

# Design and material selection for newest MLB facility

**T**HE DIAMONDBACKS AND ROCKIES are doing something never done before in Major League Baseball.

The new spring training facility shared by the NL West rivals is the first professional complex built on Native American land. Salt River Fields at Talking Stick is on 140 acres of land shared by

the Salt River Pima and Maricopa Indian communities near Scottsdale, AZ. Designed by HKS architects, the facility was built by Mortenson Construction and features tremendous views of Camelback Mountain, the McDowell Mountains, Four Peaks, Red Mountain, and the Superstition Mountains.

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## Interview with Joe Traficano, West Coast Turf

**SPORTSTURF:** Who made the decision to install your sod on these fields, what is that turfgrass, and are all the fields employing the same variety?

**TRAFICANO:** Grant Trenbeath, head groundskeeper for the Arizona Diamondbacks and Mark Razum, head groundskeeper for the Colorado Rockies were the primary decision makers in going with Tifway 419 hybrid bermuda-grass. This variety is used exclusively throughout the entire complex including all landscape areas.

**ST:** What reasons did they give for going with that particular variety?

**TRAFICANO:** Both Grant and Mark have grown and maintained this variety throughout their careers and were familiar with its growing characteristics; it is the most commonly used bermuda on sports fields and golf courses in Arizona.

**ST:** How many fields are there at the complex? Approximate total acreage?

**TRAFICANO:** There are 13 fields total; each team has six practice fields and the main stadium field that is shared. Along with the fields each team has pitching mounds, bunting fields, half fields, and agility fields for conditioning. West Coast Turf provided 35 acres of Tifway 419 sand base for all the playing surfaces and 15 acres of Tifway 419 native base material for all the landscape areas around the complex.

**ST:** How far in advance was the type of turf decided upon, and did WCT grow particular acres specifically for this project?

**TRAFICANO:** West Coast Turf was contacted in January 2010 to hold 1.2 million square feet of Tifway 419 Bermuda sand base for an approximate June 2010 installation date. Typically for this sized project you would contact the sod supplier at least 8 months in advance so the sod can be held until it was time for installation. We knew that the project was going to be built before our initial meeting and made a decision in Fall 2009 not to oversee any material projected for the complex so it would be in prime condition when needed.

So for this project the short window was not an issue at all due to several factors, one being that we are a large sod supplier and had the inventory to handle the quantity and time frame required for the project. Secondly, we have worked with all the parties involved in the construction and lastly, West Coast Turf currently grows our turf on land that is leased from the Salt River Pima-Maricopa Indian Community. The construction team said the [Native American Community] was pleased to be using turf that was grown on their land for this project.

**ST:** What challenges does Marshall Jennings, the on-site turf manager there, face in this first year, in your opinion?

**TRAFICANO:** The biggest challenge in my opinion would be having to oversee the turf installed in summer and then having to bring in sod that was overseeded in late November through January due to schedule of the project. It is always recommended that new turf installed in the summer not be overseeded and let it have 1 year to establish and mature, but we all know that is not always possible, especially in this situation. These fields need to be in prime condition for spring training and here in the Southwest the Tifway 419 Bermuda goes dormant. ■





Photo by Jon Willey

The crown jewel of the complex is the 11,000-person capacity stadium, featuring a few other “firsts.” The video scoreboard is the largest Spring Training board in baseball, measuring 24-by-48 feet and featuring LED technology. Also, the positioning of the field and the roof structure ensures that 85% of the seating bowl will be in shade by the late innings. As the owners are targeting a LEED Silver rating, ASLA award-winning Ten Eyck Landscape Architects designed the landscaping surrounding the complex to reduce the amount of concrete and asphalt, using more natural materials inspired by the tribal heritage.

The teams are the last holdouts to move up from Tucson to the metro Phoenix area from Tucson. The building of this complex further solidifies the Phoenix area as the epicenter of professional baseball facilities, with more of them located in a metro area than anywhere in the world. It is estimated that the Cactus League generates \$359 million in revenue for the state. While spring training tourism dollars are critical to the Arizona economy, the pressure the Great Recession has put on an already strained tax budget, made the spectacular investment needed to build such a facility nearly impossible to come by. This perhaps is the most incredible “first,” a \$100 million complex built tax-free in a down economy—thanks to the two tribes.

### A TALE OF TWO GROUNDSKEEPERS

While the official groundbreaking took place in November 2009, the specific field design was not completed until March 2010. The field design process was unique in itself. Rather than

simply offering input and consultation, two MLB head groundskeepers came together to essentially lead the field design process. For the Rockies’ Mark Razum and Diamondbacks’ Grant Trenbreath, this felt like *déjà vu* on a grand scale. In 1994, their groundskeeping paths originally crossed, just miles away from the new complex, when Razum designed the practice fields for the Oakland A’s Spring Training site. Trenbreath, an up and coming groundskeeper, took over on the construction after Razum left to take the head position with the Rockies.

Flash forward 16 years, the two collaborated on the field design and material selection for the 12 practice fields, stadium field, and bullpen areas. Razum recounted the first time the two discussed the project. “We could have been rivals working for different clubs, but we decided to work as a team toward the same goal, and try to keep things uniform throughout the entire complex.”

Razum agreed with Trenbreath when he said, “These fields were designed to be truly professional in every element.” This is true for the elements that are seen, as well as the unseen. At first glance, one may think that the two were preparing for large rain events with the 12 inches of amended sand rootzone over 4-inch gravel drainage layer on top of drain lines, but another motivation is hidden just under the surface. The name Salt River Fields pays homage to the Native American community’s relationship with the Salt River, which is exactly what its name suggests. The dry climate and soil composition has led to a build up of salts in the area’s groundwater and waterways. The drainage system was designed to quickly evacuate these salts out of the rootzone. Installation began on this first

piece of the puzzle before material selection of the other playing surfaces. Barkshire Laser Leveling laser graded the USGA spec 95% sand composition amended with 5% peat, before West Coast Turf sodded the 45 acres of playing surface.

The infield and warning track material selection was a one-of-a-kind process. In keeping with the theme of “firsts,” Razum and Trenbeath collaborated with Stabilizer Solutions, Inc. to engineer brand new infield and warning track mixes specifically for the complex. “We wanted something that would set us apart from the other Spring Training complexes, so the first criterion in designing the mix was an eye-catching color. We wanted something that would match the overall color scheme with the brickwork and reflect the tribes’ preferences,” said Razum. Outfitted with boots and hard hats, the two groundskeepers made the expedition with the Stabilizer team and lead designer Anthony Stevenson of Lloyd Civil and Sports Engineering, out into the Arizona desert to the company’s quarry. “It was amazing to look around at the surrounding hills and see the various layers of natural color. Beyond the natural wonder, it was an eye opening experience to see the science and engineering that goes on behind making the mixes,” said Trenbeath.

After narrowing down their top color choices, the decision making process moved into the lab. With particle size analysis in hand, different combinations of silt and clay were added to the crushed and screened raw materials. For the professional infield mix, the team agreed upon 40% of silt and clay content, with a silt-to-clay ratio (SCR) right around 1. For the warning track mix, the motivation was to make it as coarse as possible without reaching too large of gravel, and a lower clay content than the infield mix to reduce compaction from utility vehicles. The Stabilizer product was blended with both mixes to stabilize the mixes and help increase moisture management during the intense weather swings from dry to wet that the area experiences.

Next the mix moved from the lab to the playing field. Razum and Trenbeath left nothing to chance; the pair had the new mix installed at Seton Catholic High School, just minutes from the Trenbeath residence. After weeks of intense scrutiny, the pair finally approved the new mix after D’backs legend Matt Williams took grounders from Trenbeath on the field, ultimately giving it his blessing. Razum remembered Williams as “a connoisseur of infield mix during his playing days, so his opinion meant a lot.”

## AN EYE ON MAINTENANCE

Professional elements do not always mean increased maintenance. “We kept maintenance in mind throughout the process,” said Trenbeath. Razum added, “We have a combined 50 years of experience, so every selection had the grounds crew in mind.”

A major focus was to reduce maintenance and time spent on less important components. Warning track heads were installed on all of the practice fields, and Hilltopper Waterless Warning Track Mix was installed at the main stadium to eliminate manpower on watering the warning tracks under Arizona’s intense sun. The warning track heads serve a dual purpose, not only to reduce watering time on the warning tracks, but to water the grass edges that are first to go under the Arizona sun. The area is susceptible to high winds, so two extra infield sprinkler zones were added to help with additional coverage

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on windy days. Hilltopper Mound Clay was used to reduce labor hours on the pitching slopes and homeplate areas, further reducing water consumption on the 100+ mounds across the complex. Equipment corrals were secured permanently to withstand the intense force of the monsoon storms that attack Arizona every summer. These corrals were also placed in close proximity to the fields for easy movement of batting practice screens and equipment.

Trenbeath mentioned innovations that would have reduced maintenance even further, but were not done because of budget considerations. The two wanted to incorporate an underground infield skin watering system, similar to the one in use at Yankee Stadium. They would have also incorporated a heating system under the stadium field turf to help establish ryegrass more quickly in autumn months, and ease the transition process to Bermuda in the warmer months.

To the outside observer this may seem unnecessary with Arizona's climate, but Trenbeath says to consider that the stadium is designed to shade 85% of the seating bowl by 1 PM during the spring, which leaves even fewer sunlight hours during the fall rye establishment period. Trenbeath is intimately familiar with managing lesser talked about shading issues. At Chase Field (regular season home to the D'backs), beginning in August, the grass area behind homeplate is completely shaded for the remainder of the season. To combat this Trenbeath developed a grow light system, placing large light carts on the warning track to provide artificial sunlight.

The pair made a conscious effort to keep many of the materials uniform across the complex to ensure easier maintenance, but there are certain customizations on each side that make the facility feel more like home for each team. Each side has a practice field that is built to their respective home ballpark dimensions. While the replica Coors Field may be to exact dimensions, Trenbeath shared a secret—the replica Chase Field was built according to the stadium's original specifications rather than the current ones. He says that the differences are only noticeable to the keenest eye, such as the width of the trademark pathway from homeplate to the pitcher's mound.

Other customizations are located in the bullpens. The D'backs chose to go with artificial turf for the homeplate areas, with natural turf between those areas and pitching mounds. The Rockies kept clay homeplate areas with warning track mix leading up to the mounds.



Photo by Jon Willey

The D'backs have two bullpen areas, one area with an 8-mound pack and another with a 10-mound pack, each area with mounds side-by-side. The Rockies have one bullpen area with a 10-pack of side-by-side mounds, and one area with an 8-pack of back-to-back mounds. The D'backs also have two individual bunting fields, while the Rockies have staggered three bunting areas onto one field.

Furthermore, the Rockies have opted to combine their professional and minor league practice areas and weight rooms, while the D'backs decided to keep the two separate. This includes 10 covered cages in one area on the Rockies side, while the D'backs maintain five for each group.

### A NEW CHALLENGE

Despite the consideration given by Razum and Trenbeath on the field design, the stadium design will pose a new challenge for full-time veteran groundskeeper Marshall Jennings. The design allows for unprecedented access to players as they move between practice fields, including ramps that lead into viewing areas of bullpens and batting cages. As Diamondbacks President Derrick Hall has been quoted saying, "It is... the Disneyland of baseball and spring training." While this aids in the fan experience, potentially drawing more customers in the long run, in the short run this poses a challenge for groundskeepers learning how to deal with the new fan interaction. How exactly will this affect groundskeepers? No one can tell for certain although both Razum and Trenbeath believe that it is a legitimate concern that should be closely monitored. As teams compete for fan attention in this information age, greater fan access may become the norm. "Once a fan steps on the property they become a part of the baseball experience. I think the first year will be a feel-it-out kind of thing. It may be a challenge, but I think they will be able to make the adjustments," said Razum.

### FINISHING TOUCHES

At the writing of this article (mid-February), finishing touches are swiftly being made to the complex for Opening Day on February 26. With an overall timeline of 15 months from groundbreaking to Opening Day, sticking to the scorching construction schedule has been an amazing feat for all parties involved. Although this timeline has forced concessions from the design team, the complex is already receiving rave reviews from the teams, media, and the Native American community. For the two groundskeepers, they see a project of this magnitude, on this time frame, as always posing unique challenges. Through it all, Razum summed up the project best when he said, "Being involved and having the cooperation of the community really said it all. They followed our recommendations on all 13 fields without cutting corners. I am proud to say that these are professional fields in every aspect. During this process, I enjoyed working with Grant and developed an appreciation for his professionalism. Many other people were involved who all wanted to see this project through to the final result, and I think the relationships that we built getting to that point are what matters the most." ■

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