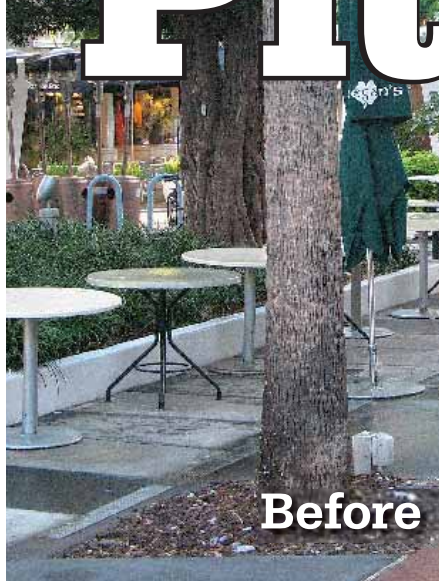


Perking Up The Pits



Before



After

A new method has been developed to help pave the way for palms to prosper in the city.

The City of Miami Beach launched a project to help beautify the city's rights of way and improve overall tree health by addressing existing tree-pit conditions.

By Paul Rusnak
Managing Editor

The ability to properly maintain green spaces in an urban environment can be quite challenging, especially as more cityscapes and greenscapes mix.

Despite the numerous issues facing sidewalk-bound trees, fixing existing tree pits is one of the most difficult challenges to remedy, according to Rhonda Gracie, landscape projects coordinator for the city of Miami Beach, parks and recreation department greenspace management division.

"The trees and palms are generally located in small pits usually no larger than 6 feet by 6 feet with no room to expand them," she says. "Most of the trees were originally installed with traditional concrete or cast-iron tree grate surrounds that have uplifted or have embedded into the plants."

The pits, while serving a purpose, tend to be magnets for trash and cigarette butts, which adds to maintenance difficulties.

"Most of these pit treatments have been replaced with loose mulch or stone, but still pose liability trip-and-fall problems when the material gets kicked out of the pits," Gracie says.

Pit Stop

To address the existing conditions of planting wells and help improve the public areas and rights of way around Miami Beach, a citywide project was put into action.

Though the project involves dealing with tight spaces, the scope is much wider, according to Gracie.

"These locations require planting-well treatments to allow for a safe, pedestrian-friendly, Americans with Disabilities Act (ADA)-compliant surface that also allows for the horticultural needs of the planted trees and palms," she says.

Rising To The Surface

Slips and falls caused by artificial turf, concrete, cast iron, and loose stone leaves few options in selecting a tree-pit alternative. Prior to Gracie's arrival, the city's previous landscape projects coordinator decided to see how AddaPave — a highly porous system using coarse natural aggregate bound with a special semi-transparent resin from Chameleon Ways (www.chameleonways.com) — would stand up. Gracie says the surfacing material was a good option as it has numerous applications, can assist with stormwater requirements, and can be used with Silva cells and structural soils. A test pit was installed near Lincoln Road — an outdoor mall area spanning 11 blocks in South Beach — and first impressions were formed.

"While the test pit held up really well and didn't settle like the artificial-turf product did, it also did not provide an adequate means to fertilize the existing trees and palms," Gracie says.

Nutrition Solution

The functional aspect of the pit was still a work in progress with Gracie now on the case. While taking a tour of the city during her second day on the job and observing the test pit, inspiration hit.

"It was kind of a 'duh' moment when I looked over and saw the French drain next to the pit," Gracie says.

The idea was to create a trench with holes in the bottom that could be used around the perimeter of the tree pit. Ac-

According to Gracie, structural supports in the trough allow for irrigation or conduit to suspend within the channel without clogging it, making this a more effective solution than traditional wains tubing.

"Our collective experience with wains tubes is they do not reach all the roots," Gracie explains.

Gracie adds that the supports also allow for cutting out a section of the trench from the bottom to go around existing raised

A trench cut with holes in the bottom is used around the perimeter of the tree as an irrigation alternative to wains tubing.

roots while retaining overall stability.

With her colleagues on board and approval given, Gracie searched for someone to bring the concept to life. She ended up collaborating with U.S. Foundry & Manufacturing Corp. (www.usfoundry.com) in Medley, FL, for product development.

"The idea/product was so well-received that it was approved by Public Works as a citywide standard for all the tree-pit treatments within the city's rights of way prior to the product's first installation," Gracie says.

Road Work

Although the combo-system might be a good fit for this project, Gracie cautions that, in addition to coordinating with multiple vendors, there are some caveats.

"Most challenges occur when retrofitting existing sites," she says.

Though the trench is designed to be



Photos courtesy of Rhonda Gracie

cut away to accommodate existing tree roots without compromising the integrity of the product, Gracie says this will not work in every instance.

"The bound resin needs to pitch and cannot be installed perfectly flat when roots are present," she says. Gracie suggests using an excavation tool like an air-spade when preparing an existing site to reduce root stress.

The tree-pit project started taking place in late December 2007. Gracie says she's happy how everything came together.

"The entire process from idea, budget, and product installation took 1½ years total," she says. "Not too bad for a city project." ■

Taking Advantage

Rhonda Gracie, landscape projects manager for Miami Beach, says there are a number of advantages the AddaPave/Healthy Tree Fertilization System tree-pit solution offers, some of which include:

- No tripping hazards
- ADA compliancy
- Attractive aesthetics
- Allows use of slow-release fertilizers
- Increased retention area and rooting space without compromising hardscape

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