

STRICTLY GOLF

Bunker renovation



It may be necessary to repair or replace the existing drains or install new drains where none existed.

Step by step on how to make renovation decisions.

■ At times, a golf bunker may require some renovation: enlarging to original size, repairing drainage, replacing all the sand, or a combination of any of these.

Whatever the reason, first determine whether the bunker serves a function and is justified. This should be done with the aid and advice of your course architect.

Bunkers are designed and placed on a golf course to perform specific functions:

- to set shot value (strategic),
- to control shots or moving balls (safety),
- to keep balls from water or out-of-bounds (retention),
- to better define the hole (directional) and
- to improve eye appeal (aesthetic).

In evaluating a renovation program, you may determine that a bunker serves no function and may best be removed.

Enlarging—The bunker may only

require being placed back to its original form. Usually, the built-up rolls that form when the bunker closes in will indicate the original shape.

Take a paint gun and re-define the margin, being careful to maintain the shape and allow for exterior drainage. You don't want surface water draining into the bunker. Take hand edgers or sod spades and cut the new margin approximately six to eight inches, depending on the amount of sand to be replaced. Remove the old material (excellent for repairs and depressions), replace with new sand, and blend into the existing sand.

Drainage repair—It may be necessary to repair or replace the existing drains or install new drains where none existed. This means removing all material in the drainage area. Old drains should not be re-used as this cost is minimal. Old trenches should be upgraded and relined. New trenches should be a minimum of 12-by-12 inches and have a grade of 1 to 1-1/2 percent. All trenching, with the exception of the main line, should run perpendicular to the water flow.

The main line should run through the drain path of the bunker with the required minimum slope to the exit.

Tile should be slotted to accept water but prevent gravel. Experience has shown that wrapped tile promotes clogging. Place the tile on a graded slope of gravel 1 to 1-1/2 inches deep. Secure the tile to prevent floating and cover with pea gravel (1/4 to 3/8 inch) to a depth of approximately four inches. Leave two inches of trench to accept some sand to fill out the trench; prevent mixing the pea gravel into the sand during the raking operation.

If you are going to leave the trenches exposed for any length of time, be sure to cover the gravel with this sand layer to prevent contamination.

Replacing sand—If all the sand in the bunker is to be replaced, it must be removed down to a firm base. This could entail replacing some sand with a heavy material that will compact to prevent excessive depth of the sand layer.

Every superintendent has his or her own method of removing the old material, be it experience or trial-and-error. I have found that the least messy procedure is a rented Bobcat, two dump trucks (beg, borrow or steal), and two to three dozen sheets of outside, low-grade 3/4-inch plywood.

Keep your trucks on the car paths. Lay the sheets of plywood to the bunker and run the Bobcat over this roadbed. Reverse the procedure when placing the new sand. You will find the cost of plywood and rental of a Bobcat well worth the expense. In any case, save the hand edging until last to remove all scars of the operation.

When spreading the new sand, be careful not to disturb the base or drains. Do not run vehicles over the drains as they may crush your tile.

In any bunker renovation involving drainage, carry your outside tile (solid only) to a creek, lake, culvert or surface drain. You will find that anything less will be unacceptable.

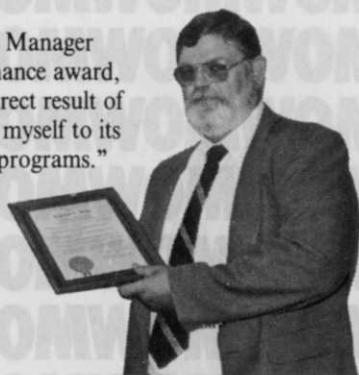
—The author of this article, Al Frennette, CGCS, passed away in September, 1992. It originally appeared in "Through the Green," the publication of the Georgia Golf Course Superintendents Association, and is used with their permission.

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Respect, once earned, must be maintained

by Greg Christovich

Several times in my career, I have found myself feeling as though I was not getting the proper respect for my position. My insecurity about how my peers, subordinates and superiors viewed my position made me feel uncertain about my abilities, and the tendency was to withdraw from visibility—"drop out of sight"—to avoid any further pain.

Many professional superintendents go through the same thing, whether they've been on the job for years, or they've just arrived at a new position. What most managers don't realize is that their perceived lack of respect is caused by their failure to nurture and develop that respect for the long term.

So how does a successful manager earn a high level of respect from others throughout his or her career? It's not easy, but here are some things that I learned,

some the hard way:

1) Don't ever start believing that you've "arrived."

When you finally land that first superintendent's job, or when you've gotten a "prestige" job that's finally paying you what you're worth, don't stop doing the things that got you there. Keep your sleeves rolled up and stay aggressive. The manager who gets comfortable gets complacent, and it shows in his/her work.

I once worked with a superintendent who was having morale problems with his staff. As it turned out, the superintendent was coming to work at 7:30 and was missing some quality time with his crew. Complacency led to a loss of respect.

2) Know that you can't please everybody all the time.

 But maintain an openness and respectful attitude toward all, even those you don't agree with.

Perhaps the greatest advice I ever got was from Johnny Burns, superintendent at

Charlotte (N.C.) Country Club. One day a member walked up to us and noisily complained about the condition of the greens. Mr. Burns told him "thank you" for his concern and feedback, and the member left with a feeling that he was important and respected. Most importantly, he respected the superintendent for taking the time to listen. Johnny's advice to me later? "When someone complains, you first must satisfy their need for acknowledgement, then you have to be like a duck in the rain: let it roll off your back."

Don't hide from the loudmouth types, but don't let what they say break you down. You can't please everybody.

3) Get to know your peer group,

 and stay in touch with them.

At most clubs, the superintendent is on a parallel management level with the golf director or professional, tennis professional, executive chef and controller. The super should know that he or she is part of this management team and that a spirit of cooperation can further mutual respect.

The super who does not have regular contact with the rest of the team becomes "invisible," and mutual respect

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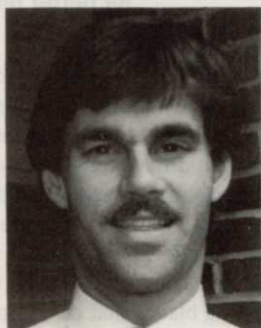
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is not possible.

Lastly, I think each of us needs to know that management of any kind has its thankless moments, and these times should not be misinterpreted as a lack of respect.

The more we continue to feed and care for our own image (the way we do our golf courses), the more respect we'll earn and keep for ourselves in the eyes of others.



—The author is general manager of Selva Marina Country Club in Atlantic Beach, Fla.

Lab services critical to growth of golf, claims turf diagnostician

■ Proper laboratory testing and consulting can prevent the need for early renovation, according to Steve McWilliams, president of Turf Diagnostics & Design, Olathe, Kans.

"Good testing pays off in many ways," says McWilliams. "For example, if a developer builds a golf course that plays well the first season due in part to proper green physics, there's a big payoff in selling housing, attracting new members and building repeat business for the course."

However, if renovation is ultimately needed, quality lab work is especially critical at that time also, says Chuck Dixon, TD&D's president of technical operations.

"An on-site quality control testing program should be implemented to ensure that the construction materials delivered to the site conform to the design specification," says Dixon.

"Following these fundamental procedures creates a classic win-win situation for everyone."

Firms like TD&D can run a variety of tests on sand, turf and soil that can pinpoint a problem and correct it in just a matter of hours, Dixon notes.

In some instances, consulting firms will send a representative to the course to take a look at everything and take the appropriate samples. In other instances, all that is needed is for the superintendent to send the appropriate sample to a testing lab.

"Many clients mail us a sample, we test it and overnight the results back to them," says Dixon. "Time is (sometimes) of the essence, and we are prepared to respond quickly."

TD&D and companies like it can also consult on the optimal mixes for greens, sandtraps and fairways, using the experience they've gained in the past in soil science and lab testing.

So if your course is considering any renovations, the best place to start is with a good laboratory that will test existing materials for you and provide consulting

Liability can take many considerations

Affirmative action, safety are important.

■ Robert Ochs, attorney for the Golf Course Superintendents Association of America, says affirmative action, as defined by the Civil Rights Act of 1964, should be a consideration of most superintendents.

"The act prohibits age, sex, religious or race discrimination in any form," says Ochs. "It requires a minimum of 50 employees and an 'effect on interstate commerce.' This means that if just one of your members is from out of state, it applies to you."



Ochs: best advice is to 'document, document, document.'

Having an affirmative action plan in place can do nothing but benefit your course, Ochs notes.

"If you do have an affirmative action plan, it sets you apart; if you don't, it can be used against you."

Affirmative action plans should be updated on at least an annual basis, he says.

The most important factor in proving yourself in court is an obvious attempt to satisfy the moral requirements set by law. Much of this is just common sense. But documenting your actions and making an attempt to recruit minority groups through local colleges will help.

"If you've given it the 'old college try,' you've satisfied the moral requirement," Ochs told GCSAA members at the organization's annual conference.

When it comes to this and other legal action that may be taken against you and/or your course, he says you should "document, document, document." He prefers handwritten notes to yourself that you can file away.

"They don't have to be fancy," Ochs admits. "Those handwritten notes are fabulous. They're great evidence in a court of law because they show the obvious intent for you to be a 'reasonable man.'"

"If you think something is significant,



Aerification can help break up soil layering and create a healthier putting surface.

Aerification practices for bentgrass greens

Many kinds of machines available for breaking up layers, Georgia expert says.

■ Aerification can alleviate the problems caused by layering on bentgrass greens, according to Dr. Bob Carrow of the University of Georgia.

"The presence of fine-textured layers on bentgrass greens causes the most problems," says Carrow, "although not all layers are bad. But once layering starts, it can become a snowballing effect. Even a very well-built USGA green can develop layers."

Wetting agent injections can help hydrophobic sands while aeration can help hard, compact coarse-textured sandy soils, Carrow claims.

One of the excellent machines to aerate away layers is the Toro Hydroject, which

uses high-pressure water. "It doesn't disturb the surface, it mixes any layers, and it can be done quite often," Carrow says. Though golf course superintendents can't topdress immediately after using a Hydroject, they can inject some liquids other than water—like wetting agents—with the machine.

Another deep aerifier is the Vertidrain, which penetrates up to 18 inches into the soil. "The Vertidrain doesn't distinguish between good and bad layers," says Carrow. "It will decrease rooting, but on bermudagrass the roots left will be much more viable. In the case of bentgrass, this effect becomes a negative."



Carrow: Aerate at least once a year for better results.

write it down. And even if you never use it, you're out nothing."

Another liability consideration is the safety of people on your course, both employees and golfers, he says.

You are always "under an obligation to act as a 'reasonable man.'" Which is nothing more than using common sense in everything you do relating to the safety of the course.

"Your insurance company is a valuable resource when it comes to liability risks," Ochs says.

Also, "posting is the cheapest form of insurance, and it's so easy to do."

—Jerry Roche

Deep drills like the Floyd McKay are good devices to use in both coarse and sandy soils, Carrow states. This spring, the company should have a new prototype for the golf course market ready. On the other hand, "turf conditioners" like the Yeager-Twose sub-aerifier, works better on fine-textured soils. The Yeager-Twose machine uses vibrating blades that can drop materials into slots in the soil.

"If I had a well-built USGA green, I'd still want to do at least one core aeration a year," Carrow concludes. "It's unusual not to build layers, and aerification is still very effective at breaking up those layers."

—Jerry Roche

WHAT'S NEW IN COURSE MAINTENANCE

Divot repair goes North

■ Frank Dobie at The Sharon Golf Club, Sharon Center, Ohio, has a new approach to repairing divots, outlined in the August, 1992 issue of "Northern Ohio Turf."

"In 1990, we initiated divot repair of tees and fairways with divot mix containers mounted on each golf car," claims Dobie. "Although filling divots from car-mounted containers is standard procedure on southern courses, not much has been done in the North."

Even though he was directed by the club president to start the program, Dobie did not like the idea at first. Among its problems:

- 1) messiness on the part of golfers using the scoops;
- 2) lost scoops;
- 3) open buckets, allowing mix to get wet and difficult dispense;
- 4) players overfilling divot holes;
- 5) players missing the divot hole with the mix; and
- 6) possibility of seeding bentgrass into divots in the rough.

Dobie went ahead anyway and purchased some convenient plastic bottle dispensers made by Club Car, which were easily mounted and had small pouring spouts to keep wetness out. In trials with members, he got "very positive" results.

The first step was to inform and educate members via the monthly newsletter; the next was to install dispensers on each side of the golf cars.

The divot mix is prepared by first spreading 30 gal. of topdressing mix on asphalt to dry in the sun. 10 lbs. Isolite, 2 cups Penneagle bentgrass seed and 3 lbs. of 12-24-14 slow-release fertilizer are then mixed in with a rake. A closed container of the mix is kept outside the pro



Dobie: new divot treatment is successful

shot where clubs are unloaded. Bag boys fill the dispensers when golf cars come in from play.

"We ask players to discard the turf divot in the nearby rough or place it on the floor of the golf car," notes Dobie. "We will be experimenting with a small container mounted on each car for old divots and other debris."

"We see a higher percentage of divots repaired now than ever before. Staff man-hours are much less with this method. Most of all, it heightens the players' awareness of golf etiquette and gives them an active role in maintaining a finer course."

Is 'big bang' affecting courses?

■ The technological boom in golf equipment may soon make many of today's golf courses obsolete, says Paul Fullmer, executive secretary of the American Society of Golf Course Architects.

"The next generation of John Daly wanna-be's could render many courses too short to challenge skilled players," says Fullmer. "The increased carry from high-tech balls and clubs makes it impossible for great old courses to host tournaments. In fact, every recent U.S. Open has undergone extensive lengthening

prior to hosting the event."

"Can anyone argue that Fred Couples, Davis Love and Daly are challenged by the length of any of today's holes?" he asks. "Lightning-fast greens with steep slopes, small target greens, long grass roughs or narrow fairways can't completely compensate for par-5s that are easily reachable in two shots."

Bunkering is also a concern for superintendents. "The bunkering at landing areas often has to be revised so that it comes into play as the architect originally intended," says Fullmer.

These changes make the courses more difficult for the average player, Fullmer contends.

"I think it would be good for golf course architects to join with others in the industry to consider limiting the levels of technology being introduced. Certainly, technology helps players post lower scores, but we have to make sure that advances do not push existing courses to the brink of extinction."

GCSAA international—in big way

■ The growing worldwide demand for the education and training of golf course greenkeepers and superintendents is a driving force in increasing the scope of the Golf Course Superintendents Association of America.

The GCSAA has begun international operations with the following programs:

● The GCSAA sent a fact-finding contingent to the Pacific Rim last year, which led to opening a Pacific Rim office and the first-ever Pacific Rim Golf Course Conference this month.

● It also sent a contingent to visit the South Africa Golf Course Managers and Greenkeepers Association last September. The GCSAA representatives then went to Malaga, Spain to visit with the Asociacion Espanola de Tecnicos en Mantenimiento de Campos de Golf.

● In late November, 1992, GCSAA director of education David Bishop taught a course on bentgrass to the Japan Turf Superintendents Association.

The GCSAA opened its Pacific Rim office in Singapore. Address is GCSAA (Singapore) Pte. Ltd., 2 Jurong East Street 121, #04-21C, IMM Building, Singapore 2260. Telephone there is 65 568 2224 and fax is 65 568 2473.

The countries served by the GCSAA/Pacific Rim are Australia, China, Hong Kong, India, Indonesia, Japan, Malaysia, New Zealand, the Philippines, Republic of China (Taiwan) and Thailand.

"In areas where local superintendent/greenkeeper organizations exist, GCSAA is responding to their invitations to provide educational programming," says Bishop. "In other areas, such as much of the Pacific Rim, GCSAA is committed to providing direct delivery of technical and educational assistance when and where it's needed."

Others making the foreign trips were general counsel Robert Ochs, Pacific Rim manager Don Bretthauer, past president William Roberts, CEO John Schilling and senior director of operations Diana Green, along with Dr. Nick Christians of Iowa State University.

Treated seed for overseeding minimizes diseases

Superintendents who overseed cool-season grass mixtures into existing warm-season combinations also raise disease potential for infections caused by *Pythium* and other fungi, according to Dr. Terry Vassey of Horry-Georgetown Technical College in Conway, S.C.

To reduce the risk of damaging seed and seedling diseases, especially where intensive turf management is necessary for

year-round play, superintendents should always use a fungicide. They may overseed with fungicide-treated seed or apply foliar fungicide spray as diseases appear, says Dr. Vassey.

"*Pythium* can wipe out large sections of overseeded golf courses. When course quality and playing ability goes down, it can be devastating," he says.

"During establishment of overseeded

stands, when more water and fertilizer is used to sustain growth—combined with temperatures still reaching 85 to 90 degrees—you have the perfect conditions for disease."

One of the most prevalent and destructive turf diseases is the soilborne fungus *Pythium*, which thrives in warm, moist soils and causes damping off. *Rhizoctonia* and thatchborne *Fusarium* fungi can also cause seed rots, seedling blights and damping off.

Many superintendents spend an estimated \$35,000 to \$50,000 for annual overseeding, Dr. Vassey points out. While this cost is budgeted, he adds, supers don't want to pay it twice, which can happen if *Pythium* or other fungal epidemics arise, causing a need for another seeding.

Good drainage and carefully managed irrigation can help reduce the incidence of diseases, but since the host—turf—can't be eliminated, most turf professionals recommend a systemic fungicide treatment that provides extended seedling protection against pathogens.

Dr. Vassey's comments appeared in Vol. 2, Issue 2 of "Turfgrass Tillers," a newsletter from Gustafson, Inc., Plano, Texas.

For more information on warm-season disease control, consult the May, 1992 issue of *LANDSCAPE MANAGEMENT*.

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