

# How the Complex of the Year's irrigation system works



located in Surprise, AZ the Surprise Recreation Campus (SRC) boasts 200-plus acres of wellness opportunity for the community while serving as the spring training home of Major League Baseball's Texas Rangers and Kansas City Royals.

Developed in cooperation with senior engineer Bill McBride, Charlotte Engineering Sports Group, HOK Sport, Mark Coronado, and Joe Kennedy – along with a host of contractors, consultants, suppliers, and representatives from the City of Surprise – SRC offers 80 acres of multi-purpose-use turf, 10 acres of lawn, and more than eight acres of perimeter landscaping, creating incredible year-round challenges in regard to turf maintenance and playability.

"We can practice 18 teams on nine fields in two hours each night, enabling us to accommodate 36 different teams in one four-hour period," said Mark Coronado, director of SRC. "We can also host 108

games in six hours on Saturday, all in one location, making it easier for parents to juggle multiple-sport activities."

To manage such rigorous activity, SRC was designed with supreme versatility in mind; cloverleaf fields of continuous turf provide complete flexibility in accommodating virtually any sport, from baseball to soccer. Foul posts within Billy Parker Field were expanded to 350 feet, as opposed to the typical 330-335 feet, enabling placement of a complete football field in the outfield without breaching the infield dirt.

"Our fields are being used every day, throughout the year, with the exception of two weeks in April when we shut down to renovate the field," said Joe Kennedy III, baseball maintenance manager for SRC.

Maintaining such high levels of use year-round proves difficult in managing proper watering and maintenance schedules. With a full-time crew of 16 staff members, and two part-time staffers, Kennedy has just concluded SRC's fifth spring training season, which typically draws 160,000 fans.



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A sign posted in the grounds crew locker room serves as a constant reminder of the many challenges faced in managing multi-use facilities: "Groundskeeping is not a job; it's an adventure."

Kennedy joined SRC a full year before the groundbreaking of the Campus to supervise the complete construction of Billy Parker Field and surrounding sports fields. For six years, Kennedy has maintained oversight of turf management operations for the 125 acres located west of Bullard Avenue, which includes 55 acres of Bullseye Bermuda "BOB" sod turf, the same turf used at Bank One Ballpark in Phoenix.

"The whole Campus was constructed with conservation in mind," Kennedy said. "Nothing is wasted. Every dollar we put into our fields is directly used."

SRC can tap into multiple water sources, all accessible through one simple lever switch: reclaimed water, treated water from the City of Surprise, or water from Maricopa County. To help preserve the City's limited drinking water supply, non-potable water, and an on-site lake that doubles as an urban fishing lake, is used to irrigate the Campus.

A 24-inch mainline connects the lake, which draws water from Lake Pleasant via the Maricopa County Water Canal, to the massive

pump house and fertigation system, supplying the entire Campus with irrigation. Proper aeration and an artificial reef comprised of concrete tubes ensures optimal conditions for the lake's catfish and bass inhabitants, allowing SRC staff to safely draw one foot of water per night to irrigate the sports fields.

SRC's irrigation system is comprised mainly of Hunter products, supplied by Ewing Irrigation. Hunter's Surveyor central irrigation control system with supporting VSX field controllers enables Kennedy and crew to control water management and scheduling for the entire Campus.

To combat brief watering windows, Kennedy





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uses Hunter I-40-ON Rotors, or "Opposing Nozzle," in large turf areas, delivering water accurately up to 70 feet, while I-20 Ultra Rotors are used in smaller areas. Pressure-regulated Hunter ICV Filter Sentry valves guard against dirt and debris.

"Primary and secondary nozzles positioned on opposite sides of the nozzle turret enable simultaneous mid-range and close-in coverage," explained Brad Godaire, sales representative for Hunter Industries. "This design also helps increase wind-resistance."

Kennedy notes that the initial construction cost of using only the highest quality products was quickly recouped due to SRC's water savings. Unlike other complexes that can use from 1-2 million gallons of water per day, which amounts to approximately \$200,000 per year, SRC spends around \$35,000 annually, using an average of just 200,000-400,000 gallons per day.

"The foresight exhibited by the City of Surprise, coupled with Joe Kennedy's desire to have the most technologically advanced main-

tenance practices possible for a sports facility, was ultimately responsible for this outcome," said Mike Thompson, golf & sports field construction specialist for Ewing.

Kennedy partnered with Texas A&M, Simplot, and the University of Arizona's Cooperative Extension to address microbe development, soil, and drainage issues. He uses only organic fertilizers to produce durable turf that holds nutrients better than natural soil, and maintains a private sod farm located on-site just outside of the Royals' practice field for those quick-fix moments.

"We knew we would be constantly flushing salts out of the system due to the water's high alkalinity, pH, and salt content, so it was imperative that we create an excellent drainage system," Kennedy said.

Retentions built throughout the Campus are designed to capture massive amounts of surface water. Each playing field is equipped with a drainage system that can percolate 16-22 inches of water per hour. Collected water

filters into a 60-foot deep dry well and permeates into the ground.

"Our drainage system worked almost too well; I began to starve my grass," said Kennedy, who uses an elaborate fertigation system infused with a special "top secret" blend of elements and additives to keep his turf in supreme condition.

His laborious efforts haven't gone unrewarded; the Surprise Recreation Campus recently earned its third consecutive title as 'Professional Sports Complex of the Year' by the Sports Turf Managers Association (see page 46).

At the end of the day, Kennedy clearly identifies the major contributors to his success. "Our irrigation system, intricate drainage system, and our attention to detail in regard to conservation and performance, is what truly sets Surprise Recreation Campus apart from other complexes." ■

*Lacy Hyland specializes in education and outreach for Ewing Irrigation Products.*

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