

Sand Traps – A ubiquitous feature of golf course design but costly to maintain.

Next to the 18 greens on the typical golf course, the 75 to over 100 traps on a high-quality golf course are the costliest and most time-consuming activity that green superintendents must deal with on a regular basis.

Severe weather and sometimes less than severe weather can cause traps to become unfit for play for days afterward. That causes customer dissatisfaction and lost revenue. Most often we must wait for the trap to drain on its' own or in some cases water must be pumped out for play to resume and play can't resume until after the trap is raked/groomed back to a playable state.

1. Traps are expensive to maintain. Poor trap maintenance results in lost revenue and added man-hours for repair and remediation.
2. Trap renovation is typically a CAPEX item with the average cost to refurbish a trap in excess of \$10-15,000 and most often an outside service must be utilized to redo many traps so as to ensure that economies of scale can be employed.
3. Most superintendents' budgets are meant to handle day-to-day activities of typical course maintenance but are not able to perform costly/time consuming activities such as sand trap restoration.
4. All current drainage systems regardless of the type are passive in operation and rely of some type of drainage system to move water from the trap.

Some thoughts about the infiltration rate of water through sand from the USGA:

From: "The Right A Guide to Selecting Bunker Sand for Your Course"

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The physical soil testing laboratory community has suggested that the minimum infiltration rate for bunker sand is 20 inches per hour, which was based on the 20-24 inch per hour infiltration rate guideline in the 1993 USGA Recommendations for a Method of Putting Green Construction. However, in my experience testing bunker sands on golf courses, I've seen that infiltration rates often decrease significantly – e.g., **from 22.8 to only 7.5 inches per hour – in just two to three years!** Silt and clay from wind-blown dust, organic debris from clippings, leaves from trees or shrubs, algae growth and soil contamination all can decrease infiltration rates. Bunker sands that initially drain from 30-100 inches per hour should work well, depending on the climate and site conditions.

Few of us are lucky enough to work at a course where an ongoing program for trap restoration exist but if trap maintenance could be simplified through a better system of water dispersion after a storm, this would be a big hitter for those who deal with this issue every day.

What is SandSave and how does it work?

SandSave is an engineered drainage system for golf course sand traps. Golf courses and the associated drainage systems, fundamental to the performance and enjoyment of nearly all public and private courses in the United States, have long struggled with the efficient removal of water due to heavy rains and associated flooding.

Typically, sand trap drainage systems rely on the passive flow of water through sand and filter media or concrete based substrate into a French drain and out to a sump or stream. These systems are costly to install and while they work for some period, over time dirt, fines, dust etc. ultimately make their way into the passive drain system that will eventually clog. This requires a costly and time-consuming repair, usually necessitating a complete removal and redo of the original system.

Our research into this problem has led to the development of an active system for water removal after a heavy rain.

The unique design of the patent pending SandSave system allows an actual physical drain to raise and lower from below the sand. The SandSave creates a direct route to the existing drainage piping, eliminating the need for water to slowly percolate through the filter media. SandSave is designed to be powered hydraulically using water from a typical golf course irrigation system.

SandSave can be controlled by a new zone, in the irrigation system, added for this purpose. Small water supply lines are installed from the new zone and activate the SandSave when initiated by the grounds crew either on a zone-by-zone basis or all zones at once as needed.

The SandSave active drain system is easy to install and maintenance free. No outside contractors are required for system installation and in most cases a single SandSave device tied into the existing French drain will provide enough drainage for all but the largest traps.

Partner with SandSave

SandSave LLC is currently exploring development and licensing opportunities with qualified organizations in the field of golf course drainage, irrigation, design and management.

Don't get trapped by standing water!