

Daryl Workman, who review landscape plans before they go to the boards and commission of the City of Scottsdale said, "On a site with a hundred trees under normal circumstances, 80 percent are salvaged and then 80 percent of these survive.

"Desert Highlands was a testing and training field for digging and moving desert plant material. Dick Frye, development director at Desert Highlands said, "Everyone involved went to school on Desert Highlands. We knew what we wanted to do, but we didn't always know how to do it."

It was here that Fedock, with Hebets, oversaw the salvage efforts and perfected the process for salvaging trees. Desert Highlands served as a prototype for environmentally sensitive developments. The developer's willingness to spend an estimated \$35,000 per acre to salvage, move and preserve the desert is evidence of this.

Since 1982 the methods used at Desert Highlands have been used at Desert Mountain in Scottsdale and Ventana Canyon and La Paloma in Tucson. Since Desierto Verde began the business of tree salvaging, it has been retained by other landscape installers, who eventually added tree salvage to their businesses. The Hubbs Bros. In Phoenix are now working on the Desert Mountain planned community in Scottsdale and in Tucson SWCA Inc. handles the Tucson area.

They all use the same techniques developed by Fedock and Hebets. When the process is properly done the tree survival rate is from 80-90 percent. In digging a tree Fedock insists there are several key procedures that contribute to a successful salvage effort. First, the tree's foliage must be reduced by 50 percent or more to lessen the burden on the root system.

Maurice Bosc, head of salvage operations at Desierto Verde, insists that the extensive pruning or as he calls it "sculpting" of the tree can improve the look of the tree once it's transplanted and begins to re-foliate. Once the tree is pruned, the digging and boxing of the tree must be done in two states Fedock said. Adding that when this is done in one shot, the tree is likely to die from shock. After digging a trench around the tree and trimming the roots, Fedock said, "I put four sides (of the box) on and then leave the tap root and the lower roots in-tact. Then I leave the tree for two to three weeks to water and fertilize it and give the roots a chance to grow within the box."

"Generally after this it recovers and is growing new roots in the box. Then we can go in and cut the tap root." The bottom roots are cut by first tunneling under the tree's side box--the boxing, sometimes one board at a time. The box is banded both horizontally and vertically to keep the root ball tight and secure. Hebets whose engineering background has been a great asset in the moving of boxed trees that weight up to 50,000 pounds, said the whole process of digging and moving the tree has been develop with the aim of keeping the root ball intact.

"Anytime you expose roots to the air you decrease the chances of success." Hebets said. Once the tree is fully boxed and banded it is moved with the help of a backhoe, loader or a crane, depending on its size. When installing a salvage tree, Hebets said, "Using a crane to install the tree allows you to position the tree any way you want it and really finesse its placement.

"Once a tree's root system has been curtailed to such a degree frequent watering becomes essential. "While the tree is in the holding yard we do a deep soaking every 4-5 days and in July three times a week. One must keep up this intensive watering program for a long, long time after the tree is transplanted." Bosc said.

The cost of performing this service varies depending on whether the tree is to be dug and salvaged at the same site or not. Hebets said. But, when the tree stays on the development site the cost is usually between \$60 and \$75 per caliper inch. Desierto Verde has salvaged not only saguaros, but mature legumes, such as mesquite and blue palo verde that were previously thought sure corpses when their tap roots were severed.

The trees and cacti deemed in good enough shape to save were boxed up, moved out of the way of construction and are being repositioned as building is completed.

The advantage of landscaping with mature trees and cacti is obvious there's no waiting for 20 years to achieve the look you want. Also, disturbed wildlife is drawn back into the mature foliage more readily than it is drawn back into the small nursery stock used in standard landscaping, even when the nursery trees are native varieties.

It should be noted that re-landscaping with non-native plants the likes of the live trees and eucalyptus trees favored by developers in the past means that native wildlife populations are driven from a site forever, Cactus wrens won't nest in California pepper trees.

At Ventana, SWCA began by taking an inventory of the wildlife and vegetation on the land to be developed. SWCA was called in before site development began to determine what environmental impact would be associated with development and to come up with a plan to lessen that impact. The goal was to retain as much as possible the native vegetation and wildlife on the tract. Carothers looks at the approach as finding a way to balance the wildlife budget. That is, to have as much native vegetation and wildlife after development as before. The riparian plant and animal community associated with a seasonal waterfall and creek on the property was particularly pinpointed as an area to leave as undisturbed as possible.

From the start, the Estes Co. was committed to environmental sensitivity on the Ventana project. It has been suggested the company took this tack to avoid the problems and the negative publicity associated with certain other large developments in recent years. Estes wanted the Ventana development to look as if it had been set into the surrounding landscape, not imposed on it. It was assumed as work began that a certain portion of the terrain was going to be destroyed in the process of construction.

Carothers' crews were on site helping limit damage as the main road was cut back toward the Santa Catalina Mountains. Then, the whole complexion of the project changed when a longtime Carothers employee called his boss in tears. "He just couldn't stand seeing the mesquites mowed under for the road," Carothers said, "even though they were cutting the absolute minimum swath necessary. He said, 'We just can't do this.' "Carothers had begun checking around for suggestions on how to move the big trees before work got started. He was told by a variety of experts that it just wasn't possible. When the situation got critical, Carothers redoubled his efforts to find a way to save the trees, and was finally put in touch with Don Fedock of Phoenix.

"He's the Johnny Appleseed of Southwest trees," Carothers said, "a former electrical engineer who quit to push tree salvage." And his technique works. His life's goal is to spread the word. "We are now guaranteeing 100 percent survival of the big trees we move.

"The beauty of all this is that saving the existing trees is right in there with the cost of re-landscaping from scratch after construction around \$8,000 to \$11,000 an acre. The message I want to get across is why not do this? Why not save the natural vegetation? It's cost effective, especially when you consider that the project can then be marketed as one displaying a great deal of environmental sensitivity. Charge for that environmental sensitivity. Go for it."

Carothers noted that at Ventana Canyon the conservation ethic has produced amenities that are far more appealing than anything that could have been dreamed up. Loews Ventana Canyon Resort, for example, has been positioned so the waterfall-and-creek habitat serves as its highly unique centerpiece. It's essentially a 10-acre nature preserve.

Walkways have been introduced so guests can wander through a beautiful segment of desert up to where the waterfall plunges from the mountain. The waterway has been augmented with a pumping system so it will flow year around. And mature plants moved from the building pad have been reintroduced to blend the near-in hotel landscaping into the wildlife area.

Each homesite in the Ventana Canyon development comes with its own biological survey, so that its vegetation and wildlife budget can be balanced after construction. Homeowners will not be allowed to introduce non-native plants into their landscapes except in courtyard areas.

There are contradictions here, and Carothers is well aware of them. "It's a little difficult to talk about

environmental sensitivity and be looking out over a golf course," he said. "All I can say is they really worked with us in deciding on where trees should be replaced and where greens had to be situated. We have maintained the basic wildlife habitat we had before."

Since the hotel opened, a problem has arisen with the narrow drive and limited parking designed to protect the surrounding natural landscape. Bottlenecks have held up meetings for large groups, however additional parking is planned around the exhibition hall and athletic club still under construction.

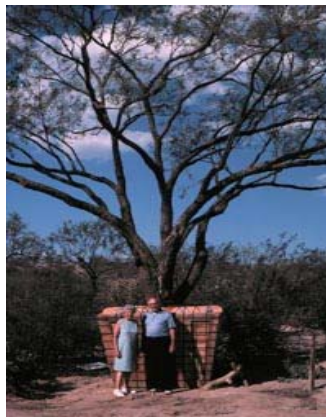
Carothers, who has begun work on a number of other Tucson projects for other developers, hopes that in the future his work can take on a retail nursery aspect. On at least one project that is currently under way, the developer is interested in saving only the 50 percent of the natural vegetation required by his zoning. Carothers hopes to be allowed to salvage all the trees he possibly can and resell those the developer doesn't want to homeowners or other developers.

He also is hoping to be able to get some movement on the granting of tax credits to developers who undertake vegetation salvage as part of their development package. The tax credit incentive, he feels, would make the process more appealing to small businesses that don't have the money up front to come in and begin boxing and moving trees. Many times, landscaping is put off until sales on a project have generated a landscape allowance.

"If this catches on," Carothers said, "we can save islands of natural vegetation all over town. Imagine the difference it will make if the thing to do becomes integrating structures into the desert, instead of imposing them on it." The Estes Co. considers itself a leader in preservation habitat while building large-scale planned communities. Dennis Wall and Doug Noll work with the Estes Community Development Division. Wall, a muscular Vietnam vet whose passion is summer fast-pitch softball, is proud they are saving wildlife corridors with ridge development designs that leave slopes and washes natural.

Noll especially is proud of the Ventana Canyon project at the base of the Catalinas near Sabino Canyon. It combines an internationally recognized Lowes resort and golf course with residential sites. "We spent a fortune preserving vegetation and habitat to prove it could be done," Noll explains. "We inventoried every saguaro and mesquite and replanted everything we removed. We'd been told that you couldn't harvest palo verde and mesquite from the building site. We worked with consultants who showed us how to box trees as we worked, and then re-vegetate on site."

Importantly, the building sites themselves were fenced off so the surrounding vegetation was protected. "If anyone got out of the construction area they were fired," Noll said. "It was the strict, and that careful, and it worked." Dramatically successful, Ventana is one of the most beautiful examples of environmentally integrated modern architecture in the country.



Photos not included in the article.