By MARK LESLIE

When Palmer Course Design Co. finishes rebuilding The Presidio in San Francisco, the country will be bracketed by its first two "environmental demonstration project" golf courses. The first, Widow's Walk Golf Course, located on an old gravel pit and dump site in this coastal Massachusetts community, opened for play on June 28, to the delight of golfers and environmentalists alike.

"I don't think any golf course has had more publicity than this one. That's because of what it is and what it represents," said Dr. Michael Hurdzan who, with lead designer Bill Kerman and input from various environmental groups, designed the course.

"We recognize, both as environmentalists and golf people, that we are all passengers on Space Ship Earth and that we need to conserve the resources we have here," Hurdzan said at a media opening. "This is an enormous attempt to try to put together an exciting, playable, fun, affordable, maintainable golf course using 50 percent of the water, fertilizer, pesticides and fossil fuel that a normal golf course would use."

"You're now sitting on an area that was barren," said Scituate Board of Selectmen Chairman Joe Norton. "It was an area that nothing grew on, nothing lived on and certainly no one enjoyed."

Hurdzan cited others who worked on the project, especially habitat planner Bill Burbank of Abbellire Inc. in Worcester and East Sandwich; Roy Parker and Lou Haines of Soils Management Technologies of Arvada, Colo., who contributed Profile porous ceramic and humates; Scotts Co., which contributed all the turfgrass seed and initial fertilizer as well as coconut core used on some of the greens; and Kerman, "the senior designer who handled all the details."

Time—and studies conducted by Terry Bastion of the ecological design firm Waterflowers in North Reading — will tell the impact of the golf course on the wetlands and habitat on the 118acre property. But all stops were pulled in its development.

• G-1 bentgrass, a new variety that uses half the water of others, was used on the greens.

• Fairways and roughs were planted with Victory II and Banner II creeping fescue grass, which are disease-resistant, insect tolerant and need less fertility than others.

• Cart paths are built with recycled asphalt.

 Carpet was recycled for use in sod-face-type sand bunkers.

• The Smart Rain and Toro Sitepro computer-programmed systems operate the irrigation, optimizing water and chemical applications.

## **Environment comes 1st at Widow's Walk**

The golf industry is particularly interested in findings from the greens construction. Three different drainage systems were built on each of three different types of greens. One drainage system is the typical U.S. Golf Association herringbone-type pattern. Another is a flat drain tile (ADS Advantage) system

that is laid on the subgrade rather than trenched. The third is no drainage except a "smile" drain at the low point where the water will leave the green.

With each of the types of drainage are three types of green:

• a USGA-specified green with a 12-inch root-zone layer, intermediate layer, if required, and pea gravel layer;

• a California Method green, which is a 12-inch profile of 100percent sand on the subgrade with micronutrients in the top 2 to 3 inches of the green; and

• a native sandy loam green, using the best available soil from the site as the greens matrix.

A leachate collection pit is in-

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stalled at every green to provide water samples for Bastion.

"The habitat planning was as important as the course," Hurdzan said. "We tried to leave the natural vegetation. There are wonderful communities of plants out here that have adapted over the years and we wanted to leave that. That is the look and feel we want."

