

Cashman Relies on Fertigation



Tanks for liquid fertilizer and injectors in underground vault.

Sand rootzones like Cashman Field require a steady feeding of fertilizer. Also, George Goto, field consultant, wanted as much control of field conditions as possible.

The liquid fertilizer is injected into the Rain Bird irrigation system. The delivery system for the fertilizer is very important. Goto chose Automated Fertilizing Systems Inc. (AFS) to design and install the fertigation system.

AFS selected the Anderson fertilizer injector as being the best suited to the particular needs of landscape sprinkler systems.

Pumps are hydraulic (water driven) up to flows of 160 gpm, which means that no electricity is needed. This reduces costs, allows field installations, and minimizes retrofitting problems. Pumps for flows of 160 to 1200 gpm are available, using electricity or batteries to run electronic metering devices to control pumpheads. The vast majority of installations in Las Vegas, including Cashman Field, use water operated pumpheads.

The injectors are serviced in the field by AFS so there is no need for gaps in the program by having to ship pumps back to the factory. The proportion of fertilizer to water is widely variable with the turn of a knob.

The pumps have a wide range of pumping accuracy. For example, two-inch injectors like the ones at Cashman Field, can accurately meter fertilizer to water at flows as low as five gpm up to 160 gpm. This means these injectors can serve an irrigation system which uses drip irrigation on one valve and a high flow lawn system on the other. No matter what the flow or pressure within the above ranges, the ratio of fertilizer to water will always be the same.

The injectors at Cashman Field are installed in underground precast vaults to protect the equipment from vandalism

and heat. A by-pass is installed to allow for ease of servicing or for periods when non-fertilized water is desired. Two 150 gallon liquid fertilizer storage tanks are installed in the vaults with the injectors. On larger capacity systems, the concentrate tanks can be installed underground near the vaults.

There are currently 24 such systems operating in Las Vegas, the oldest in its fifth year of troublefree service. Most are in commercial or institutional applications. AFS is currently installing its largest system to date at McCarran International Airport in Las Vegas to feed a landscape of more than 40 acres.

In addition to the design, installation and service, AFS offers a turnkey service by providing custom blended liquid fertilizer. Soil testing provides the basis for blending fertilizer to meet the variable conditions of soil type, seasonal changes, and water source.

All major and minor nutrients can be fed through the system as well as pH adjusters.

Cashman Field is currently using a closely managed system of monthly soil analysis. High concentrations of nitrogen and phosphorus, low potassium, and ample trace elements are applied. The current formula is equivalent of 16:11:8 with iron and other trace elements added.

Because of high traffic and wear typical of a baseball field, we are attempting to promote fast growth, which is not a problem due to frequent mowing and excellent drainage. The salinity of the soil has remained favorably low, currently at 1.6 ECe. The pH of the soil is 7.7, about normal for the area.



Editor's Note: The above information was provided by Harold Goldsmith, founder and president of Automated Fertilizer Systems.

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field. More importantly, to manage it properly so that it continues to look good and play well. Equally as important we begin to appreciate the skills and knowledge that are required. But like everything else, it takes experience. It should have been obvious that the general contractor who was awarded the contract did not know much about installing sports fields.

When called back to do the corrective work, the contractor brought in more soil, laid it right on top of the hybrid bermuda already there, and resodded the field with a fescue/bluegrass mix that was locally grown.

Those who ran the complex felt pretty good about the appearance of the field after the resodding. But that was in the fall; as they got into spring, the ground crew began to notice spots in the turf. At first they thought that possibly a fungus had developed.

"As the outfield began to develop large spots, we finally identified the problem," Stephens stated. "We realized that the contractor, in doing the corrective work, just put the soil over the bermuda sod. When the field was irrigated and the water percolated down to the level of the original sod, it would send up gases and kill the grass above.

Summer comes early to the desert and by June, Las Vegas reaches high temperatures. In July and August the temperature has been known to climb easily to 115 degrees.

Back in the fall, when the decision was made to use fescue/bluegrass sod, the weather was cooler and maybe the sod made sense. Possibly the contractor felt they would have better luck with this type

Cashman Field grandstand is modern for a minor league team.

