

Story Of A Landscape: Texas Water District Garden Demonstrates Efficiency



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Any 16,000-square-foot landscape project is likely to be impressive based on size alone. However, the demonstration garden at the [Tarrant Regional Water District](#) main office in Fort Worth, Texas is much more than that.

Designed by the Texas A&M AgriLife Research Water University in Dallas, the goal of the demonstration garden is to show TRWD guests the best practices for designing lush, low-maintenance, resource-efficient landscapes.

The key is plant selection and placement, says [Water University](#) horticulturist Patrick Dickinson, designer of the demonstration garden. He says that gardens of regionally native or adapted plants help his group's mission of water conservation by consuming less water and fewer resources, thriving in the natural conditions of their home environments.

"Being on the design side of things, we're encompassing all those things to try to get people to be more efficient in the landscape," he explains.



Photo: Texas A&M AgriLife Research

The TRWD demonstration garden received the [Texas Nursery and Landscape Association](#)'s 2017 Bronze Award for special projects.

The project in Fort Worth began when TRWD officials approached [Texas A&M AgriLife Research](#) about designing a space where the public could see the water efficient plants and landscape designs recommended by Water University. Dickinson now calls the visual aspect of the finished installation an integral teaching tool.

"One of the things we've learned is we can talk until we're blue in the face, but if they don't have a visual, if they don't have something to look at and touch and feel, it's not going to happen," he says. "A lot of our courses have changed to be very visual and very hands-on. People can come (to the garden) and say 'Hey, I can do the exact same thing in my yard.'"



Photo: Texas A&M AgriLife Research

"I told them they needed to go big to get the bang the bang for their buck," he says. "We selected an area that had been used as their staging area for construction of the building, which had been two years prior. It's right at the entrance of their offices."

Dickinson says he then faced the challenge of breaking that 16,000-square-foot staging area into multiple plant combinations. Fortunately, the idea for what he calls the backbone of the project came to him quickly.

"The main backbone of the garden is the stem of a large flower that provides the main walkway," he says. "It's made from pervious concrete because we want to absorb as much of the rainfall as we can into the ground."



Photo: Texas A&M AgriLife Research

The leaves of the flower are pervious, walkable gravel, and the petals are more than 100 species of plants that are being demonstrated, some of them multiple times and in different scenarios.

"Under Water University on our website, we have a plant search data base, and we also have our top 100 most-recommended plants for North Texas," says Dickinson. "I tried to utilize those so people will use our lists. They can say, 'This is that plant, I like it,' or 'I don't like that as much as I did in the picture.' We want them to be able to put all the pieces together."



Photo: Texas A&M AgriLife Research

To further enhance that, the garden also incorporates what Dickinson calls "abstract elevations." One is an illusion of a front door and two windows made from powder-coated galvanized steel, and another is made from quarry stone.

Actual construction of the demonstration garden was done by contractors hired by TRWD. The installation took about six weeks, Dickinson says, and required extensive site preparation.

"It was horribly compacted and there was a lot of limestone backfill," he explains. "A tremendous amount of compost was brought in to help top the soil."



Photo: Texas A&M AgriLife Research

The site is on a levee of the Trinity River, and has approximately a six percent grade, which required the pervious concrete to be installed with landings to make it ADA- (Americans with Disabilities Act) compliant.

Part of the demonstration has to do with irrigation, and the entire project incorporates inline drip irrigation for the plants, with the four turf areas utilizing high-efficiency rotary nozzles. Dickinson says a separate area in front of the TRWD building was also re-landscaped by Water University and its

turf uses subsurface drip irrigation.

“That way, we’re able to show three of our highest efficiency forms of irrigation for people to see,” he says.



Photo: Texas A&M AgriLife Research

Dickinson regrets he wishes the garden incorporated recycled water, especially since part of the project is a bio-swale and retention pond that captures rainwater from the roof of the building and its parking lot and parking structure.

A second demonstration garden which he’s designing for an adjoining site scheduled to be built in 2018 will include rainwater harvesting.

“However, with the gravels and the sod areas and the bedding and the dry creek for the retention pond, we could slow the water quite dramatically, even given the slope of the site,” he says. “Any runoff erosion problems were pretty much eliminated.”



Photo: Texas A&M AgriLife Research

As for his favorite part of the job, Dickinson says it’s closely related to the most-challenging aspect of the project. As a designer, for him the final product is always most important.

“It’s always seeing the expressions of people, especially those who – I won’t say they were against it but they didn’t understand the necessity of the project – saw it completed,” he says. “It’s like when you buy somebody a gift, and you like to see their expression when they open it. To me, that’s what this project felt like.”



Photo: Texas A&M AgriLife Research

However, those who didn’t see the need for the project were a real challenge, he adds.

“One of the things we struggle with is getting people to change their mindsets of what a North Texas landscape should be, and not what it has been, because it’s been wrong and it’s gotten us in trouble with our water consumption,” Dickinson relates. “The biggest struggle was selling the design to people who didn’t understand the project.”

And, while upping his salesmanship was part of what he learned on the project, he says there were some physical things, as well, such as drainage.

“The site has that drastic slope, plus we had the massive parking lot and parking garage, as well as drainage from the building all going to one spot,” Dickinson concludes. “People laughed at me when I was standing in the rain with an umbrella videotaping the water coming down and the velocity, but I learned a lot from that.”



Photo: Texas A&M AgriLife Research