WATERSCAPES BLEND AESTHETIC OBSTACLES WITH WATER CONSERVATION

Waterscapes, designed to conserve water and built to serve as water hazards—that's precisely what has been created by some of America's top golf-course designers. That is what golf course architect Ted Robinson had in mind as he planned the irrigation system for The Irvine Company's new $10-million, championship-quality Tustin Ranch Golf Course in Tustin, CA.

The 18-hole course's network of lakes, cascading waterfalls and meandering waterscapes will not only serve as scenic and strategically placed water hazards, but will also provide a functional irrigation system that will ultimately conserve millions of gallons of water annually for Orange County.

"The lakes scattered around the course will provide golfers with handicapping yet beautiful obstacles, while they serve the community and the county by helping to save precious water," said Robinson, who has developed more than 120 courses worldwide during the past 25 years.

"By using the lakes as reservoirs instead of continually pumping water into the area, we can help conserve several thousand gallons of water every week," he observed.

Robinson pointed out that using lakes as water-saving elements at golf clubs, a technique first developed in designing desert courses, is becoming more common in water-conscious areas of the country.

Courses typically require a substantial amount of water which can be wasted through improper intake levels, poor drainage, overflows and overwatering. The system in the Tustin Ranch Golf Course helps eliminate water loss by hydraulically monitoring flows of reclaimed water which is stored in lakes that are lined to prevent seepage, he said.

"The system is extremely efficient, because the only way water is lost is through evaporation," explained Robinson.

When fully operational, the golf course irrigation system will intake a continual flow of reclaimed water from two large reservoirs at the Michelson Reclamation Water Plant in Irvine. According to John Economides, senior engineer at the Irvine Water District who helped plan the system, the water will be pumped for nine hours each day. During this period, as much as 1,000 gallons per minute will be piped into the lakes.

Once in the lakes, water will be pumped into the sprinkler system to irrigate grass, trees and natural foliage throughout the area. Though this reclaimed water is purified, regulations prevent it from being used as drinking water, Economides said.

During the 15 hours that the system is not irrigating, water flows back into the lakes, a process which keeps debris such as dust and fallen leaves from stagnating in the water.

According to Economides, this refilling process also helps relieve the strain on the water company.

"The course's reservoirs help alleviate some of our difficulties in serving the public during peak demand periods," said Economides. "Because the course has a large water-storage capacity, we can decrease the strain on the community's waterlines by redirecting the main flow to meet needs in other parts of the local area."

To maintain the purity and luster of the waterscapes, the course's intake system includes hydraulic jets that propel water up to the top of waterfalls, where it cascades slowly down to the lakes and is then recycled back into the jets. This hydraulic system is also used within the lakes to force movement in the water and to provide an ozonization treatment, a process that helps keep the water clear and bacteria- and algae-free.

Although water conservation is of utmost importance, the Tustin Ranch course's water elements have also been developed to reflect the beauty and spirit of the local community and to provide the ambience of an upscale, top-quality golf course, according to Jim Colbert. He is head of Jim Colbert Golf, Inc., Las Vegas, the company which is overseeing construction of the course and will manage it when completed.

"The challenge of the Tustin Ranch project has been to blend a water-saving irrigation system with a well designed, attractive series of water hazards," said Colbert, who has helped formulate several Professional Golf Association clubs along with providing commentary for ESPN's live golf tournaments.

"What we've nearly finished creating is a handsome, manicured lake and water-conservation system that imparts the feeling of a world-class golf course—one that offers area residents a quality club where they can enjoy their leisure time," Colbert said.

Scheduled for completion in the summer of 1989, the 160-acre course will include a clubhouse, driving range, putting green and other related facilities. The Tustin Ranch course is the first of several golf courses planned by the Irvine Company in new residential communities in Laguna Canyon, Orange, and along the Irvine Coast in Southern California.

Tustin Ranch is a 1,740-acre community along the eastern border of the city of Tustin. Planned for development over the next nine years, it will ultimately include 9,000 homes representing a balanced mix of hillside estates, single-family townhomes, condominiums and apartments.

The community also includes more than 60 acres of neighborhood and community parks, and 160 acres of commercial, office and business centers including the recently completed Tustin Market Place and the Tustin Auto Center.