



## Facility&Operations

By Clayton Hubbs

>> **TD AMERITRADE PARK** will be the new home to the NCAA College World Series

come a central piece of not only CWS history, but the Omaha community and economy as well.

Almost 60 years after Omaha struggled to keep the CWS, the city was placed in a familiar position with pressure from the NCAA to build a new stadium or potentially lose the CWS. In another labor of love, then-mayor Mike Fahey proposed building a new stadium in downtown Omaha. With such a tough act to follow, The Metropolitan Entertainment & Convention Authority (MECA), enlisted the help of designers HDR Architects, Populous and DLR, and together with general contractor Kiewit Construction, set out to produce a world-class, LEED (Leadership in Energy and Environmental Design) Certified stadium. Even with the \$131 million investment, the new TD Ameritrade Park has very large shoes to fill. The new stadium is expected to not only create new Rosenblatt-esque memories for fans and players, but must also kickoff what *Baseball America* calls the “new era of college baseball” for the NCAA.

# New home for College World Series handles water problems

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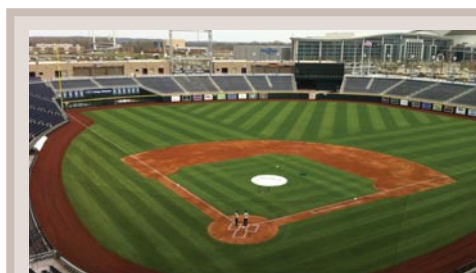
**F**OR THE FIRST TIME IN 60 YEARS, college baseball’s “Road to Omaha” will end somewhere other than historic Rosenblatt Stadium. Just down the road, the state-of-the-art TD Ameritrade Park will be the new home to the NCAA College World Series (CWS). Much has been said about the great atmosphere and tradition that will be lost with the closing of Rosenblatt, but Omaha officials and the

NCAA insist that the CWS is gaining much more with the construction of the new stadium.

The CWS was first played in Omaha in 1950 and is one of college baseball’s longest running traditions. Named after beloved Omaha Mayor Johnny Rosenblatt, building Rosenblatt stadium and keeping the CWS in Omaha became a labor of love through the first 10 unprofitable years. Through the struggle, Rosenblatt Stadium grew to be-

### CATCH AND RELEASE

Perhaps the least talked about feature of the new stadium may be its most impressive. With such high expectations looming, the new playing surface goes above and beyond the traditional ball field, providing a high-tech solution for the stadium’s regulatory concerns and contributing large cost savings to the project.



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Designed by Dan Almond of Millennium Sports Technologies, Inc., the field and drainage system balance the need to perform at a highly scrutinized collegiate level with the site's unique restrictions. Being situated along the Missouri River, flooding is a major concern. Because of this, restrictions are placed on the amount of water that can be released off the site, water that potentially could aid in raising the river level during a rain event. While in a planning meeting, Almond discovered that to meet the site's historic release rate requirement, the architects and engineers planned to use large storage tanks under the parking lot to hold hundreds of thousands of gallons of water. After learning of their plans, Almond suggested that he could design a drainage system that would allow them to store the required 7.5 inches of rain underneath the field, cutting tremendous tank and labor expenses, and bringing the field into the spotlight for the rest of the design team.

According to Almond, the drainage system construction began with the mainline piping, which runs like a spine from under homeplate and discharges the water into a large vault/water separator under center field. Additional perforated drain lines run from the mainline in a perpendicular pattern. Almond had the lines placed in stone-filled trenches, as he is sure the water will find its way to the trench as a backup, should something happen to the drain line.

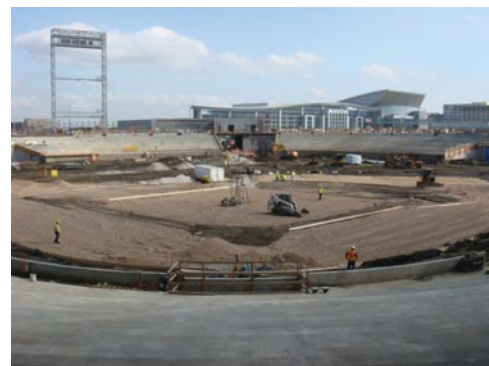
Next a layer of precisely selected  $\frac{1}{4}$  to  $\frac{3}{8}$ -inch gravel was placed following the slope of the drain lines. The gravel selection is critical to achieve the desired porosity that many of Almond's calculations hinge upon. This layer can be between 4 to 30 inches deep, increasing in depth closer to the main collector drain line discharge point.

Then a 10-inch sand rootzone was placed over the gravel layer. The sand is slightly coarser than a USGA specification and was blended with 8% peat. When asked if the gravel and sand interface was tested, Almond laughed and said, "You could say that. I don't leave anything to chance; we use independent testing laboratories and we test everything, and retest and retest." The tests (and retests) were conducted to achieve the right sand particle size needed to bridge correctly with the gravel, important in preventing migration of the sand into the gravel layer below.

Finally, the surface was sodded with a Kentucky bluegrass blend from Graff's Turf Farms of Fort Morgan, CO. Almond says with this design, beyond the underground water storage capabilities, the surface is able to move water through at an extremely high rate of 5-6 inches per hour.

### **TRUSTED TECHNOLOGY**

As is his practice, Almond uses technology that he has prior experience with to deliver greater value to his clients. With almost 10,000 linear feet of piping in the ground, Almond wanted to capitalize on the large investment and use the drainage pipes for other purposes. A SubAir system was installed to help evacuate water more quickly through the rootzone and to promote better turf growth. The system's main function will be to provide oxygen to the root structure, but it is also fitted with natural gas injectors



that can be used to warm and extend the life of the field in the Fall, or speed up dormancy in the Spring.

Almond recounts another side benefit of the SubAir system. “I remember watching Bill Deacon, head groundskeeper for the New York Mets, use the SubAir system at Citi Field to literally lift the tarp off of the ground and move the water after a heavy rain. Those tarps can get really heavy when covered with water and this is a great way to help.”

Almond noted, “This is a tough downtown location with poor (air) circulation, bad weather and lots of rain.”

The site was a former railroad yard with existing soil that was very compacted and contaminated with debris...

Because of the unique site requirements, careful attention was paid to the infield, warning track and mound clay material selection. For the infield mix, Almond collaborated with Stabilizer Solutions, Inc., a soil technology company, to help design and source a regional stabilized infield mix for

TD Ameritrade Park. The resulting “Pro Red” mix is a selected blend of 40% silt and clay content, with a silt-to-clay ratio (SCR) near 1, and the remainder composed of sand particles derived from a crushed and screened aggregate.

The mix contains the Stabilizer organic amendment to

maintain moisture levels longer, while keeping the playing surface stable during rain events. The company relied on a local dealer, Golf and Sport Solutions of La Salle, CO, to meet its strict specifications and blending procedures to produce this mix closer to Omaha.

The infield mix was designed with a 0.75% slope to aid in surface drainage. Almond chose to use a crushed volcanic rock for the warning track because of its appearance and crunchy feel, and to use the Stabilizer because it really knocks the dust down and holds moisture. The warning track was designed with a 1.25-1.5 percent slope in certain areas. The mound was designed to be portable, because of additional field use such as concerts, football and soccer games.

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Almond admits that construction was not easy. The site was a former railroad yard with existing soil that was very compacted and contaminated with debris, making it difficult to trench and install the 10,000 linear feet of piping. Further complicating construction was the fact that this was an Omaha Superfund site, meaning that the existing soil was not permitted to leave the site. This forced playing field contractor Nemaha Landscape to get creative and store excavated soil under the parking lot and other areas.

Because of the tight 13-week field installation time table, Nemaha Landscape was required to work around the stadium construction team. The contractor worked in three phases to allow other trades to finish on certain areas of the field. Amazingly, field construction was finished 1 week ahead of the deadline, but as a result of the schedule, the sod was not installed until November 2010. This created a new challenge for Turf Manager Dan Blank to establish the sod in a short time frame. "This is

still a new field, Dan was able to get the new turf well rooted by the use of growth blankets," said Almond. Despite the small setbacks, Almond believes this field will stand up to what is thrown at it. "This field should get quite a bit of use, Creighton University plays their home games there, and it will host football/soccer games and concerts. I think we were able to balance the need for field use and drainage concerns."

TD Ameritrade Park opened on April 19, 2011 to host Creighton University vs. the University of Nebraska, attracting 22,187 fans, the largest regular season attendance this year in NCAA baseball. While Rosenblatt will forever be a part of the CWS identity, so far reviews have been favorable of the new stadium design. The 24,000-seat stadium features 360 degree views of the game from the concourse. Fans and media have commented on the ease of movement and room on the concourse, especially near the concession stands, as well as, the extra room in the aisles compared to

Rosenblatt's cramped quarters.

The light-brown exterior brick, a high definition video board in right field, unique crisscross light standards, and an eye catching blue-green press box and club level combine to give the stadium a contemporary aesthetic appeal. In regards to the overall experience, Almond said, "There was a lot of interface between design disciplines inside and outside of the stadium that improved the process. The client was very involved in the project and we were lucky to have them trust us to use the right materials for them."

With the new stadium filling so many other needs, for Almond and the rest of the design team, the pressure to be like Rosenblatt was traded for desire to make a new imprint in the Omaha community. "Mainly, the client and design team wanted this field to have its own signature look and feel and I think we've accomplished that." The CWS will be played in Omaha for the 61st time and at TD Ameritrade Park for the very first time June 18, 2011. ■