

Annual rainfall is less than two inches. Summer temperatures rise daily to 110 degrees or more. So the primary concern building the PGA West courses has been using heat- and drought-tolerant trees, shrubs, grasses and other vegetation that will also resist the wear and tear of tens of thousands of rounds of golf.

Dynamic innovations punctuate courses in La Quinta's unique desert environment

By Frank Pollard

The four-course PGA West golf complex built in the last six years is not only the envy of many in the industry for its design, it has become a model for planners facing the formidable chore of building a course in the parched and heat-scorched desert.

The research of developer Landmark Land Co. can stand as a tool for others to work with in building courses in a harsh climate like the 2,010-acre PGA West recreational/resort and golf community in La Quinta, Calif.

Though the sun-drenched and arid Coachella Valley, running from Palm Springs to Indio, is parqued with a smorgasbord of 72 lush and verdant golf courses, PGA West's environment is unlike any other desert in the Southwest or California.

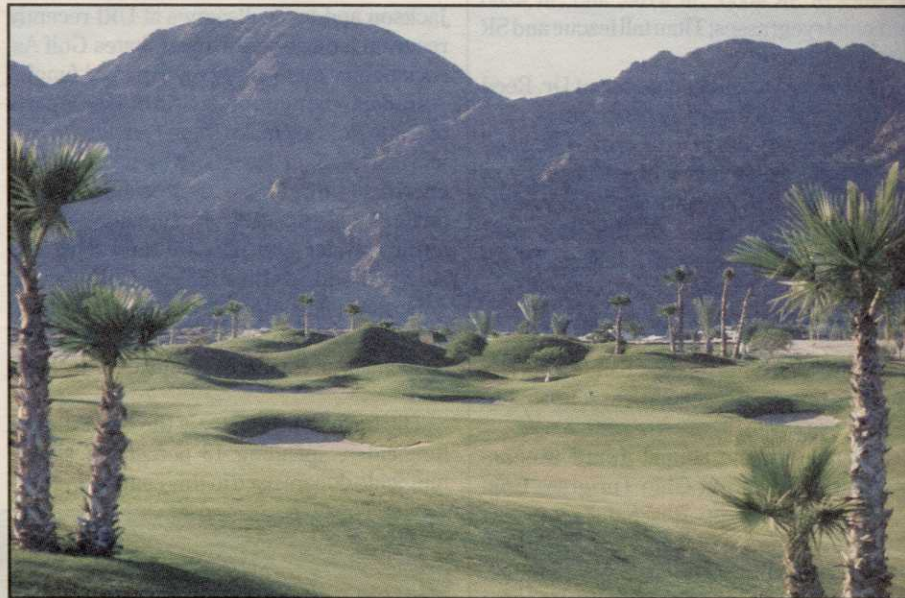
The creation of beautiful and challenging golf courses at the complex has worked creative architectural approaches and comprehensive research into all facets of the local

environment.

Since the annual rainfall is less than two inches and summer temperatures rise daily to 110 degrees or more, the primary concern building the courses has been the use of heat- and drought-tolerant trees, shrubs, grasses and other vegetation that will save water, hold up under searing heat, and resist the wear and tear of many thousands of rounds of golf.

"The major priority was to assure long-range savings in energy and water usage, so we started to look at what plants would meet those requirements," said Lee Schmidt, Landmark's vice president of golf course design. "We did a huge amount of research on plants that were indigenous to the area by visiting various botanical gardens, desert golf developments, desert horticultural experts, and other sources of information before we came up with what we wanted."

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The Nicklaus Resort Course features palm trees.

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Landmark started the overall land plan five years ago with "virtually nothing but flat sandy terrain to work with and only the knowledge that within that acreage we would eventually have to design five golf courses," said Schmidt. ("The fifth course is under construction and will open later this year.")

"The company wanted to create courses that weren't just wall-to-wall grass or parklands like so many courses are, but were distinctly different, aesthetically beautiful, yet a challenge to the capabilities of all levels of play from the professional to the low-handicapper as well as the average enthusiast," he said. "As things developed, we decided to select different architects for the different courses."

Indeed, Landmark hired famous architects. The complex encompasses the 7,261-yard, Pete Dye-designed Tournament Players Club (TPC) Stadium Course, which opened in January 1986; the 7,126-yard Jack Nicklaus Resort Course; the 6,933-yard Jack Nicklaus Private Course, the 6,961-yard Arnold Palmer Course; and the under-construction Pete Dye Resort Course. The TPC and Nicklaus Private courses are listed in Golf Magazine's "100 Greatest Courses in the World," and the four courses host major professional and amateur tournaments.

EACH COURSE UNIQUE

"The first and stage-setting course developed was the Stadium course and the architect chosen was Pete Dye," Schmidt said. "The Stadium layout was planned as a Scottish-style course — a Scottish look in the desert, if you like — and we didn't want a hodgepodge of vegetation, but rather basic plants that would give us some dramatic visual contrasts and color."

Most of the similarity in the courses begins and ends with their use of Bermudagrass fairways and Pennecross bentgrass greens that are overseeded with ryegrass for the winter.

For the Stadium course, builders moved 2.2 million cubic yards of earth to create undulating fairways, monstrous grass bunkers, unforgiving sand pits, moats and ravines, all equaling a golf course many feel is the toughest in the world.

Dye describes the lack of trees and the dramatic landscaping: "With palm trees and the landscaping that is typically used out here (Palm Springs area), I thought it would be very hard to make this thing a distinctive course. That's why the desert plants were selected.

"I think it has an individualistic look. Not only because of the mounding — because there's mounding on other golf courses, but I think it's the total landscaping that helps make it distinctive."

Schmidt said of the reasons for selecting these basic desert plants for the landscaping: "In addition to the basic landform design of each of our courses, with their rugged mountain backdrop on most holes, we carefully and creatively planted and landscaped to visually frame the holes and define the landing areas — the turfgrass in concert with the contrasting colors and textures of the indigenous desert shrubs, trees and grasses.

"It worked on the Stadium course as it has on all the courses," he said. "We are still learning as we go, however, and continue to experiment with new approaches."

Schmidt said Landmark investigated many plant species but decided to use *Acacia Redolens* and *Baccharis Centennial* for primary ground cover, using the redolens for landscaping on 80 percent of the course. Feathery *Cassia* is used throughout the Stadium layout for shrubbery, and the trees are Chilean Mesquite and *Acacia Smallii*.

"This mix gives us bursts of color when they bloom and contrasts of varying green and grey-green leaves, plus differing textures — and they are very effective," Schmidt said.



PGA West's TPC Stadium Course with its native shrubs.

"It set the stage for all the rest of the courses."

Working with some of the best architects in the world — each of whom with his own distinctive approaches to course design — was a two-way street," Schmidt said. "We worked in concert and extremely harmoniously with both Nicklaus and Palmer to be certain that while each of the courses was completely different in design, we exclusively (except for turfgrass) maintained the use of plants native to the area."

The Palmer course was opened in October 1986, the second of the PGA West courses. Totally different from the Stadium course, it is noted for its wide-open, rolling fairways and undulating greens. It has little ground cover, rather a mix of many different trees, averaging as many as 110 on some holes.

The trees include Date, Washingtonia Robusta, Washingtonia Filifera and Queen Palms, as well as Jacaranda, California Pepper, Brazilian Pepper and Canary Island Pines.

Only holes 14 through 17 on the Palmer course use the natural desert-type plants that are similar to the Nicklaus Private Course that fit in with the stark mountain backdrop.

Opened in October 1987, the Nicklaus Resort Course has a much softer look than the Stadium course and is more like the Palmer Course. It features a soft, rolling design of fairways and bunkers, with greens that slope predominantly toward the golfer to

collect the golf shot.

The greens are often circled with "collection bunkers" and grassy knolls. While landing areas for drives are generous, shots to the greens require better-than-average accuracy. It has by far the largest mix of plant species of all the courses.

The trees include Washingtonia Robusta and Washingtonia Filifera, Date, Queen Palms, Brazilian Pepper, California Pepper, Silk Oaks and Chilean Mesquite. The long grasses and ground cover are Fountain Grass, Verbena and Dalea Greggii.

Totally different from the other designs, the Nicklaus Private Course features less turfgrass and more landscaped areas. Nicklaus wanted the course to have a prairie look with waving grasses when the wind blows.

Nicklaus also used many different types of trees, including Washingtonia Filifera and Washingtonia Robusta Palms, Canary Island Pines and a full variety of other desert trees such as *Acacia Stenophylla*, *Acacia Smallii*, Mexican Palo Verde, Chilean Mesquite and Blue Palo Verde.

The long grasses on the Private Course are Fountain Grass, Rattlesnake Grass, Ruby Top and Muehenbergia, while the desert landscape areas include Peruvian Verbena, Alysum, Desert Broom, Texas Ranger, Gazania, Brittlebush, Quailbush, California Poppy and

Cassia.

An interesting approach in the design at PGA West is a method of using progressive seed mixes for landscaping when they initially seed a course. The procedure is to mix perhaps 15 to 20 different seeds (shrubs, ground cover, long grasses and trees) together with fertilizer into a slurry-type mulch that is hydro-sprayed onto designated landscape areas.

The first of the seeds are a nurse crop to control erosion by quickly growing and covering the ground. Other seeds carefully programmed into the mix begin their growth and naturally adapt themselves to the localized environment (sun, shade, slopes, etc.) with the weaker species dying out and the stronger surviving. The end product is some beautiful stands of desert vegetation.

"Our irrigation systems are computer-controlled and each course has its own system due to the different water requirements of those courses," said Scott Lewis, superintendent of the Nicklaus Private Course, who has been involved in the construction and landscaping of all the courses.

"We water in zones, essentially using two sprinkler heads per station that come on at once.

"If, for example, we have turfgrass that requires 80 inches of water annually, we program those heads to water accordingly. Say, 30 yards away, where the landscaping needs only minimal watering annually, it's identified as a desert landscape area and the sprinklers there water accordingly."

Lewis said, "Where we have sharp drop-offs, steep banks, or areas where water can run down, accumulate, or be wasted, we use mist-type sprinkler heads for control. The system, while reasonably complex, once programmed does an excellent job of conserving water while keeping the visual beauty of the courses at a maximum."

Each of the PGA West courses has met all of the original goals set by Landmark and the architects.

They are continually being "fine-tuned" as their reputations grow. And as their native plants mature, the savings in water, energy and maintenance will be significant and assured — a credit to careful and innovative environmental planning.

Frank Pollard is a freelance writer based in Hollister, Calif.

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