

'Building' the **TREES** You **NEED**

DON ROMERO



Preserved *Washingtonia robusta* create a rain forest setting at the Mirage Hotel and Casino in Las Vegas.

In addition to helping the environment, preserved palms offer numerous advantages for interior landscapes — from easy installation to reduced maintenance costs.

By Patricia Scullin

Producing a lush, tropical setting inside a Las Vegas casino can be as unpredictable as rolling the dice. While creating the atrium at the Mirage Hotel and Casino, Lifescapes International of Newport Beach, CA, encountered some unexpected difficulties, such as the design drastically changing near the time of completion. To compound the situation, installing the plant material for the revised design would require major engineering feats, in addition to some help from Lady Luck.

Originally, Lifescapes International had specified banyan trees (*Ficus benghalensis*) for the atrium. During the construction, however, the owner decided he wanted to use something else. Since the building was almost finished, Lifescapes International now faced the problem of getting trees of any substantial size in through the doors. For help, the company turned to Preserved Treescapes International (PTI) of Oceanside, CA, a company that specializes in creating preserved palm trees.

Turning Chatter into Profit

A chance conversation with his boss led Dennis Gabrick into a \$6 million business venture. In 1984, Gabrick was working in California for a Swedish electronic lighting equipment company. One day his boss brought in some preserved plant material from Sweden to brighten up the office. This led to a discussion about the material and how it was preserved. Later, when the preservation solution's inventor, Per Monie, was transferred to the US, Gabrick became friends with him. As their friendship developed, Gabrick began to realize the potential that Monie's solution provided for interior plants. Initially, the two experimented with small-leafed plants, such as bamboo, beech and birch trees. Whole trees, however, had to be cut down in order to preserve them, which seemed wasteful to Gabrick. In addition, those early preserved products weren't stable enough to hold up in all environments. Dry climates made the leaves curl up, and humid locations caused the leaves to droop and sag.

Even after Monie returned to Sweden, Gabrick persisted and worked with the formula. "I wouldn't call the earlier work a failure," he says. "[It was] more of a disappointment."

Turning away from small-leafed plants, Gabrick focused on preserving palms and finally met with success. He founded Preserved Treescapes International (PTI) in 1991 in Oceanside, CA, and began producing trees from bark and palm fronds harvested from growing specimens. Since that time, Gabrick has seen PTI's palms go up in shopping centers, hotels, casinos, airline terminals, retail stores, restaurants and other locations around the world.

Early on, PTI faced several challenges in the production process. The fronds, for example, died quickly once cut. Attempts to extend the window for frond freshness included the use of air freight and dual-driver trucks, neither of which was satisfactory. Consequently, PTI determined that production facilities need to be close to the source of palms. Vito Milano, vice president and general manager of PTI, says, "As a matter of fact, that was one of the decision-making factors in locating the business in San Diego County. There are hundreds of thousands of palm trees in the ground being grown for exterior use."

As growth continued, this same factor led to the establishment of a second production facility on Pine Island, on the southwest coast of Florida. The facility in California is 45,000 square feet and has five production rooms, each about 1,200 square feet. The Pine Island location is 4,000 square feet and has two 1,200-square-foot production rooms.

Over the years, PTI's research and development department, which is headed by Paul Gaede, has determined the acceptable environment and amount of preservation solution for different types of palm fronds, considering the time of year and the variety of palm being preserved. "Paul's primary job is [conducting] constant research into new products and making the current ones better, as well as [ensuring] ongoing quality of existing products," Milano says.

The ability to create palms and fronds according to a designer's vision has resulted in some unusually elaborate designs. A recent project in Pusan, Korea, has palms with fronds that are shaped in a whimsical, fantasy style. The project — which contains a shopping center, an indoor amusement park and hotel complex — features 45 palm trees that range in height from 20 feet to 74 feet. The trees, some of which have internal lighting, include Mexican fan palm (*Washingtonia robusta*), canary date palm (*Phoenix canariensis*), tropical date palm (*Phoenix*) and coconut palm (*Cocos nucifera*). The trees adorn a glass atrium that encompasses several levels.

One of the more unusual designs PTI has completed was for a videographic artist. The trunk of the tree resembled a woman's body with a television monitor placed in the center. The artist showed her videos on the monitor to attract attention. PTI took the idea a step further and now displays its own unit at trade shows, with a palm trunk in the shape of a soda bottle. Milano says future plans include an interactive display, for customers waiting in line at a restaurant or in a hotel lobby.

The preserved trees also work well when integrating the elements of both the interior and exterior landscape. John O'Donnell, assistant to the president of Parker Interior Plantscape in Scotch Plains, NJ, recalls that one of his most outstanding installations, at the Hilton in Phoenix, used preserved palms as a complement to live trees.

Washingtonia robusta, which are native to the area, were used outside the hotel, and preserved *Washingtonia robusta* continued the theme indoors. "These trees matched right up with the trees that were outside," O'Donnell says, "but the hotel did not have to spend a lot of extra time and money building a skylight and supplemental lighting."

From luxury hotels to upscale shopping areas, Gabrick's simple, chance conversation has led him to an exciting business, beautifying interior landscapes around the world. His persistence and determination has paid off in numerous ways. "What began as a disappointment," he says, "has turned out to be a growth area for us."



Left, top: The construction of the trees allows huge specimens to be installed indoors without using major equipment or altering the structure of the building.

Left, bottom: Even when placed under a skylight or in a glass atrium, the preserved palms retain their natural appearance without the foliage fading or curling.

Julie Brinkerhoff-Jacobs, executive vice president of Lifescapes International, contacted PTI to help create the rain forest effect that the owner wanted. PTI resolved the problem with preserved trees, creating a canopy over the entire atrium walkway by bending steel templates to shape and "building" a series of Mexican fan palms (*Washingtonia robusta*).

"You can actually shape the kind of palm tree you want," says Brinkerhoff-Jacobs. "It was a very difficult situation, but we were able to shape it to the specifications we wanted. That [option] hadn't existed before that project, so it was a big advantage."

Solving difficult problems and meeting unusual requests comes as nothing new for Preserved Treescapes. Everything PTI produces is custom-made, following architectural drawings or owner specifications. "Customization goes from [elements] as simple as height, all the way through a fantasy-type tree, if the designer sees that," says Vito Milano, vice president and general manager of PTI.

Building the Perfect Tree

To gather the materials for the preserved trees, PTI uses a method to harvest palm fronds and leaf sheaths — bark — from living trees without damaging the palm. Contract growers allow the harvesting of their palms' fronds and bark while their crop is growing.

This system works well for both PTI and the growers. The growers' crops are routinely pruned, and the trees remain healthy, growing until they reach a suitable height to be sold for exterior use. Instead of throwing away fronds or letting palms overgrow and become stunted, though, growers sell the foliage and bark to PTI for preservation.

PTI's production facilities are close to the source of living palms, which is critical to the preservation process. Although the bark is naturally preserved by Mother Nature, the fronds must be harvested and put into a preservation solution within hours. "You must remember that immediately upon severing that frond from the root system, it begins to die," says Dennis Gabrick, president of Preserved Treescapes.

Once the fronds are harvested, they are rushed in refrigerated trucks to a production facility. In environmentally controlled rooms, each frond is cut on the bottom to open up its capillaries. The cut ends are then submerged vertically in



troughs that contain the preservation solution, with sufficient spacing between the fronds to allow aeration.

The palm fronds drink up the mixture just as fresh cut flowers or Christmas trees continue to draw up liquid after being cut. "We actually coax this plant to exchange its natural solution with our preservation solution by creating an acceptable environment and solution," says Milano.

Seven to 10 days later, depending on the time of year, the fronds are moved to storage in environment-controlled rooms. They're placed on racks for four to six weeks, which allows the chlorophyll to dissipate, leaving behind only the preservation solution.

The solution contains dyes and chemicals to maintain a green color even under harsh sunlight, while leaving the fronds soft and supple, Milano says. Moreover, the solution reportedly makes the fronds fire retardant. "There's a fire retardant inside that meets all the codes for commercial installation," he explains.

In addition, the mixture is completely nontoxic, Gabrick says. "We use either food or cosmetic-grade chemicals to produce a completely nontoxic solution," he continues. "It's so nontoxic that we've received permission from [the city of] Oceanside to dispose any residual left after the process right down the sewer system."

After the storage period, workers perform a final quality check on the fronds. "We don't know why, but 5 to 10 percent of them don't preserve for some reason. If the solution didn't take, we know right away because we'll have a brown frond," says Gabrick.

In addition to preserving the fronds, PTI must create a trunk for each tree. There are different methods for creating the trunks. Each contains an artificial core, which is made of anything from plastic pipe to double-wall schedule 40 steel, depending on the type and size of the tree that's being produced. Mechanical banding is used to attach the bark, which receives a topical application of fire retardant. A high-density foam piece, called the palm head, is made according to the likeness of the tree that is being replicated and attached to the top of the trunk.

The foliage is then fastened to the palm head by male/female friction-fit couplings. The number of holes and the angles in the couplings are predetermined according to the type of palm being created. As a result, when the fronds are slipped into the receptacle, they are aligned to correctly replicate how the palm looks in nature.

The Perks of Preservation

Preserved palms offer a number of advantages for use in interior landscapes. Unlike live specimens, preserved palms don't need watering, pruning or fertilizing. They don't have any insect or disease

Two people can carry a 30-foot palm through a standard door. Three people can put it up within an hour.

problems. They won't outgrow their space or scale, and they won't die in a few years and require replacement.

Preserved palms also provide several economic advantages. While the initial cost may be higher for a preserved tree than for a live specimen, the long-term costs may prove more economical. A 15- to 18-foot preserved fan palm, for example, costs about \$2,000, according to Milano. A live specimen of approximately the same size will cost about \$1,500, he says.

After the initial purchase, customers may start to realize savings as soon as the installation process. Due to the construction method of the trees, no special transportation is required, and installation can be done by local qualified landscape contractors. The trunk and fronds are shipped separately, by common carrier, in corrugated boxes. Two people can carry a 30-foot palm through a standard door. Three people can put up the specimen in a lobby within an hour.

"The unexpected advantage [of using preserved palms] was the ease of installation," says John O'Donnell, assistant to the president of Parker Interior Plantscape in Scotch Plains, NJ. "When we first used them, we truly didn't know how easy they would be, but it's very simple."

Renovations in existing buildings are particularly good candidates for preserved palms. Since the palms can be carried in through the doors, cranes do not have to be used, and walls or ceilings can remain intact. Furthermore, expensive skylights and custom interior lighting do not have to be added. This, in turn, leads to savings on the general heating and air conditioning system of the building.

"By changing 12 live trees to 12 of our trees, we saved a project over \$4 million in architectural costs," Gabrick explains. "The floor load bearing didn't have to be what it needed to be using live specimens. The drainage and watering systems were eliminated. The skylights were changed, which changed the heat load in the building. We eliminated the ongoing maintenance costs and energy costs that would have been involved with a ceiling that allowed all the intense light for the large specimens."

Once inside, contractors can fasten a

tree by bolting it to a concrete slab. Then an aboveground facade, which looks like a deep well planter, can be built around the tree. The planter can then house individual containers of live plants, a practice that PTI encourages.

"The money that is saved in an interior landscape by not spending the money for ongoing maintenance could be redirected to seasonal underplantings. Seasonal color rotation means more to a building customer or consumer as they walk through than the ongoing maintenance of live trees," Gabrick points out.

Additionally, preserved trees are seismically engineered, which means if someone or something runs into them, or if there is an earthquake, they will remain standing. Because there's no root ball, they are considered the same as any other interior furnishing product, such as a light post, and must meet building code specifications.

"When you're bending a tree that goes over a walkway that's going to have thousands of people underneath it, you better make sure that the tree's not going to break over time and that it will support its weight over the years," says Gabrick. "So we make sure that anything we do is engineered structurally and seismically."

Preserved palms also create a uniform appearance and fit specifications exactly. "If someone needs 40 trees at 20 feet [high], we can produce them. No one has to chase around nurseries trying to find exact specimens that look the same," Gabrick says.

Finally, the palms provide a natural, realistic appearance, which often surprises skeptical customers. "The customer, because they hear the word 'preserved,' they aren't expecting the product to be as nice as it is. We've always been greeted with oohs and ahhs when we're done because I don't think they anticipate it to be as nice as the product really is," says O'Donnell.

Preserved palms offer a number of benefits for an interior landscape, from providing long-term cost savings to creating a mass of green foliage where live specimens cannot grow. "We get calls from clients that always want to put these magnificent gardens inside areas where there is no light," says Brinkerhoff-Jacobs. "If you want the landscape to look real, preserved trees are the best solution."

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