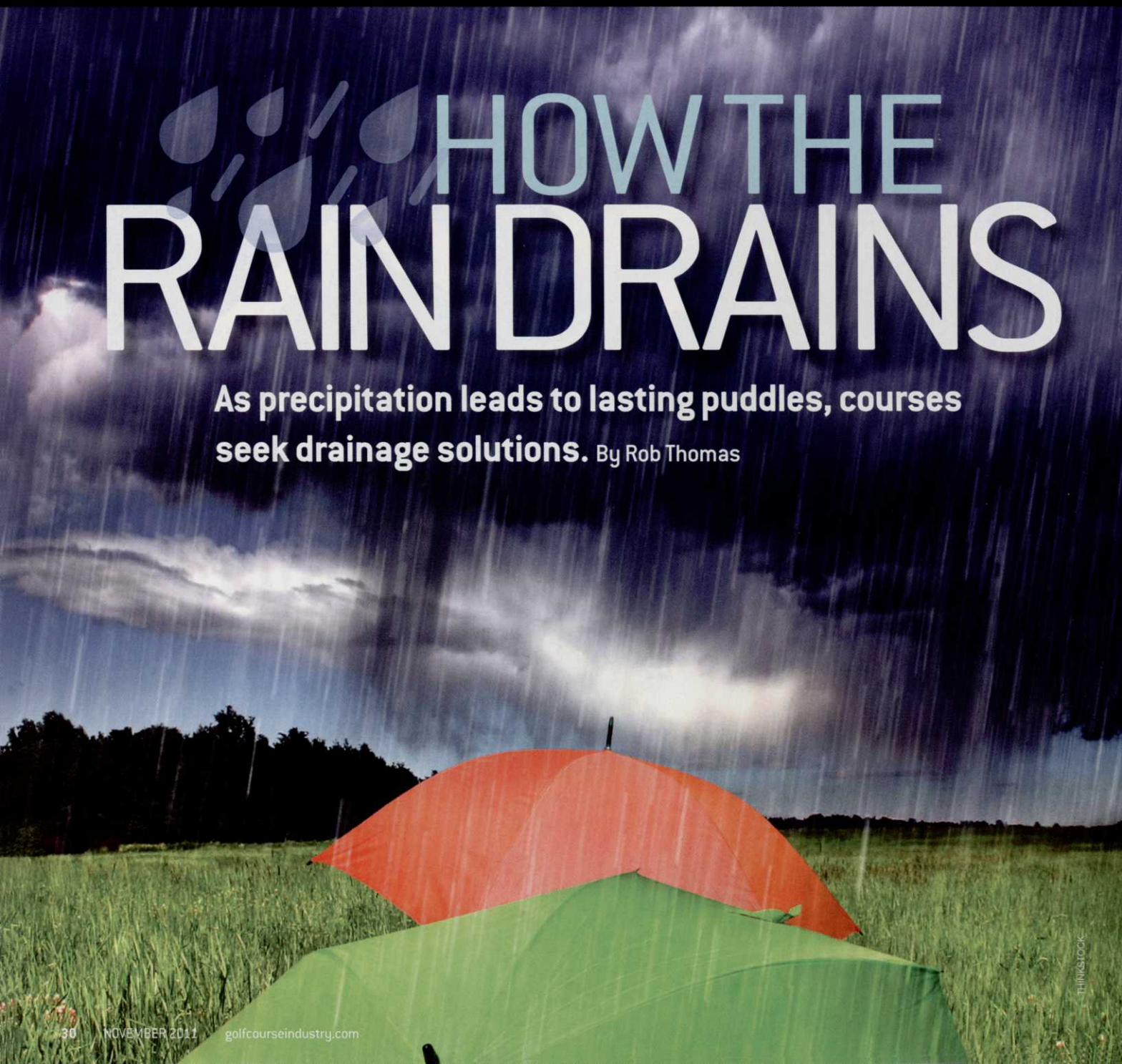


Without the proper drainage, an otherwise perfect course can see plenty of downtime after a heavy rain.



HOW THE RAIN DRAINS

As precipitation leads to lasting puddles, courses seek drainage solutions. By Rob Thomas





“Every time the weather would zig, we’d zag.”

— Bob Pearsall, Salish Cliffs Golf Club



A championship golf course designed by a master architect, impeccably manicured fairways, smooth-rolling greens, the best bunker sand money can buy and a well-trained staff dedicated to its customer base – all are important keys to a successful operation.

In a perfect world, with these components working in harmony, an owner can sit back, watch one foursome after another head off the first tee and count the money at the end of the day. But what happens when Mother Nature rears her head and opens the skies for a morning of rain? A course with poor drainage is going to suffer that day, and possibly feel the ramifications far into the future.

Golfers are not going to pay to putt through puddles, search for plugged balls and avoid bunkers-

turned-water-hazards. And if they do, they will not be happy and quite likely won’t return, regardless of how beautiful the course looks or plays in ideal conditions.

Add excellent drainage to that list of keys.

Salish Cliffs Golf Club, the newest amenity of Little Creek Casino Resort in Shelton, Wash., received a lot of hype and notoriety in the months leading up to its scheduled unveiling. Owned and operated by the Squaxin Island Tribe, the grand opening of the Gene Bates design had to be pushed back several times due to an unrelenting spring of torrential rain.

In October 2010, the team at Salish Cliffs first discovered the existing drainage wasn’t sufficient for the western Washington rainfall, which annually comes

in at approximately 65 inches. Something had to be done.

According to Bob Pearsall, a 23-year veteran superintendent with the last 15 months spent at Salish Cliffs, the initial step was to consult an engineer to devise a plan to reroute the original drainage. Craig A. Peck and Associates of Tacoma was called upon for the design.

First things first, however. Considering November and December are traditionally the wettest months for Shelton, a temporary fix was put into place.

“We put drainage above ground to move the water off site, so as not to lose more sand ... keep erosion down,” Pearsall says. They also strategically positioned bales of hay and straw waddles where needed. “Every time the weather would zig, we’d zag.”

Work was done in-house as well as by George Travis Construction and Bar D Construction, which is owned by a tribal member. Considering the rave reviews being heaped upon Salish Cliffs, the team seems to have addressed all concerns.

“The finished product is great. The feedback has been extremely positive,” Pearsall says. Of the golfers: “They love both the playing conditions and the layout of the course.”

At the opposite end of the age spectrum is the Yale Golf Club in New Haven, Conn. Designed by esteemed architect and United States Golf Association co-founder Charles Blair Macdonald, and opened in 1926, the course has a long and glorious past, but also has fought drainage issues from the start.

According to Scott Ramsay,



who has been superintendent at Yale Golf Club for eight years – 25 years total in the profession – Yale is “an old course that was blasted out of ledge and the course is routed through the low areas. Surface runoff and side-hill seeps all end up draining to the playing surfaces.”

Also unlike Salish Cliffs, which only had drainage problems on a few holes, driving range and warm-up area, most of Yale Golf Club’s holes were negatively affected. Fortunately, golfers in the Northeast are a hearty lot and rounds lost were nominal, says Ramsay.

“We just route play around the areas and rarely close,” Ramsay says. “So we lose minimal rounds.”

Ramsay sought the help of turf-

drainage consulting engineers John Kelly and Steve Ami out of Pointe-Claire, Quebec, Canada, who, in addition to being recognized by the USGA, regularly teach a GCSAA seminar. They were charged with formulating a master plan and overseeing construction.

Once the design was submitted by Kelly-Ami, an open bid was put out for the installation.

“K/A can recommend contractors for bidding,” Ramsay says. “We also involved local excavating companies to bid. The smaller jobs, local companies can compete. As they get larger and more involved, regional outfits with previous experience typically win the bids.

“The materials used aren’t typical of drainage work usually



Water isn’t just a hazard for players. Proper drainage ensures that it stays in the feature and off the course.

undertaken by superintendents,” he adds. “K/A has highly specified styles of pipe and only uses sand as a drainage medium. And they are highly selective as to the sand type, too.”

According to Ramsay, they are roughly halfway through a 10-year drainage-overhaul process.

“Each hole takes between 10 and 14 days,” he says, adding cost

varies significantly. “At Yale Golf Club, it is between \$10,000 and \$80,000 per hole, depending on the severity of the issues.”

As for the impact on golf and golfers, of course there is disruption, but Ramsay says they get creative by closing the hole for short periods of time or make the hole a par 3 for the work day.

“We get an occasional com-

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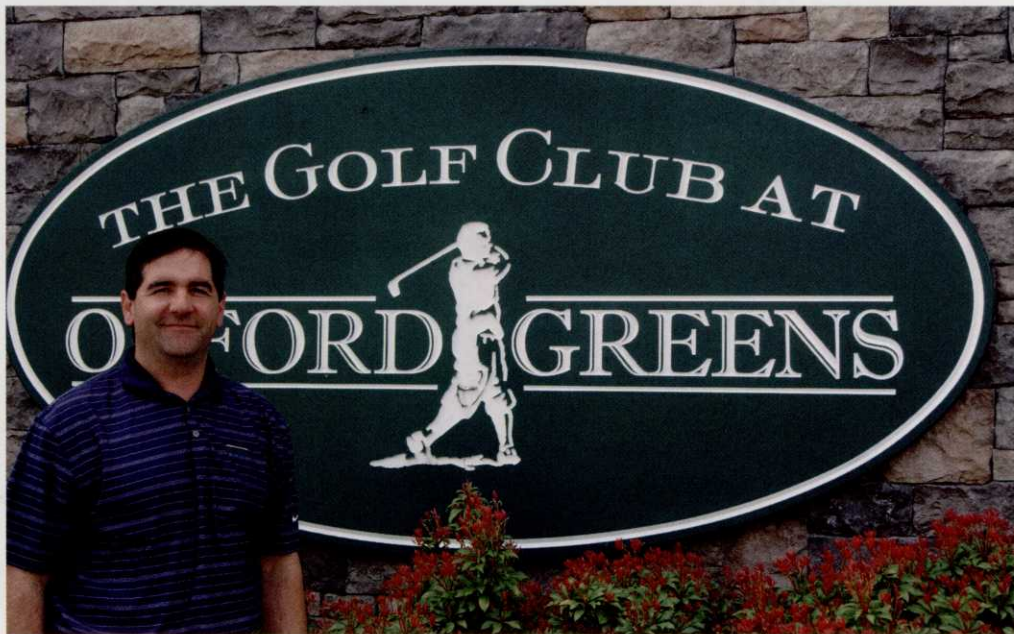
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Before superintendent Bryan Barrington took on the replacement of bunker drainage, he considered how much the work would disrupt play and what his possible labor and costs would be.

plaint,” he says of his golfers, but nothing too bad. “Mostly we have informed everyone ahead of time so they understand. It is a huge difference once the drainage is completed.”

While Yale Golf Club is in the midst of its decade-long project, just down the road in Oxford, Bryan Barrington and his team at The Golf Club at Oxford Greens took care of a developing drainage problem in under a week.

“This wasn’t a big project, but was certainly one that was, at the end of the day, just as impactful,” he says.

Barrington has been a superintendent for 12 years – the last seven at Oxford Greens – and places great importance on good drainage.

“I have built two golf courses in New England and there is no question that drainage is the most important aspect to a successful growing environment and playability,” he says. “There is a wide window of why, how, how much and where to use drainage, what’s the objective for the drain? Is it to capture surface water? Sub-surface ground water? Understanding the source and reasons

why drainage is needed will lead to a successful project.”

For the current project, two areas on Oxford Greens were affected: the 10th fairway and bunkers on the second fairway.

“Our drainage issue was one that a fairway complex of bunkers was no longer draining like the others,” he says. “This had occurred because of contamination over the years from washout. Really impacted for about half a season.”

According to Barrington, no rounds were lost, rather, just some player annoyance if there had been a rain event and water was in the bunker.

The same held true during the drainage overhaul. The project lasted four days, with most of the time spent removing the sand, the old drain and stone.

Before any work was done however, Barrington weighed his options.

“How long would we be disrupting play?” he asks. “What are the labor and material costs?”

“I had already communicated the project to management,” he adds. “I was looking at a relatively new drainage product, which was the ADS pipe wrapped in Styrofoam peanuts. This would allow me to not have to use peastone to surround the pipe, which would

lead to material and labor savings in the installation.”

As is the case with many projects, the actual installation goes much differently in practice than as it’s being done.

“To my surprise, the drain stopped in the bottom of the bunker and made two 90-degree turns before it exited the bunker,” Barrington says. “We removed it and continued the bunker drain straight out.”

This “straight-forward” project was affordable (\$1,000 for material; \$1,800 in labor; \$700 in new bunker sand) and has garnered rave reviews from the golfers, who, after seeing the results, want the club to renovate more of the bunkers. If they get their way, the actual construction may be slightly different, however.

“This was basically by the book, although I’m not sure I would use the wrapped drain pipe in a bunker again, just because it’s round and you lose the surface of the trench due to the cylindrical shape versus the square trench,” Barrington says.

Whether the course is new or old, problem minor or major, project extensive or minimal, proper drainage is certainly important from playability to aesthetics to the health of the turf. **GCI**

Rob Thomas is a freelance writer based in Cleveland.



Correct drainage is the most important aspect for a growing environment and playability, says Barrington.

