



GAME

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# HANGER

**ALUM LINKS ENGINEERING & GOLF COURSE DESIGN**

BY MARK DWORTZAN



**M**ost golf course architects have a degree in landscape architecture or turf management, but that didn't stop engineer Mike Nuzzo (Aero'90) from venturing into the field. In fact, his engineering background has been key to his success in designing and improving more than a dozen golf courses since 2000. Applying the most sophisticated design technology in the industry, Nuzzo is using his Boston University engineering education to develop some of the world's most innovative golf courses.

"Our goals are to design and build a golf course that's as fun as possible, can be maintained as easily as possible and can be constructed as efficiently as possible," says Nuzzo, whose firm, Nuzzo Course Design, is based in Houston.

To boost the fun factor, Nuzzo favors large fairways that enable golfers to choose from a wide range of tee locations and types of shots, a stimulating variety of green shapes and hole lengths, and a park-like design that accentuates the beauty of the existing landscape. To streamline course maintenance, Nuzzo fashions highly efficient irrigation and drainage systems and applies consistent construction methods that simplify operations. These methods exploit the natural contours of the land to minimize earth-moving operations and rely primarily on local materials and labor.

Optimizing a golf course to maximize fun, maintainability and efficiency is where engineering comes in. Day by day, as he surveys a course-in-progress, Nuzzo carries a handheld GPS receiver that shows an illustration of the planned golf course superimposed on an aerial photograph. This technology enables him to precisely define

and update course boundaries and features and tweak them on the fly as he walks the extent of the course.

That's how, from 2006 to 2008, Nuzzo transformed a 200-acre cattle ranch on the Texas Gulf Coast into Wolf Point, a world-class, 18-hole golf course designed for the owner's personal use. To bring in the fun—an aesthetically pleasing, natural-looking field with large fairways and multishaped greens that promote a wide variety of shots—Nuzzo used his integrated PC/GPS receiver to ensure that everything was situated exactly where he wanted it, and as much of the land as possible—about 100 acres in the end—remained undisturbed.

"Wolf Point is a lot more fun than the typical PGA [Professional Golfers' Association] course, where the fairways are smaller so it's easier to lose balls, the greens are built for the same type of shot (long and high), and everything is so well defined it looks like a puzzle or game board," he explains.

Nuzzo also used his GPS to map existing drainage features and plan an extensive drainage and irrigation piping network to keep turf in ideal condition, thus reducing maintenance costs. Linking pipes to natural swells in the landscape to move water through the network, he minimized the need for piping materials and earth work. To construct the piping network efficiently, Nuzzo used his GPS to determine the precise locations of about 750 rotors used to distribute water across it.

All these measures clearly paid off.

"Most golf courses are built for 5–15 million dollars and cost half a million to 2 million a year to maintain," Nuzzo says. "Wolf Point was built for 3 million and is maintained for a lot less than 500,000 dollars."

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Adam Lawrence, *Golf Course Architecture* magazine



It has also received glowing reviews. In the March issue of *Golf Magazine*, leading golf course architect Tom Doak rated Wolf Point number three in his “Top 10 Discoveries of 2012.” According to *Texas Golfer* magazine, “Wolf Point is a revelation.” Adam Lawrence, editor of United Kingdom’s *Golf Course Architecture* magazine, concurred. “Astounding... one of the very greatest courses I have seen... full of clever design work,” he reported. “Not only is it probably the best first course by a modern architect that I have seen, but it is also a living case study for the future of golf design and construction.”

At the heart of Nuzzo’s success is his intense passion for the game and its design, says his wife Nancy (SMG’91). “Because golf is always on his mind, ideas can pop in his head at any time, day or night,” she says, “from how a routing could be positioned differently to make it more fun to play, to how an irrigation system could be redesigned to be more cost effective.”

Nuzzo’s fervor for both golf and design goes back to his childhood. As a child, he played the game with his father and designed mini-golf courses around and under furniture in the den of his family’s apartment; as a teen he caddied at a club in his hometown of Maplewood, New Jersey. Meanwhile, he cultivated a strong aptitude for engineering and design, leading him to major in aerospace engineering at BU.

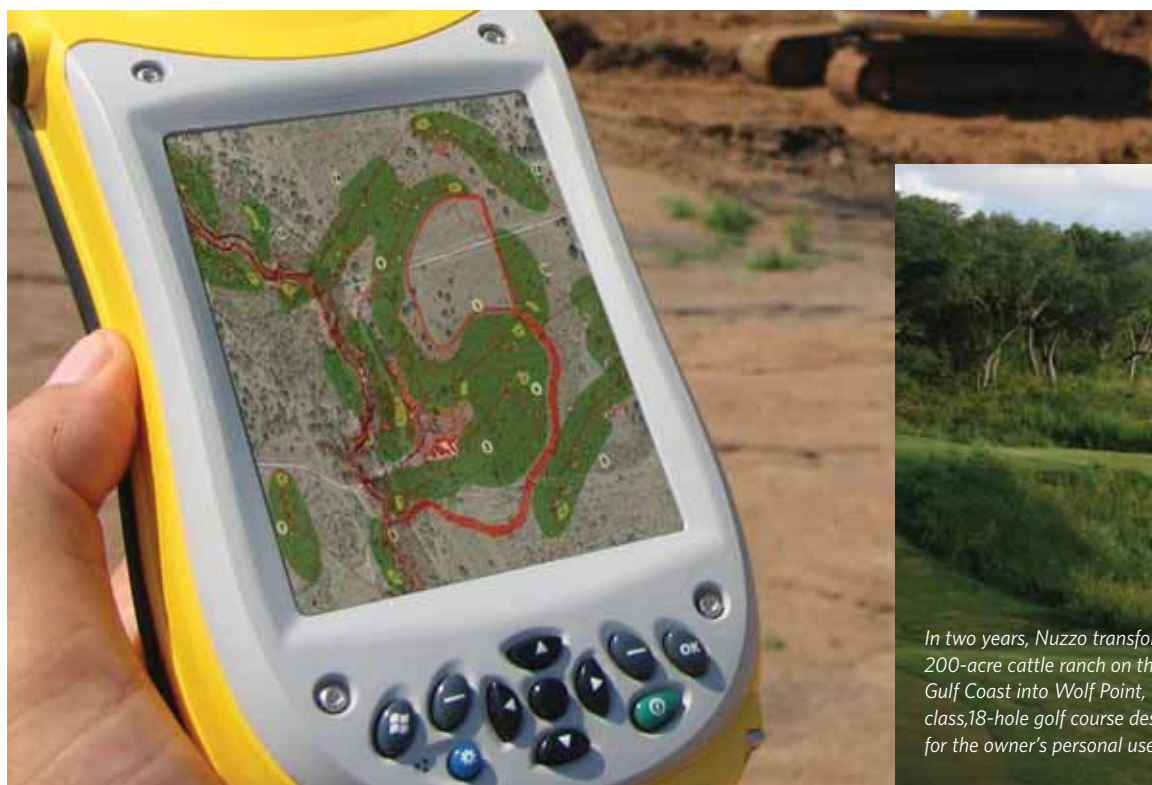
A major highlight of his time at the College of Engineering was learning how to use computer-aided design (CAD), a tool he applied in his senior design project to design an aircraft. His CAD expertise helped him land his first job upon graduation with Becton Dickinson, a global medical technology firm, where he earned a patent for a labware product; it continued to serve him

well when he was a lead engineer at Lockheed Martin, the world’s largest aerospace company, where he spearheaded the development of a satellite antenna that provides phone and data communication services for up to 60 percent of the world’s population. Although he enjoyed the creative challenges of this work, the golf bug proved too compelling to ignore.

Armed with leading-edge CAD tools he had used at Lockheed Martin, an intimate knowledge of GPS, and solid design and planning skills, Nuzzo, then 32, reinvented himself as a golf course design consultant, supporting architects, builders and existing golf courses and developers. While he initially aspired to become an associate at a golf course architectural firm, his resounding success with Wolf Point convinced him to partner with a construction manager and run his own firm.

His 7- and 10-year-old daughters are no strangers to the fabled Gulf Coast course—while all the golf courses in Houston cater to more advanced players, Wolf Point is the only place Nuzzo can take them to play the game. Sure beats miniature golf in the den. ■

More information on Nuzzo Course Design is available at [www.mnuzzo.com](http://www.mnuzzo.com).



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