Burning Tree CC had a drainage problem just off the first fairway (left) until the author installed a small sump pump. The results have been gratifying and, most important, drip dry.

If it works in the basement, why not the fairway?

By STEVEN RENZETTI

Someone once said the success of a business depends on three factors: Location, location, location. Well, when it comes to golf course maintenance, the same basic principles could apply, but we would substitute the word location with *DRAINAGE*!

That basic thought was my battle cry during my tenure as greens superintendent at Burning Tree Country Club in Greenwich, Conn. Burning Tree was built in 1964 on what was then called a swamp — known today as wetlands. For the most part, the property is completely flat; the soil composition predominantly peat. Combining those factors, one can imagine the nightmare scenarios we had to contend with on a daily basis.

One of the first drainage problems I faced was created by the installation of a septic leaching field off the right side of the first fairway. A berm was built during the construction and it also left a low area that predictably held water. Being such a flat piece of property, draining the area wasn't going to be easy. From my Drainage 101 class from college, I remembered water cannot flow uphill — for that matter, it doesn't move well over flat surfaces either.

We immediately began to brainstorm. After exhausting several different ideas, some destined to fail and some simply not feasible, the idea of a sump came to mind. We've all seen them in the basement, so why not the fairway? I listed my concerns and addressed them one at a time:

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- Where do I get the power and how much do I need?
- How big should the pump be?
- Where do I pump the water to and how far could it be pumped?
- How deep and how should the pump be installed?
- What kind of maintenance will be required?

The power supply will be the biggest obstacle you face. Spending limitations reduced my options and forced me to splice into the power supply that ran the irrigation system. Fortunately, we had enough amperage to run both (most do not) without jeopardizing the irrigation controllers. The main power supply line ran less than 10 feet from the proposed location of the sump, eliminating the need to pull a lot of wire. By using the irrigation power supply, I did become limited to the size of pump we could handle (you don't need a big pump to be successful). It was determined that a 3/10 HP pump requiring 8.0 amps with a 1.5" discharge pipe could be easily employed without affecting the irrigation controllers.

The closest area we could drain the water to was several hundred yards away, and it was on the other side of this newly formed berm created by the septic field. Using a vibratory plow we pulled 1.5" PVC pipe the entire distance in less than 45 minutes and, remarkably, the 3/10 HP pump had no problem transporting the water over such a long distance.

How deep to put the pump was easy, considering the water table was less than 12" below the surface (for most of the year we placed it slightly above that level). Conveniently, the pump fit easily in a prefabricated 12" catch basin.

One last ingredient was needed to confirm our idea — the need for rain. As if the gods were listening, nearly two inches fell over the next 24 hours.

At first it appeared the pump was just too small to handle that amount of water. But two hours after the rain stopped, the pump caught up and the area was dry. It should be noted that such a small pump cannot keep up with large rain storms, but it will expedite the process and dry out the area considerably quicker than before.

For Burning Tree, it was a perfect solution to a perennial problem. During my three years at the club, we installed three pumps in strategic areas and the results were all the same — great. Maintenance requirements are minimal: Periodically clean out the catch basin, that's all. Low temperatures and freezing didn't pose any problems either. The original pumps are in place, sill effectively working four years later.

Some suggestions: It is recommended not to use the irrigation power supply — an independent source is the best route. A pump with a minimum HP of 3/10 HP should be used for best results. An automatic vertical-path float switch performs more reliably than the conventional arc-path switches. A non-clogging vortex impeller that allows objects up to 5/8" to pass through, and a minimum 1.5" discharge pipe make for a more efficient solution.

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