

turf managers via e-mail, phone and social media to try new techniques in hopes of improving the fields he was managing. The response was overwhelming and members from far and wide shared best practices with Craig.

His skills in sports turf management, especially baseball, improved and were slowly being noticed by others in the industry. Long-time STMA member Tom Nielsen took a particular liking to Craig's kind personality and tireless work ethic. In May 2010, he hired Craig to work for the Louisville Bats' turf crew, the Triple-A minor league affiliate of the Cincinnati Reds.

Craig and his wife packed their bags and headed south to follow his dream of one day helping to manage a professional baseball field. Once Craig got settled into his new position, Tom took a deeper interest in his lifestyle, helping him quit smoking and lose more than 70 pounds. By August 2010, Craig had transferred to the University of Louisville to continue his sports management degree while working full-time for the Bats.

Craig and Caroline wed on July 24, 2012. This past December, Craig graduated from the University of Louisville and was hired as the Bats' assistant groundskeeper February 1, 2014.

Throughout his journey, Craig has numerous people to thank for their support and confidence that he would, one day, succeed. He's

been so impressed with the STMA and how the organization has always emphasized the importance of acting like a professional and doing the job right.

After receiving the new job offer from the Bats, Craig's family urged him to take time for himself and relax. While a few days to catch his breath was nice, it also gave him an opportunity to reflect on the sports turf managers he had connected with along the way, and how they had been so instrumental in his career ascension.

The more he thought about it, the more people he realized he needed to acknowledge personally. In mid-January, Craig attended his first STMA Conference & Exhibition in San Antonio. It was the perfect opportunity to reconnect with friends and colleagues, while also thanking those whom he had never met but had spoken with online over the years.

On April 10, the Louisville Bats open the 2014 campaign versus the Columbus Clippers. Craig and the turf crew are putting in long hours before the first pitch at Louisville Slugger Field to make sure fans and players are greeted with a top-notch field. Every blade of grass and speck of dirt will be treated with care. It's something Craig has taken pride in his entire life and April 10 is no different. ■

Glenn Gray is with Buffalo Communications, the public relations agency for the Sports Turf Managers Association, @glenngray on Twitter.



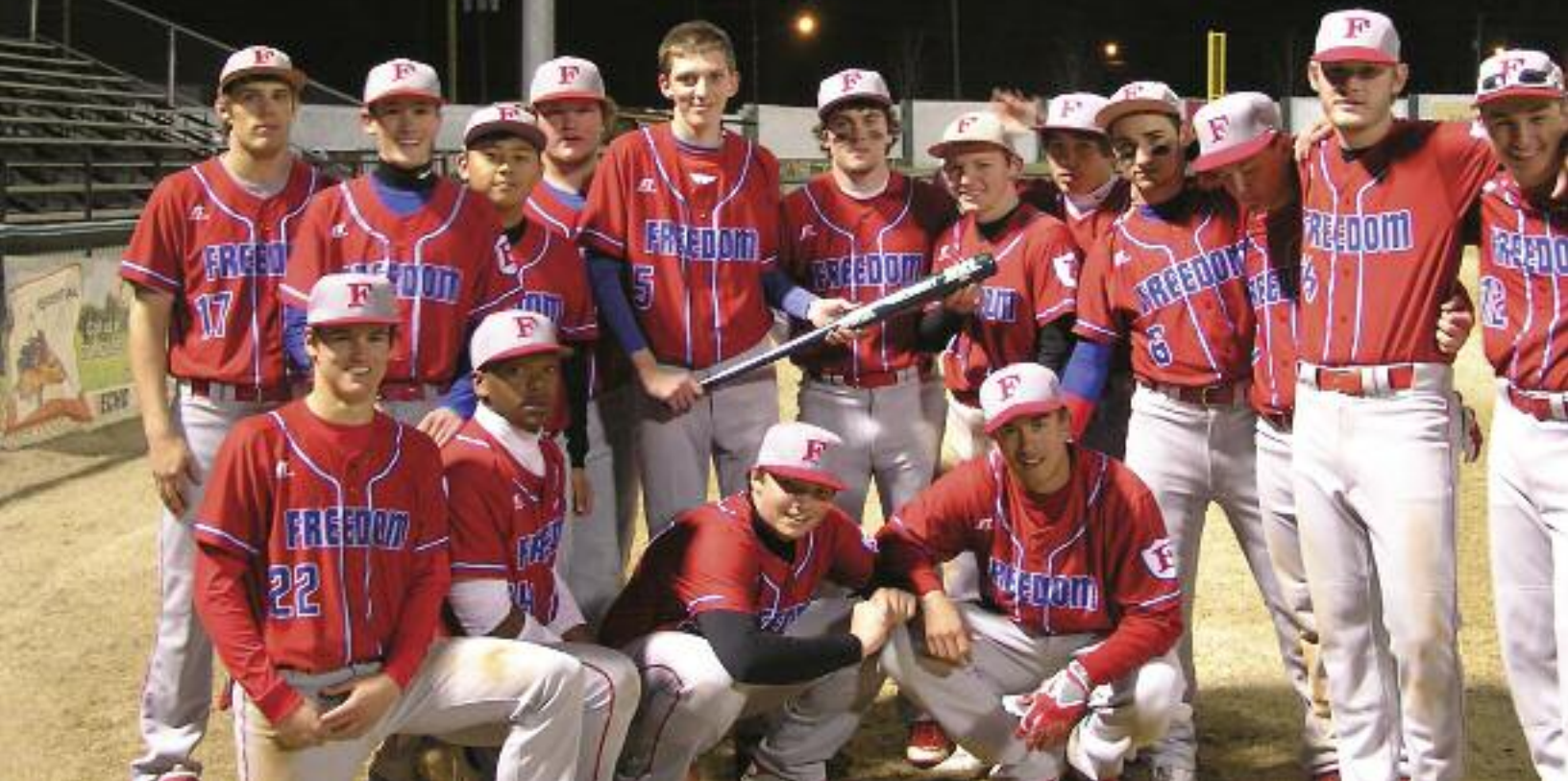
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Student's senior project is a "DIAMOND IN THE ROUGH"

▲ The Freedom High School baseball team with a bat Steve Peeler, CSFM, won at an STMA SAFE Foundation auction.

In September 2013, Landon Kincaid had a dream when he set out to complete the senior high school project that is required for graduation in North Carolina; he wanted it to be unique. Landon found his first love in life, baseball, at a very young age. His dedication to the game is superior to a normal high school player and his work ethic is unstoppable. He is also a team player and he wanted to do something that would not only help keep his love of the game alive, but would also help his teammates and others for years to come at Freedom High School, Morganton, NC.

Rebuilding a baseball infield is not an easy task. It takes funding, time, and expertise to get it done the right way. But even facing these challenging obstacles, Landon was determined to make it happen. A plan was developed to raise funds and to bring his project to a reality, and through community support, professional mentoring, and a lot of determination, he reached his goal.

At the beginning of the project, the field was overgrown with no defined shape. The windscreen to cover the

chain link fencing was in shreds, dugouts had been in disarray since a massive flood in 2010 when the entire field had been under 6 feet of water for days. Once the water had subsided, the field was totally covered with fine silt from the river which runs directly behind the outfield. To top that off, all of the equipment had been stolen 2 years after the flood and the team had very limited funding to



◀ Landon Kincaid

Landon got the ball that night to pitch on his newly renovated mound and he performed well, pitching five solid innings and getting the win.



replace it. Fencing and all other structures had damage 3 years after the flood.

Landon approached his coach, Clint Zimmerman, and I to gauge our interest in his project; Clint and I are both former players of the program. We both agreed immediately to assist him in his quest as professional mentors and a plan was designed to address the key factors on the field.

First on the agenda were the most important areas on the field: the pitching mound and the infield. Lips had formed over the years of play and the turf had grown in as much as 4 feet in some areas. The back arc had areas that were over 4 feet. Therefore the field would have to be laid out and reshaped to regulation. The pitching mound was more of a peak and had neither table nor landing area, or consistency of shape. There was no good quality clay for push off or landing to maintain the structure or help the pitchers perform better. Landon, being a pitcher, considered the mound his "office" so he took on the challenge to improve its performance. New mound clay was added to build a mound table and landing area. The slope was corrected to regulations of 1 inch per 1 foot. Landon was pleased with the progress and looked forward to using the mound for the 2014 home opener.

The infield skin and base paths were next. Over the past 30 years, a local infield mix had been added every year. The result of all the additional infield mix was an elevated surface more than 1 foot above foul territory and outfield. Grass edges were holding water on the infield at the back arc and had to be removed before any grading could take place. The Freedom HS baseball facility had never

been graded with consistency before this project. Laser grading was the best approach to remedy the high and low spots in the infield and also drain any surface water away from the infield skin (70% sand and 30% silt, clay, and fines).

Drainage was not a major problem through the profile, but it had no stability once in play and left large divots after heavy use. Laser grading and balancing the current mix was the first step in getting the maximum benefit for the playing surface and player performance. Once the surface had been graded with the proper slope, a Stabilizer Solutions product was added to the surface and incorpo-

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Landon would like to thank all of the sponsors that donated materials and funding to make his Sr. project a reality:

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rated into the infield profile at a 1 inch depth. Results were instant. The surface held together and there was far less divots than before. A snow storm dumped 5 inches which was followed by an inch of rain on the morning of the first outdoor practice. The field was playable by that afternoon and allowed the team to practice while other surrounding fields were saturated and unsafe. Ball bounce was more consistent.

The dugouts damaged in the flood had many leaks through the back walls from ground water as algae had started to take over the dugout floors. Water lines had been leaking for some time and contributed to the additional damage to the footings of the dugouts. Graffiti had been painted on the wall and floors by vandals and were to be pressure washed and painted with team colors. Once the dugouts and backstop walls were a bright red color, a new wind-screen was installed on the outfield fence to connect each new renovated section of the ballpark. The field really caught everyone's eye when up close or at a far distance as did the new warning track material that was placed from dugout to dugout and in front of the backstop wall. To finish off Landon's project, Opening Day logos were painted in front of each dugout on the grass.

February 27 was opening day for the Freedom Patriots baseball program. Work that began in October 2013 was complete and it

was time for Landon's project to take center stage. What a proud moment it was! As the team prepared for the game, it seemed to have a spark of energy and motivation to perform to the best of their ability. A big league atmosphere had come to the small town of Morganton, NC.

Landon got the ball that night to pitch on his newly renovated mound and he performed well, pitching five solid innings and getting the win. What Landon had accomplished was not only for himself and his team; it was for the entire community and for many players to come in the future. A master plan has been developed by Landon for additional improvements to be made after he graduates and begins his college career at St. Andrews University, where he has received an academic/baseball scholarship. ■

Steve E. Peeler, CSFM, is a project manager for Carolina Green Corp. The author would like to acknowledge his former MLB colleagues who sent infield samples to put on this infield for Opening Day: Trevor Vance, Kansas City Royals; Bill Findley, St. Louis Cardinals; Dan Bergstrom, Houston Astros; Andy Bartley, Pittsburgh Pirates; Luke Yoder, San Diego Padres; Larry DiVito, Minnesota Twins; Roger Baird and Justin Spillman, Chicago Cubs; and Grant Trenbeath, Arizona Diamondbacks.

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▲ Left: Opening Day at the new stadium. Top Right: Shooting bermuda stolons. Bottom Right: The design team decided to go with traditional Tifway 419 bermudagrass overseeded with perennial ryegrass.

The new Chicago Cub spring facility: ONE GROUNDSKEEPER'S SAGA

Editor's note: The author is director of operations, Stabilizer Solutions, Inc., Phoenix, AZ.

MARCH 2014:

Thousands of fans lined up outside the new stadium as 2 years of pent up anticipation finally comes to a head. Opening weekend at a new ballpark can be very stressful on a groundskeeper. Opening weekend with a torrential rain can be a nightmare. For John Knight CSFM, director of facilities and fields at the new Cubs Park, it was time to take a deep breath. "It's actually been a relief to get into day-to-day game activities. It is my first chance to exhale!" he said.

The new training facility for the Chicago Cubs, conjoined with the new Riverview Park in Mesa, AZ sits on the largest site of spring training homes in MLB, 146 acres. With dimensions modeled after Wrigley Field, the 15,000 capacity stadium should make visiting "North Siders" feel right at home with a brick wall behind home plate, light standards that mimic Wrigley's, and even a roof top deck in left field. Completed just in time for Opening Day, the park had a July 2012 groundbreaking which set a hurried construction pace for architecture firm Populous and Hunt Construction Group. For Knight, it felt as if he had been holding his breath on this project, not just through construction, but years beforehand.

From 2006 to 2010, the City of Peoria gave Knight his first taste of spring training excitement. Working at the Peoria (AZ) Sports Complex and being very involved in the construction of Rio Vista Community Park prepared him for the magnitude of this project.

"The amount of earthwork was very time consuming. Some areas were very sandy, some areas were hard compacted

clay soil," he said. Being on the edge of the Salt River complicated the Cubs Park construction timeline. An archaeological survey was completed to preserve any Native history that might be exposed. All of the wildlife on the site had to be relocated, and an attempt was made to nursery the existing trees. These site challenges put a major delay on actual field installation.

JANUARY 2013

USGA sand without amendment was imported at a depth of 12 inches for the stadium field and two major league practice fields, and at an 8-inch depth for the four minor league fields and two half fields. The sand layer was placed over a 4-inch pea gravel layer on top of a geotextile fabric, which drains into a Varicore lateral flat pipe drainage system. The system drains to retention basins on site, then evaporates or goes into dry wells, recharging groundwater.

Although he jokes that construction is still not complete, Knight said the most difficult aspect of the process early on was that it raised more questions than answers, questions specifically pertaining to his employment. In a strange twist of fate, his participation in construction weaved in and out, and back again, first as a City of Mesa employee and later as a Cubs employee.

As usual, the role of water in a desert spring training complex was critical. John believes his previous experience in the golf industry helped him better grasp watering efficiency for the park as a whole ecosystem. "Other Arizona Spring Training sites are on a horizontal pumping system, we are on a vertical system more like a golf course," he said.

The pumping system, an area of shared use between the Cubs and the City of Mesa, is more of a booster type station. The Rain

▼ Johnathan Knight, CSFM



Bird pumping station uses three 75-hp vertical turbines that draw from an 8-acre lake on site. The lake doubles as an architectural feature and a fishing pond for Riverview Park. At the pumping station water pressure is around 105 psi. This is moderated down between 60 and 70 psi through a traditional valve block system. The water then makes its way to a combination of Hunter I40 and I20 heads for turf, and Hunter I25 heads on all skin infields.

The infields are constructed with Stabilizer Ballyard Brown infield mix, installed at 5 inch depth on both major and minor fields. The mounds are constructed with a combination of Stabilizer Ballyard Clay and Hilltopper Waterless mound clay.

Knight chose not to install warning track heads, instead opting for waterless warning track mix on the stadium field. "I decided on the Hilltopper warning track mix because of labor savings, but also to control dust. I looked at the contract costs of cleaning the seating bowl. Each dust related cleaning cost \$3,000," he said.

In 2003, with Marriott Golf at the Royal St. Kitts Golf Club, Knight spent the greater part of 3 years learning the idiosyncrasies of paspalum turf. "What people don't realize is that although in the Caribbean, the island of St. Kitt's has an arid climate and little water. That is why I feel so strongly about using that turf in the desert." Using Seashore Paspalum Platinum TE on the Riverview Park soccer fields and common areas of the complex really became a passion project for Knight while employed by the City of Mesa. Some may view this as taking a risk, but he views it as "an opportunity." "That's one thing I learned from Ken Mangum (while working at the Atlanta Athletic Club); always look for opportunities to be innovative. We were definitely going outside the box."

For Knight, advocating for the use of paspalum, being so involved in the design, and even establishing a soccer field/parking area proving ground, truly made relinquishing control of this portion of the project bittersweet. The original design included an 8-inch sand cap over the existing bermudagrass, as a result of value engineering; this sand cap was left out, leading to bermuda contamination. Knight is currently researching how to solve this problem, which he thinks can be contained through patience and diligence. "It's tough to let the whole responsi-

bility go, but I still get to consult for the City and share the responsibility to make it work."

JUNE 2013

At the optimal time in June and July, landscape contractor Siteworks stolonized three-quarters of the project, with the exception of the infields, which were sodded. For the baseball fields, the design team decided to go with a more traditional Tifway 419, overseeded with perennial ryegrass. The entire stadium field and berm were completely sodded in September 2013 without overseeding.

Construction delays pushed Knight's overseeding plans all the way back to November 26, not a good time for overseeding in general, but the new stadium made it even tougher. While a great design feature for fans, the majority of the seating area is shaded, especially along the 1st base line. Knight, still unsure of how overseeding worked out just in time for the season, could only explain, "I was really fortunate for a warm winter."

In September 2010, amidst rumors of the Cubs' leaving, Knight accepted the head groundskeeper job at HoHoKam Park for the City of Mesa. While the new ballpark was not yet approved, he took a calculated risk, believing the Cubs would not leave Mesa. Although welcomed, the 2012 announcement of the new complex created even more uncertainty. No one knew whether the Cubs or Mesa would be responsible for maintenance. To make matters worse, City officials were negotiating with the Oakland Athletics to lease HoHoKam Park. This pretty much meant that the A's would bring Chad Huss from Phoenix Municipal Stadium to manage HoHoKam, potentially leaving Knight without a home. "It was very challenging not knowing what would happen," he said.

After the groundbreaking, one piece of the puzzle was finally made clear. A facility use agreement was signed between the Cubs and Mesa, outlining the role of the Cubs in the stadium, facility and field management, and the role of the City in regards to the minor field timeshare,

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Riverview Park and common areas. The Cubs began interviewing for the Director of Facilities and Fields position in February 2013. Knight quickly submitted his name. Still awaiting the Cubs decision, the City offered him the position to manage the Riverview Park portion of the complex. What should have brought relief,

spurred even deeper soul searching. "I was happy to manage the paspalum for the city, but still very much wanted to be involved with professional baseball. For their patience and understanding I am very fortunate, and thankful to the City of Mesa management."

Despite the uncertainty, Knight continued

the spring 2013 season operating as he always had, a loyal City employee treating the Cubs as a valued client. "I had to walk a fine line, being a fiscally responsible City employee and to be very customer service oriented at the same time. Although I'm a Cubs employee now, I still think of the coaching staff as my client. I think it helps me do my job better."

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Involvement in the construction and maintenance of the facilities is the reason why Knight made the leap from the City of Mesa to the Cubs when finally offered the position. The Cubs will use the 65,000-square-foot training facility, with 10,000 square foot gym space as a year round rehab center. Featuring hydrotherapy rooms, weight room, and agility field, it is considered a medical facility, and maintenance must abide by stringent medical standards.

As Knight and his crew transition from construction to maintenance, an interesting dynamic is emerging. Responsibility for the site is shared between the Cubs and the City of Mesa. Maintenance must be coordinated between the two parties on a day by day basis. "We are still learning the facility and learning how to interact. It has been challenging and rewarding discovering a new operation method," Knight said. Many of Mesa's maintenance staff were employees of his at HoHoKam. The familiarity there, combined with his laidback personality, make this potentially tough sharing arrangement, a productive method for both parties.

Being part of the design with the City of Mesa, while executing his own spring training daily responsibilities at HoHoKam, not knowing his employment fate, then overseeing the construction process for the Cubs, and finally taking over the facility with a short timeframe before opening, have made the last few years a blur. At one point Knight, being the only Cubs employee on site, was responsible for giving tours of the stadium. Now that he finally gets to reflect on his journey, the challenges were what he learned from the most. "I'm starting to see a big picture view of how great a project this really is. I learned so much from the infrastructure construction. What I really learned is that without the help of my crew, we wouldn't be sitting here today." ■