"We need to keep costs involved with building and maintaining golf courses down," he says. "We need to make a viable amenity in a community."

Kurt Huseman, executive v.p. of the project development group for Landscapes Unlimited, a golf course building company based in Lincoln, Neb., says developers look at golf courses as a way to sell more expensive real estate, but he also sees another trend.

"We're seeing more of a hospitality component in golf course development," he says. "Golf course clubhouses will be part of a hotel, and developers will be putting hotels on golf courses so the business traveler has a recreational outlet. It's a way to capture rounds and roomnights."

Courses will be built in other locations as well. Upper-end golf courses, which are a small portion of development, will be developed in remote areas, such as Whistling Straits in Kohler, Wis. Additionally, environmental rules will force golf courses to be located in areas

that are considered derelict sites, according to Jeff Brauer, a licensed golf course architect and president of Golfscapes, a golf course design firm in Arlington, Texas.

Love agrees with Brauer and says more golf courses will be developed on degraded sites, which can be more than a quarry or landfill, for adaptive reuse.

"To retrofit a landfill to a golf course isn't the easiest thing to do," Love says. "The cost can be higher than you may want if you have to remove trash and contamination. Golf course construction can be folded into remediation, but the grade might be ready for a golf course, which can save money."

Sheer rock cliffs are an example of not tampering with grade. Love suggests developers incorporate them into a course landscape instead of eliminating them.

Length

The length of golf courses is a popular topic lately. Many wonder, with golfers hitting balls

farther, how much longer courses will be. But with length comes expenses such as land, development and maintenance costs.

Doug Winfield, a mechanical engineer who designs golf equipment, says there has been a big increase of length on championship golf courses, which are about 7,600 yards long on average. However, he says there will be an emphasis on strategy because not every hole can be 480 yards.

"It's hard to make a 7,600-yard course for a normal golfer to enjoy," Winfield says. "The hazards don't make sense for some golfers on courses that are that long. But tournamentlevel torture tracks are popular. You don't see many shorter courses. There are too many golfers that want to play at their own pace.

"Because more land is needed to build a championship golf course, there's a greater need for residential development to finance the development of the golf course," he adds.

Brauer says people eventually will realize that long lengths are needed for only 1 per-



course design



cent of golfers, who are professionals. He says they seem to like to play 7,300-yard courses.

"We will come to our senses and won't use the back tees [on those long courses]," he says. "Overreaction will settle, and the back tees will stabilize to 7,250 yards."

Kocher says shorter courses will be mixed in with longer ones.

"If I was building a 36- or 54-hole complex, one course wouldn't be as long as most courses seem today," he says. "You can't be under 7,000 yards if you're developing a course, yet amateurs are enjoying those types of long courses less. I'm not sure if a short course will be developed all by itself. So much is predicated on playing 18 holes.

"If you're going to build a course that will host a professional tournament, you have to think differently about length," Kocher adds. "Pro tournament golf is in a class all by itself, but you can't build courses just for that."

Stan Zontek, an agronomist and director of the Mid-Atlantic region for the USGA Green Section, says a result of longer drives is the blurring distinction between par-4 and par-5 holes.

"Years ago, a par-72 would be 7,000 yards," Zontek says. "Now you see par-71 courses that are 7,400 yards. Par-5s are turning into par 4s for some pro golfers."

Love says the industry needs to focus on presenting a challenge to golfers without adding extraordinary length to courses.

"Cost is significant, and the answer is not to make courses longer and wider just because people are hitting the ball farther," he says. "We need to come back down a bit from the 7,500-to 7,600-yard range, but it depends on the ruling bodies of golf. Some controls will have to be put in place. We're going to have to put the brakes on where we're going. There's going to be a lot more focus on doglegs and hills to create challenges."

Huseman says the 7,300-yard average length course will remain constant.

Greens

Greens are probably just as hot a topic as course length, if not more, and this area will experience change as well. Winfield says greens are much faster than they used to be and superintendents keep reducing mowing heights to meet golfers' demands.

"What happens on the PGA Tour trickles down to the recreational courses," he says. "The ability to maintain courses has made quantum leaps, and there have been many agronomy enhancements."

Brauer says greens must have a slope of 1.5 percent for drainage and that while many greens are flattening, the average golfer likes contour.

"I haven't flattened my greens as much as some others have," he says. "They don't have to be as flat as 0 percent to 1 percent. Contours can be used to feed the ball to the pin. Greens no longer slope from back to front to help a shot. Slopes from right to left and pin positions can combat extra large greens."

"We're going to find that architects will be making greens harder with reverse slopes," Huseman adds. "I like the idea of going back to smaller greens, but I don't know if I see that trend."

Greens have grown throughout recent years, according to Zontek.

"Greens used to be 5,000 square feet, and now 8,000 square feet is becoming more common," he says. "But in the 1960s, we built monster greens – 9,000 to 10,000 square feet."

Brauer says that because the cost of maintaining greens is so expensive the industry needs to go back to more functional sizes.

"I'd like to get greens below 5,000 square feet with fewer contours and larger greens with more for the sake of variety," he says. "I'm not afraid to be eclectic: a few small, a few large and everything in between."

Pin placement is also important as it relates to green size.

"We want to be able to create different pin placements so you can spread the traffic out and prevent the golfer from getting bored," Love says. "There's an infinite amount of va-



riety for pin placement so the golfer can have a different experience every time he golfs."

Kocher says greens can get smaller and one reason is because new ultradwarf Bermudagrass and high-density bentgrasses (the As, Gs and L93s) have the ability to accept more wear.

"I'm influenced by [golf course architect] Donald Ross, but I see designers incorporating shortcut roll-off areas around the green," he says. "More people like that pen-



alty more than missing a green by five feet and being four inches in rough."

Zontek says ultradwarf Bermudagrass and the Penn A, G and L93 bentgrasses allow faster green speed, but he doesn't know where it will end.

"[Golf course architect] Tom Marzolf is developing guidelines for greens," he says. "He says his clients want 10.5 on the Stimpmeter. People think faster greens equal good greens. It's a catch-22. I don't know how we're going to change golfers' perceptions."

"It's amazing what they do with grasses," Huseman adds. "They are using TifEagle Bermudagrass on greens in Texas to make them faster."

Green location also is important to realize is the design process.

"There's a realization that you need enough sunlight on new greens and you can't tuck them back in a shady nook," Zontek says. "Greens have been put in bad locations."

Fairways

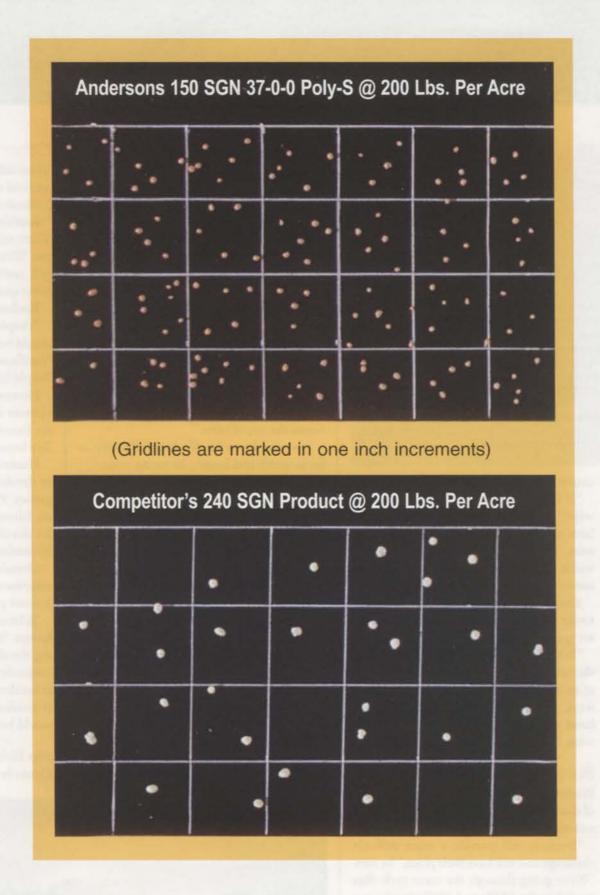
The distance golfers are hitting balls also affect fairway widths. Winfield says holes near houses need to be wider, and Brauer says golfers would like to see wider fairways with fewer trees, but recently, superintendents are under pressure to narrow them.

"Narrower fairways can reduce maintenance," Brauer says. "It costs a lot more to maintain fairways than rough even though there is better and better maintenance on smaller areas of the fairways. Reducing the size of the fairway and increasing the size of the rough saves water. I hope to keep fairways wider but smaller is the trend because of the money to maintain them."

Love says fairways have to be wider, especially with golfers using new equipment to hit the ball farther sideways.

"We need to widen the landing areas, but I want to accommodate new technologies and reduce maintenance requirements," he says. "It's a tough thing to do. You have to be careful when designing a course to make sure the narrow and wide areas of the fairways are in the right places but aren't cookie cutter. All of this is based on topographic conditions. Design is not one-dimensional and can change the slope your hitting into."

Fairway widths depend on the type of



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Changes in technology, ratings and mower stress

Design changes aren't the only evolutions superintendents will see on the course in the future. Wireless technology, course ratings and mower stress also will change, affecting the way courses are maintained.

People are looking to apply wireless technology on golf courses, according to Kurt Huseman, executive v.p. of the project development group for Landscapes Unlimited, a golf course building company based in Lincoln, Neb.

"Expect to see more people aligning technology with the game, such as Wi-Fi and technology that would be used to locate golf carts, keep track of maintenance and employees, and communicate with the pro shop," Huseman says.

Doug Winfield, a mechanical engineer who designs golf equipment, says a lot of courses aren't rated properly, and one day, course ratings should account for weather, such as high winds after a lot of rain.

"Better methods of course ratings are needed," Winfield says. "There are ways to fool the USGA course rating by putting out of bounds markers on a course in order for it to rate more difficult."

Stan Zontek, an agronomist and director of the Mid-Atlantic region for the USGA Green Section, says the conditions of golf course will get nothing but better, but there needs to be more of a focus on managing mower stress.

course, Huseman says.

"If land is cheap, you'll have wide fairways," he says. "If land is expensive, you'll have narrower fairways. And for safety reasons, fairways will have to be a certain width. We're also seeing a trend of more native areas in out of play areas."

Zontek says fairways are becoming narrower and the mowing heights on fairways are getting shorter.

"It was one inch in the 1970s, and now the better courses are down to 0.325 to 0.4 of an inch," he says "We're topdressing fairways. I've heard of some courses that are hand mowing fairways. It was a joke at one time, but now people are doing it."

Bunkers

Bunkers probably won't experience the kind of changes greens and fairways will, but there will still be a trend, according to Brauer.

"Bunkers still provide a more difficult challenge and still have their place," he says. "We're going through the same cycle that we did in the 1960s and 1970s to take out bunkers that don't see a lot of play for economic reasons. We need to justify bunkers. The trend will be fewer bunkers."

"You need some, but you don't need that many," Kocher adds. "Grassy hollows could replace some bunkers. Sometimes we have too much sand, and to a professional, sand is not a penalty."

Unfortunately, people don't think bunkers are hazards, according to Zontek. Bunkers aren't supposed to be consistent. Finer sands are used in fairway bunkers and softer sand are used in the bunkers near the greens.

Love says if a course doesn't have many natural features to define it, more bunkers could be added. He says architects can design bunkers that are drastic but they need to be aware of maintenance requirements for them.

Bunkers are tied to the cost of golf, Huseman says.

"We're seeing a lot of municipal clients who want affordable golf – \$4 to \$5 million for a facility – so the number of bunkers is fewer," he says. "The price point determines the number of bunkers."

Tees

Tees are changing, too. Brauer says that because there are so many tees on a course, architects are staggering them left to right so golfers doesn't see the others when teeing off.

"Tees are using more and more land," he says. "Increases in land become difficult for walkers to get to the back tee and that reinforces the use of carts."

Love says he's a fan of a lot of diversity, as far as width and length, in teeing areas.

"It gives the golf course more excitement," he says. "Having four to six tees gives you flexibility. Most of the up-front tees are in one spot and flexibility is in the middle tees. Senior, women, professional and amateur tees provide a reasonable challenge for all levels of players."

One of the results of farther hit balls are multiple tees.

"I saw one course with seven tees – that's a bit much," Zontek says.

Also, tee boxes are becoming more of a feature, and they tend to be more isolated, Huseman says.

"[Golf course architect Tom] Fazio has been developing that technique," he says.

The industry will see a return to squared off tee boxes because it's a function of how they're built and maintained, according to Kocher.

Other trends

There will be some other growing trends, but artificial turf isn't going to be one of them.

"Artificial turf won't take over," Brauer says.
"Natural turf provides environmental benefits.
There will be more drought-tolerant grass, too. We're not taking a step back to scruffier golf courses. I don't see switching back to lower quality playing conditions."

Kocher says artificial turf is costly.

"People will be willing to look at it, but I would be surprised if it's a trend," he says. "Artificial turf doesn't have an infinite life. People like real growing grass."

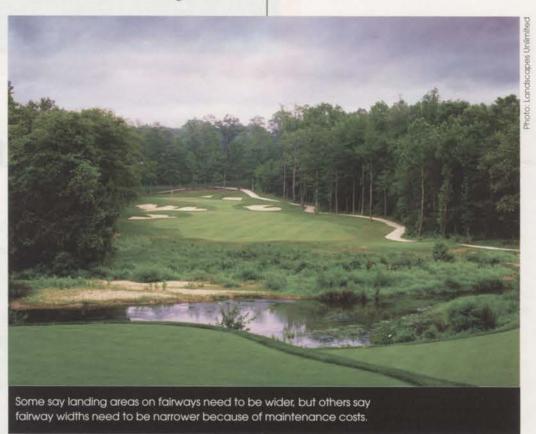
However, there is a golf course in development in Mancos, Colo., called Echo Basin Resort that will use artificial turf. Dan Bjorkman is the owner and developer.

Huseman also says there's growing trend to develop more drought-tolerant fairway grasses. Paspalum is a popular type of grass on fairways and greens in the Caribbean. It's also cheaper than Bermudagrass because it's seeded, not sprigged.

Overall, Huseman says golf course development won't decline any further, but it won't pick up quickly.

"A lot of renovations are keeping us busy," he says. "A lot of the renovation entails wiping the slate clean and starting over. New course development will hold steady as long as residential development can support it. If residential development declines, we would be directly impacted." GCN

John Walsh is the editor of Golf Course News. He can be reached at jwalsh@gie.net.



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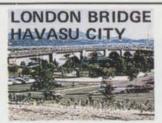
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DUBLIN RANCH'S EXECUTIVE-STYLE COURSE AIMS TO BE ALL THINGS TO ALL GOLFERS

ifteen years ago, a Taiwanese real-estate developer searched the grasslands east of San Francisco looking for attractive investment property. Since then, the region around his piece of land in Dublin, Calif., has SAUNDERS seen considerable growth. For R.S. Lin and his management team, DTT Management, the investment in agricultural land turned into a gold mine as the housing market continued to be in high demand and land prices rose.

> Initially, Lin approached the transformation of the 1,500-acre parcel of land like many other developers have done with projects like this by creating a series of housing developments around a golf course. But the similarities end there. His course, Dublin Ranch Golf Course, is an effort to upgrade the concept of the executive-style course to address one of the reasons that some golfers leave the game: the time it takes to play it.

> For Lin, who is an avid golfer, this also represented the chance to own a course. He envisioned keeping the golf course as a public facility that would serve the new housing communities and the expanding city of Dublin.

> The site for Dublin Ranch rests on a rolling piece of land that required extensive earth moving to form suitable housing sites. The parcel left for golf course development was restrictive because of severe elevation changes.

> Lin hired golf course architect Robert Trent Jones Jr. to devise a suitable course for the hilly site. The design team, which included golf course architect Don Knott, proposed an 18-hole par-63 course that featured two par-5s, five par-4s, and 11 par-3s.

> By the time the homesites were established, the area for the course lent itself best to a series of par-3 holes," Jones Jr. says. "We have created many of these executive-style courses throughout the country for decades, and they are especially effective in urban areas where land is at a premium. We were able to add two par-5s and five par-4s to give the course more variety."

AT A GLANCE:

Dublin Ranch Golf Course

Location: Dublin, Calif.

Course type: 18-hole daily-fee facility

Cost \$6.2 million Construction began: March 2002 February 2004 Course opened:

3,412; 3,877; 4,350 and 4,820 Yardage:

Par: 63

Average green size: 8,000 square feet

Number of bunkers:

Bluegrass/ryegrass mix Fairways:

Tees: Ryarass Greens: Bentarass

95, 104, 105 and 107 Slope: 59.3, 60.4, 61.9 and 63.4 Rating

Superintendent: Mike Vickers DTT Management Developer: Construction Co.: Wadsworth Constuction Architect: Robert Trent Jones Jr.

Owner: R.S. Lin

The advantages that usually are gained by the executive-length course, including less maintenance and construction expenses, didn't figure into the decision-making process for the developers. The main concern was to have a complete design for the housing sites and the course, so the massive amount of earthwork involved could be accomplished as efficiently as possible.

"More than six million cubic yards of earth had to be moved to shave the hills and create the pads for the housing site," says Mike Vickers, who first was retained as a project manager for the construction of the

design case study



course and then was kept as the golf course superintendent. "Planning where to build up areas and where to store excess soil for later use was crucial in our initial planning."

The right design

When Lin looked for a golf course architect

eight years ago, the golf market was strong; but by the time he began construction, golf suddenly was dealing with a decline of rounds and the challenge of golfers leaving the game. The plan Lin decided on suddenly looked like a timely decision on his part.

"As technology in golf equipment improves, designers are wondering how big should golf courses be?" Knott says. "At some point, as you build large courses for professional players, the courses become too difficult for the average player. At Dublin Ranch, we tried to design the course so that it would be in between a par-3 practice course and a championship course and would be an enjoyable golf course for all levels of players."

The course consists of two nine hole layouts that ring the edges of the site. Even though there are only 112 acres of maintained turf, the course is spread throughout almost 300 acres, which gives it a larger feel. Extensive earth moving helped to form inviting green sites that hang on the edge of hill sides and create pleasant views of the valley and Mount Diablo.

"We made a conscious effort to make each hole as individual as possible," Jones Jr. says. "We only put in 38 bunkers because the consistent prevailing wind provides adequate protection to the holes. The large landing areas also add to the inviting look of each golf hole."

Each hole features five tee boxes, which provide length and angle variety to the greens. The course plays 3,412 yards from the forward tees and 4,820 yards from the back tees. The par-3s provide a variety of lengths from 143 yards to 224 yards, and the two par-5s are 549 yards and 521 yards, respectively.

Also, the greens are large, averaging 8,000 square feet.

"That gives me a lot of pin placements," Vickers says. "The entire layout has the look and feel of a regulation golf course. Players that have come here are surprised at what they find."

Vickers came to Dublin Ranch after several years of working on the construction side of the golf course business. After graduating from Michigan State University's turf school in 1994, he joined Greenscape, a golf

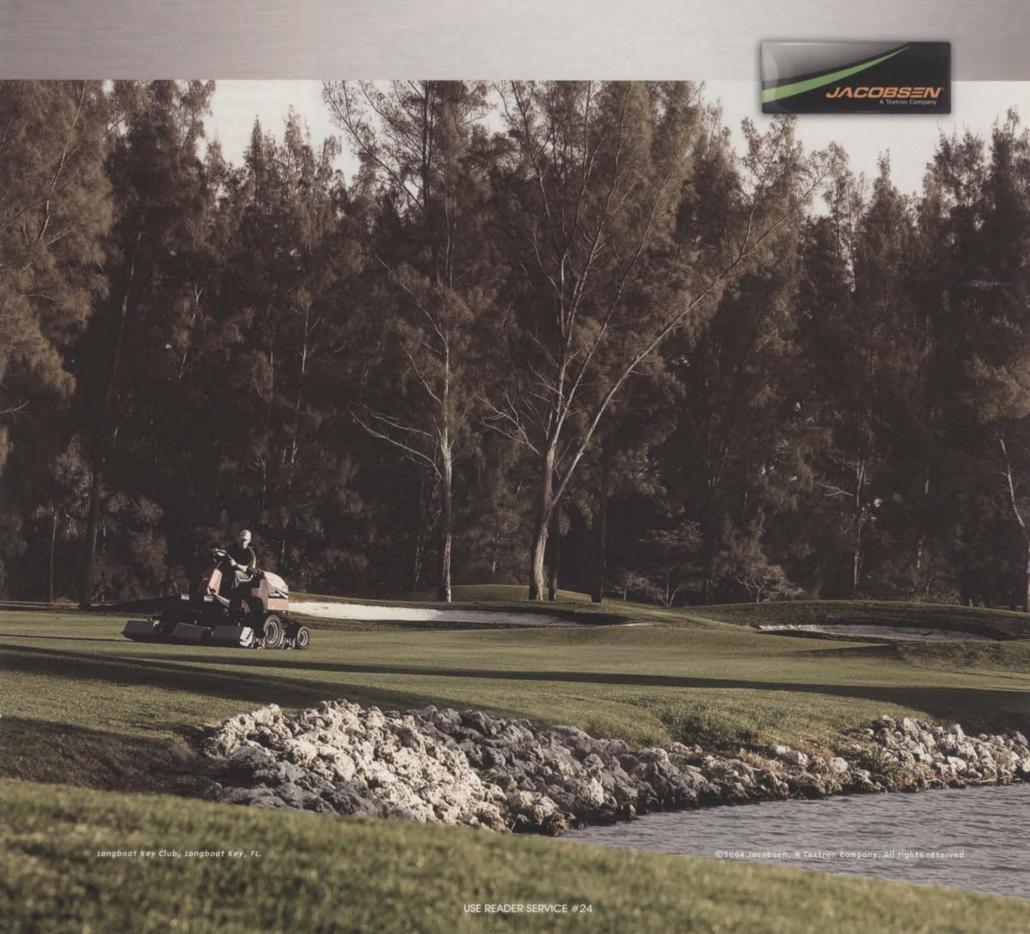


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construction firm that built the majority of Jones Jr.'s designs.

"I felt that it would be valuable to get some construction experience for my resume, but I enjoyed that facet of the business so much that I stayed in the construction end for 10 years, Vickers says. "Mr. Jones referred me to Mr. Lin as he was looking for a project manager to oversee the work at Dublin Ranch. Wadsworth Construction did the work here while I looked for ways to keep costs under control."

Building it

Construction of the course finally began in



March 2002 and was shaped and planted by November of that year. In some areas of the course, 40 feet of fill was added, and both water tanks that service the course were surrounded with mounds of dirt to keep them out of sight.

"The city of Dublin continued to have major input in the construction and visual appearance of the course," Vickers says. "This is the first, and probably the last, golf project in the city, and they took a strong interest in how it would fit into the area."

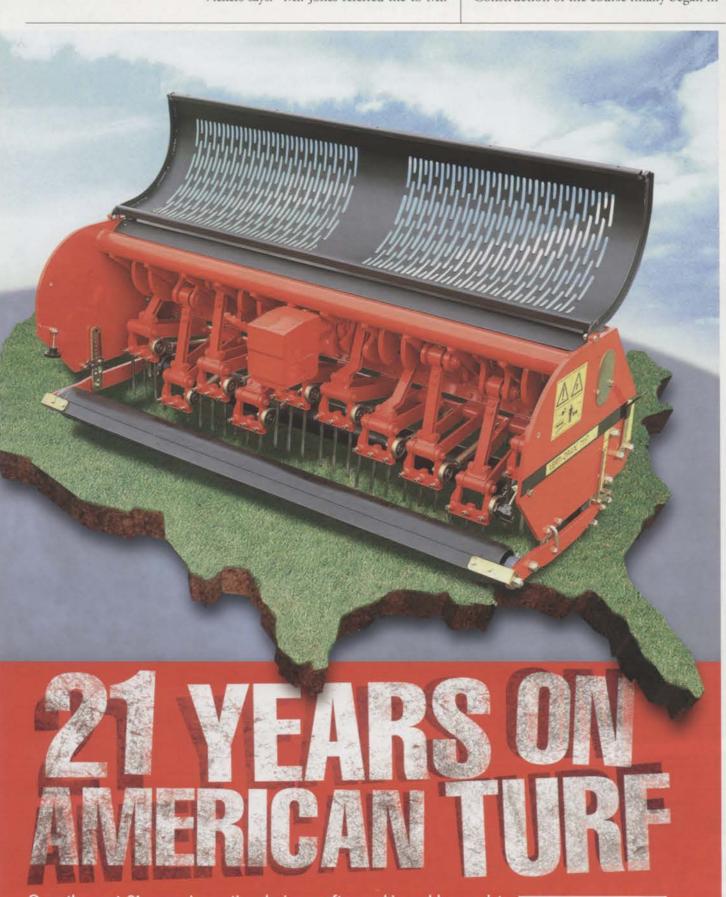
At one point during the winter months, a Bald Eagle was found nesting in an oak tree three-fourths of a mile form the course. City officials, based on advice from California Fish & Game, asked that construction of the course and houses in the bird's view be halted until nesting was completed. The developers also built a roost for the eagle further up in the canyon so it would have a more secluded nesting area in future years.

Throughout construction, grow-in and completion, the one element that was never compromised was the desire to do things in a first-class manner. Lin, who lives in Taiwan and speaks no English, has taken great pride in the golf course he created. Daniel Tsai, general manager of Dublin Ranch, says Lin feels that the emphasis on presenting a well-maintained shorter golf course sets Dublin Ranch apart from the other courses in the area.

"We offer a first-class course that allows you to use every club in your bag and can be played in 3.5 hours," Tsai says. "We are also able to offer this course at a rate that is less than our competitors."

The course features a bluegrass/ryegrass mix on the fairways, straight ryegrass on tees and Dominant Plus bentgrass on the greens. Lin kept Vickers as the superintendent because of the trust that had been developed throughout the construction phase. Vickers had the luxury of allowing the course to grow in for 14 months before it opened to the public.

"Dublin Ranch is different from other executive courses because we spent almost as much in construction as a full-length course due to the massive earthwork," Vickers says. "Also, we are sparing no expense on maintenance because we know that we must present a high-quality product to get golfers to come and play a par-63 layout."



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