

# Designer Armstrong's computer imagery adds low-cost touch to golf course renovation

By PETER BLAIS

**F**RANCESTOWN, N.H.— Course architect Marvin Armstrong has developed a low-cost computer imagery system allowing course operators to see what proposed changes to their facility would look like before they are actually made.

The program works well for projects such as bunker renovations, mounding additions, mowing pattern changes and new plantings, Armstrong said.

The cost, for instance, for a greens committee to preview how a proposed bunker renovation would look would be about \$500, Armstrong estimated.

"The cost for renovating bunkers for an entire course would depend on the number of bunkers," the Granite State designer said. "It would probably average between \$20,000 and \$30,000."

Basically, Armstrong scans photos of



Dublin (N.H.) Lake Club before renovation, above, and as envisioned by computer imagery, right.



an existing scene into his computer. Proposed changes are sketched onto the digitized photo. The existing and proposed digital photos are then printed out and are available for review by the greens committee, superintendent, course owner, contractor or whoever needs to review the changes.

Everything is done in-house on Arm-

strong's computer, scanner and printer.

"It is more an artistic- than an engineering-based program," Armstrong said. That means extensive topographic surveys and engineering are unnecessary, holding down costs and shortening the time needed to produce digital photos.

"It takes about four hours of computer time per bunker," Armstrong said. "We can have most projects ready to look at within a week."

Armstrong has done several projects already — a new bunker at Dublin (N.H.) Lake Club; new contour mowing patterns, bunkering and plantings at Manchester (N.H.) Country Club; and bunker renovations at Ardsley CC in Ardsley-on-Hudson, N.Y.

"At Manchester Country Club, we brought the computer right into the club and put together a computerized slide show. The greens committee was fairly impressed," Armstrong said.

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