For golf to grow we must have "bunny slope" golf courses.

Dr. Michael Hurdzan

Impacts of boom on development

By Dr. Michael J. Hurdzan

By any measure, the game of golf is expanding. More players are being attracted to the game at all time-highs, a record number of golf courses are being built around the world, and more total rounds of golf are being played. It is hard to imagine there can be many negative aspects to this unprecedented growth. But there are:

• People just taking up the game usually are uneducated in its rules and traditions.
• Not enough golf facilities are geared for beginners.
• The boom has brought increased environmental opposition and restrictions. There has been an explosion in people calling themselves golf course designers.
• Competitive fees have lessened between experienced contractors.

Since beginning golfers have garnered ideas from watching the pros on television, this has led to very slow rounds of golf by people who think they are being individually harassed by rangers because they are beginners, and they often take it personally. They see no difference between their behavior and that of professional golfers on TV. They just have to do it more often.

Having a golf course full of slow players seriously complicates the fine art of "rangering," or the more politically correct "play coordination." There are no big gaps between groups, just bunches of little ones like cars in a rush-hour creep. Such situations can easily lead to feared temper tantrums and harsh words, six-hour rounds of golf, and ill feelings for the game by everyone. Such things are not good for the game, and there are few places for beginners to learn golf etiquette and have a pleasurable introduction to golf.

Another problem of the boom is that there are simply not enough golf facilities geared for beginners. Imagine the problem if alpine ski resorts only built expert trails and ignored the novice and intermediate skiers seriously complicates the fine art of behavior and that of professional golfers on TV. They just have to do it more often. They see no difference between their behavior and that of professional golfers on TV. They just have to do it more often.

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Lakes & ponds
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A clay liner should be at least 2 feet thick and bentonite should be spread, disked, rolled and compacted at 1 to 2 pounds per square foot. Clay should be installed in 6-inch lifts and compacted to 96 percent Standard Proctor Density (SPD). Either type of liner should be installed over the entire pond to a minimum of 2 feet above normal water level. If clay or bentonite are not available, an artificial plastic or rubber membrane can be installed.

The second aspect to determine is whether the pond will be runoff-dependent, or will have a makeup water source, such as a water well or stream. If runoff-dependent, the watershed (the area of drainage into the pond) will have a big impact on the quality of the water and will require a maintenance program itself. A makeup well will allow the golf course to maintain a constant water level, preventing fluctuations that enhance erosion and aquatic weed growth.

Shoreline erosion is very common in golf course ponds and can be prevented by installing a hard, vertical edge such as timber, sheet piling, concrete blocks, or arenched, poured-in-place concrete wall.

Each of these measures has a certain time span of effectiveness. Timber will eventually have to be replaced, whereas concrete will last much longer.

A concrete bulkhead, however, will form its own expansion joints (minor cracks), which should be monitored for any ground sinking behind the wall. This is easily repaired and a concrete wall is the least costly of the various methods.

Alternative solutions to minimizing erosion include rip-rap, geotextile fabrics, slope paving and cement-stabilized sand.

The cross-section of a golf course pond should provide for a shallow safety shelf extending out from the edge horizontally about 6 feet. The slope should then drop off sharply on a minimum of a 3:1 ratio to the maximum depth. Pond depth is variable and dependant on certain climatic and regional circumstances.

In the Southern regions, maximum depth should range from 7 to 8 feet, and, in the Northern regions, 15 feet or more.

The safety shelf should be stabilized using 3-inch slope paving of cement-stabilized sand. This shelf will provide safety and allow a place to introduce desirable species of aquatic plants in containers or unstabilized planter areas.

Any watershed the pond may have should be sodded immediately after construction. Silt fence, sand bags or even hay bales placed around the pond’s perimeter or at the top of the bank can greatly minimize sedimentation.

MAINTENANCE AFTERWARDS

Once the pond is constructed, it must be maintained to support the ecosystem. Aeration is a key factor in prolonging the life of the impoundment. Natural heat and wind-generated currents are seldom enough to provide adequate dissolved oxygen in highly nutrient-rich pond water. The addition of aeration equipment, such as through surface agitation or sub-surface compressed air injection, can greatly enhance the productivity and balance of the ecosystem and reduce future maintenance.

Finally, maintaining the pond requires the knowledge and experience to effectively implement a well-designed management program. The ability to recognize potential problems, and the knowledge and experience to fix them in a timely manner, is the key to successful pond management.

Performing water-quality analyses, controlling aquatic weeds, monitoring mechanical equipment and observing the overall ecology of the pond will help reduce the number of complaints.

The management of a golf course pond should be as much a part of the overall course maintenance program as the greens.

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