

Flagler, Jacksonville, Florida

**PROJECT LEADERS:**

Brian Baker

PRODUCTS USED:

HE-VAN-12 and HE-VAN-15
(High Efficiency Variable Arc Nozzle)

GENERAL CONTRACTOR:

Flagler

COMPLETION DATE:

September 2011

RAIN BIRD SALES PERSON:

Dan DeHart

"The beauty of the HE-VAN is that with one simple change we got a lot of benefits, like saving money, water, and time. We also anticipate decreased liability and reduced system wear and tear. Now we can confidently meet industry regulations and environmental challenges while providing a lush landscape that all can enjoy. That's a lot of payback for just changing a nozzle!"

—Brian Baker, Landscape/Irrigation Engineer,
FLAGLER

PROJECT OVERVIEW:

The St. Augustine Roadway site was originally installed with standard Rain Bird VAN nozzles. The property is a linear roadway consisting of 33 spray zones and 2 rotor zones. The valves are all PEB scrubbers with PRS Dials regulated to approximately 35psi. The site is operated by an ESP-MC 40 pedestal controller.

CHALLENGE:

Duval County instituted a 2-day per week irrigation restriction, approving a 14 hour watering window on Tuesdays and Fridays only. The restrictions made it impossible to irrigate all 35 zones adequately. Additional challenges from the constant passing vehicular traffic during the day, narrow bands of turf in many of the islands, and a large presence of asphalt and concrete added to "hot spots" and stressed turf. These challenges plus local water rates increasing over a 4-year period projected a 100% cost markup from present day costs. Any of these issues individually would have been reason enough to explore viable cost saving options. All of them combined made it necessary to seek something increasingly efficient, but also cost effective.

SOLUTION:

Approximately 400 VAN nozzles were retrofitted with the new, more efficient HE-VAN nozzle. Shortly after the installation, several weeks of hot, dry weather provided the first test. The results were impressive.

Distribution Uniformity: With several days remaining until the district enforced watering day, the St. Augustine Road area that was retrofitted with the HE-VAN nozzles remained consistently vigorous, showing no signs of stress or "hot spots." The improved D.U. provided a two-fold benefit as it prevented typical overwatering, which caused excessive costs as well as frequent fungus, weed, and plant health issues.

SAVINGS:

Run Time Reduction: With the water distributing more evenly throughout the nozzle radius, the result was an effective reduction in watering times. Overall, the water window was reduced by 20%, which offered the customer more leeway to put down additional water when the season dictates it, while still being within the confines of their local watering regulations. It also has reduced liability and risk of system damage given the ability to eliminate watering in high traffic periods of the day.

Reduced Consumption Cost: Faced with a 4-year commercial irrigation rate increase, the cost effective HE-VAN nozzles are greatly appreciated by the client. The savings at the site was an immediate 11% in GPM. When coupled with the reduction in run time due the increased D.U., the water consumption savings for the site increased 36%. Based on historical run data, the water savings equates to an estimated 860,000 gallons per year, or approximately \$2,500/year at current rates. An even more impressive \$3,200/year is predicted given the projected rate increase for the next year. The customer believes the HE-VANs will pay for themselves within the initial months of installation.