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BETTING ON BENTGRASS

How leveraging numbers, experience and relationships led to Desert Mountain bringing cool-season turf to every acre of an Arizona course.

> 2019 CONSTRUCTION RENOVATION ISSUE

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WAIT ... WE STILL NEED TO MOW

WHERE SHOULD ALL THE CARTS GO?

GET IT GREEN IN 2020

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PHOTO AND COVER POTO BY STEVE THOMPSON

DESERT MOUNTAIN CLUB

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CANADIAN INSPIRATION

saw five women walk mowing tees on a pair of idyllic Ontario mornings in August. I saw two more women mowing tees before noticing two women who looked the same – they were identical twins – mowing collars as a woman operating a triplex zoomed past me.

I never thought much of it. I then returned to the United States and haven't stopped thinking about what I witnessed while visiting Magna Golf Club for the third part of the "Our Major" series (pages 54-57).

The CP Women's Open, a LPGA event contested at Magna, a magnificent private course north of Toronto, boasted a field of the world's best female players. One of North America's most inclusive maintenance teams prepared the course for professionals from 26 countries.

Besides affable players who lauded the fellow women they spotted mowing playing surfaces, nobody on the course before dawn found the presence of all-female mowing crews unusual. Efficient, determined and enthusiastic women are omnipresent at Magna. Superintendent Wayne Rath says he once considered swapping the female and male locker rooms, because he thought women might eventually outnumber men on the 50-worker crew. This year's peak-season team included 15 female employees, most of whom found fulfilling summer work between school semesters. "There's nothing any of these girls can't do that the guys do," Rath says.

Next year's crew should include a significant female presence. Seasonal employees return to Magna for second, third and even fourth summers. A few employees might bring along a family member or friend. Magna had two sets of sisters on its 2019 summer crew, including twins Alyssa and Michaela Point.

Magna's female workers have a manager who can relate to what they might be experiencing. Kendra Kiss, a spray technician who also meticulously handles administrative duties, started working on an Alberta course as a 19-year-old. She admits to being initially overwhelmed by an environment where workers use complex equipment to meet high expectations. Now an industry veteran, Kiss collaborates with Rath and assistant superintendent Terry Magee to ensure new employees of both genders receive significant training and mentorship. "I try to help them as much as I can, because I know how intimidating it can be walking into a golf course and not understanding something," Kiss says.

Coaching and care yield a significant reward for managers. Young employees who experience a positive first season are more apt to become loyal, which isn't always the case in summer labor markets with more available jobs than reliable employees. Working outdoors for supportive bosses convinced Alyssa and Michaela Point to spend four summers at Magna between semesters at Brock University.

"We are always asking questions," Michaela says. "We are just never doing something to do it. We want to know why we are doing stuff. There's a reason behind everything we do here."

Their CP Women's Open week assignment involved hand mowing collars. It's likely the first time in LPGA history twin sisters mowed tournament bentgrass together. "When we came here and heard that the girls do all the same stuff that the guys do, it made us feel useful," Alyssa says. "It felt nice to know that we were actually doing something and not just being given some odd jobs."

Associations and companies are investing considerable time and resources into promoting and helping expand opportunities for women in turf, especially at the managerial levels. Their efforts should be lauded. But summer visits to Magna and Hamilton Golf and Country Club, the fabulous RBC Canadian Open site with a diverse crew featured in Part 1 of the "Our Major" series, demonstrated what conference room chatter can't replicate.

Supportive managers with structured training programs will make golf course maintenance an attractive job for all employees. Listening, answering, demonstrating, empowering and caring are universal practices. There shouldn't be anything unusual about seeing what happens when they are implemented. **GCI**



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NOTEBOOK

DRAFTING PLANS FOR DRIER TIMES

Arizona might be out of extreme drought status. But industry figures remain proactive in their water management advocacy efforts.

By Matt LaWell

N early two centuries have passed since Samuel Taylor Coleridge's ancient mariner bemoaned of "water, water, every where, nor any drop to drink." Outside of the continued water woes in Flint, Mich. — a city whose water quality has improved markedly over the last five years but was still in violation of the Safe Drinking Water Act as recently as August — not many Americans have a need right now to echo the mariner. But water will be more of a crisis for the future.

Water prices will need to increase more than 40 percent in the next handful of years in order to offset costs of aging infrastructure, according to a 2017 paper from researchers at Michigan State University, with large swaths of the South and the Southwest at risk of losing affordable drinking water.

Zoom in on Arizona, though, and a water crisis feels even more imminent: Congress passed the Colorado River Drought Contingency Plan in April, and President Donald Trump signed it into law days later with the aim of helping reduce water use and better deal with water shortages in seven Western states, none moreso than Arizona, which works with the disadvantage of sourcing much of its water from out of state.

"We're sitting in the middle of the desert, trying to grow a city," Cynthia Campbell, the water resource management adviser for the city of Phoenix told Elizabeth Whitman of *The Phoenix New Times* earlier this year. "Which defies logic for many people."



Golf courses are far from the top priorities of the plan, but the reality remains that any water shortage or shift in usage rates affect superintendents, directors of agronomy and other turfheads in the Copper State even more than folks who turn on their taps to, say, drink, shower and wash their clothes. The industry contributes more than \$3.9 billion to the Arizona state economy every year, according to a 2016 report published by the Department of Agricultural and Resource Economics at the University of Arizona.

"Arizona is a different state," says Shawn Emerson, the director of agronomy at Desert Mountain in Scottsdale, just north of Phoenix, and a member of the Arizona Alliance for Golf Association's Water Advocacy Committee. "Obviously, water is a bigger issue in Arizona, but water is going to be an issue everywhere, and everyone is looking at it as the first battleground state. What's going on, how we handle it, what we need to do to set ourselves up for success in the future."

The Water Advocacy Committee includes about 20 people, some of them from leading local clubs like Desert Mountain and Paradise Valley Country Club, some from various organizations like the Arizona Department of Water Resources and the Arizona Golf Association, others from suppliers like Rain Bird and Ewing Irrigation. Key aims right now, as the state's Fifth Water Management Plan inches closer, include gathering new data for comparison; developing new strategies for xeriscaping, moisture monitoring and other practices; and projecting what

Emerson calls "a unified message."

"I'm not just talking about water," Emerson says. "I'm talking about the benefits of golf. Why is golf so important for the economic impact on the state?" Emerson pumps about a billion gallons of water every year on the seven courses at Desert Mountain, but regularly implements conservancy measures, including a recent switch to cool-season bentgrass on the Renegade course (page 28). "The research shows that cool-season turf typically uses 20 percent more water than warm-season turf," he says. "But if you take the warm-season turf and add cool-season turf on top of it for overseeding, it's about 25 percent more. Sticking with your cool-season turf, in theory, you should save about 5 percent."

Courses have also received a significant credit for turning to effluent water, but reports have indicated those credits might be struck in the Fifth Water Management Plan. According to two sources who requested anonymity because conversations and negotiations are active, ADWR officials said in a meeting that they were willing to compromise on that reclaimed water credit and maintain the maximum allowable amount of acre-feet of water — which is expected to drop by about 6 percent in the early 2020s - but Arizona turfheads are, as expected, wary: "There are a whole lot of people at the state level that don't think golf should be an industry," one source says.

"We're trying to protect that we need a certain amount of water to be successful," Emerson says. "We have to fight as an industry, for all of us."

Matt LaWell is GCI's managing editor.



NOTE BOOK

Tartan Talks No. 39

Steubenville is a gritty, eastern Ohio city along the Ohio River. Steel and football combined to form the city's identity for decades.



▲ Myslinski

Golf options in Steubenville are limited, yet that didn't deter a few determined people from pursuing careers as golf course architects. One of the Steubenville-bred architects, **Doug Myslinski**, joined the Tartan Talks podcast to describe how somebody who grew up roaming a 9-hole municipal course forged a career in golf course construction and design. "Blue collar really defines it," Myslinski says of his home region, which produced fellow golf course architects Tim Freeland, Joe Duco and Jeff Myers."

Myslinski now lives in another city with industrial roots: Chicago. The region is the home base of Myslinski's employer, Wadsworth Golf Construction Company.

Working for a golf course builder gives Myslinski a broad view of industry happenings. "When you see things going well, like they are now, we're seeing more plans, we're seeing more detailed plans, we're seeing bigger plans and bigger projects," he says.

Enter <u>http://bit.ly/DougMyslinski</u> into your web browser to learn about Myslinski's career and work.



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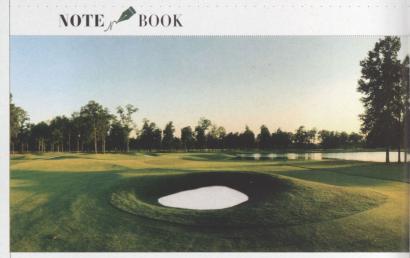


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ASGCA announces first Environmental Excellence Awards honorees

Projects from seven courses are a part of the first group of American Society of Golf Course Architects Environmental Excellence Awards winners, cited for their work with ASGCA members in addressing unique environmental challenges.

The Environmental Excellence Awards program was introduced to recognize the innovative work being done at golf facilities to address the needs of the environment, where golf course architects work with course owners and operators to make a positive impact on the game and the surrounding area.

The 2019 submissions were reviewed by a panel of golf industry and environmental leaders, including representatives of Audubon International, the GEO Foundation, the Golf Course Superintendents Association of America and the National Golf Course Owners Association.

"The response to this program in its first year has been tremendous," ASGCA president Jan Bel Jan said. "Congratulations to each of these facilities and the golf course architects for their work in improving the environmental landscape, helping golf facilities become more sustainable and profitable."

The recognized courses are:

CITY PARK GOLF COURSE, DENVER — TODD SCHOEDER,

ASGCA Can the redesign of an historic 1913 golf course in an urban environment address major neighborhood flooding issues while simultaneously enhancing the character of the golf course? The challenge was met in one of the last open spaces in Denver to detain and treat stormwater, then release it within eight hours to keep the course playable.

CRANDON GOLF AT KEY BISCAYNE, KEY BISCAYNE, FLA. — JOHN SANFORD, ASGCA | In an effort to reduce its water consumption, Miami-Dade County Parks Department initiated the project with Sanford Golf Design, which has been working over the past year to develop a conceptual plan that reduces the golf course's irrigated turf area. The project's design goals were to improve playing conditions in the tidally-influenced areas, reduce irrigation water consumption and maintain the visual aesthetics of the golf course.

LOS ROBLES GREENS GOLF COURSE, THOUSAND OAKS, CALIF. — JASON STRAKA, ASGCA | The city charged

the design team at Fry/Straka Global Golf Course Design with providing a playable, fun and visually stunning golf course that would reduce water usage by about 25 percent and reduce the required fertilizer, pesticides and fossil fuels to dramatically improve the golf course's environmental footprint.

ROOSEVELT GOLF COURSE, LOS ANGELES — FORREST RICHARDSON,

ASGCA | The challenge was to convert the irrigation source from potable to recycled water, and simultaneously make improvements to a 9-hole golf course within historic Griffith Park. The project took more than a decade of planning and permitting, eventually benefiting the environment by conserving water, restoring natural habitat and integrating the course with the natural environment.

THE PRESERVE AT OAK MEADOWS, ADDISON, ILL. — GREG MARTIN,

ASGCA | Planning, design and permitting was coordinated with 19 separate agencies as 27 holes were converted to 18 while improving golf conditions, relieving downstream and on-course flooding, providing environmental benefit, improving water and habitat quality and providing connectivity to

other Preserve properties within the Salt Creek Corridor.

THE REFUGE GOLF CLUB, FLOWOOD, MISS. — NATHAN CRACE, ASGCA |

Built in 1998, the course struggled to keep holes open after heavy rains, and the aging irrigation system was inefficient. Holes were crowded by invasive tree species causing loss of turf and soil loss from erosion. A full course renovation was put in place to remedy these and other issues.

WILLOW OAKS COUNTRY CLUB, RICHMOND, VA. — LESTER GEORGE,

ASGCA | Willow Oaks borders the James River, and every time the waters in the James rose, half the course flooded due to lack of water flow control. Newly created flood channels alleviate flooding and effectively manages the flow of water. **GCI**

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GAME/PLAN

ABOUT THAT 2020 BUDGET

The budget cycle is complete at most golf facilities for the 2020 calendar year. If your budget was approved and you received the allocation you hoped for, congratulations. But if you feel a lack of funding puts your plan for staffing, course conditioning and maintenance in jeopardy, you might need a different approach to the next budget cycle. Here are five steps to consider when planning your budget.

1. IDENTIFY THE GATEKEEPER. There is often one person who sets the tone for the next year's budget. It's normally the controller or accounting manager; in private clubs, it may be the chair of the finance committee. This person sets the minimum standards for the budget, and he or she must be educated and kept informed regarding your priorities and needs. Research the background experience of the gatekeeper so you understand the perspective from which he or she considers budget requests. Take the time well ahead of the budgeting period to

ensure that this key player understands what is needed and the extent to which you have gone to manage costs.

2. UNDERSTAND THE BUDGETING PROCESS. Many

golf courses and clubs use different Schedule one-on-one meetings with each person who will have a voice in approving your budget. Persuade one influencer at a time until you have met with each of them and gotten their buy-in. See that you understand their viewpoints and biases.

budgeting processes, sequences and schedules for development, planning and decision-making. Make sure you understand the expectations for your role, and then work diligently to exceed them by providing background and support information ahead of schedule. Understand how your club handles budgeting and who the decisionmakers are. Meet with them to explain your needs and priorities. Explore and learn their viewpoints concerning your budget needs and how they evaluate your problemsolving. Help them to know how much thought and planning you have given their viewpoints.

3. PLAN AHEAD OF THE

PROCESS. Schedule quarterly budget-planning meetings with the gatekeeper and key influencers of your budget submittal. Inform them fully of your needs for the next budget year, answer their questions and demonstrate your commitment to their preferences and needs. Invite them into your operation so they may judge for them-

> selves your organization and methods of management. They need to understand that you are efficient and diligent with the funds for which you are responsible.

4. ORGANIZE YOUR ROSTER OF PRIORITIES. Knowing the

viewpoints of the gatekeeper and influencers involved in your budget helps you prepare your list of your priorities. Be concise in stating your game plan and the rationale behind your requests. Support each proposed budget line item with incremental details for costs per unit of measure and the number of units required. Show all the facts and figures that support your needs. Your objective is to ensure that the gatekeeper understands the due diligence and conscientious approach that went into your request, which will increase their confidence in the validity of your request.

5. EDUCATE THE INFLUENC-

ERS. Prepare individualized budget discussions with influencers. Schedule one-on-one meetings with each person who will have a voice in approving your budget. Persuade one influencer at a time until you have met with each of them and gotten their buy-in. See that you understand their viewpoints and biases. Once you fully understand the individuals, evaluate the group thinking to which you must respond.

By understanding the budget influencers' priorities and then presenting your credentials in an organized and well-researched fashion, you're well on your way to getting the decision you want and the budget that will help you do your job more effectively. **GCI**



HENRY DELOZIER is a principal in the Global Golf Advisors consultancy. He is currently Chairman of the Board of Directors of Audubon International.

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Imagine landing a prestigious gig at a suave Southern California club before turning 30. Bel-Air Country Club's **Justin DePippo** describes life on the industry's fast track.

By Guy Cipriano

ustin DePippo moved from the East Coast to the West Coast as a 23-year-old. He owned two valuable items in his chosen field: a Penn State degree and work experience at a well-known facility on the other side of the country. A new job at a glamorous Southern California spot awaited.

Before he could start experiencing his version of a sun-splashed, low-humidity turf dream, which involved helping maintain Los Angeles Country Club's 36 holes, DePippo needed a place to live. The housing search proved more difficult than actually landing a full-time job at the renowned club.

"I got a rude awakening of what the cost of living was really like," DePippo says. "I had to find the cheapest place I could find. That's what determined where I was going to live."

DePippo used Penn State connections and landed a room in a modest West Los Angeles apartment he shared with a few fellow Nittany Lions, whom he calls "friends of friends." The apartment lacked air conditioning. And, yes, he encountered cockroaches in his living space. "I'm not very proud of it," he says. "It took some adjusting. But year by year, I was able to move up a little bit, always looking to improve my living condition." For the record, DePippo previously worked at Aronimink Golf Club, a phenomenal Philadelphia-area course offering modern onsite housing to young employees.

DePippo's living conditions have significantly improved since he arrived in Los Angeles in 2013. He rapidly ascended at LACC, becoming the superintendent of the North Course (site of the 2023 U.S. Open) by the time he was 26. Then, in 2017, DePippo was appointed the director of golf course and grounds at Bel-Air Country Club, another glamorous club enjoyed by A-list celebrities. Bel-Air, like LACC, also has A-list architectural roots. George Thomas designed a series of holes that meander through scenic canyons. The charm between canyons increased following a nine-month restoration in 2017-18. DePippo arrived at Bel-Air two months into the project. He was just 28.

Now a 30-year-old – more on reaching that milestone later – De-Pippo represents a fast riser in an industry where talented professionals are being forced to wait longer for leadership positions because of the slowing and subsequent steadying of the golf economy.

SUPERINTENDENT IN THE SHADOWS OF HOLLYWOOD?

I always wanted to be in a big city. I have always been drawn to it; I have always wanted to try it out. That's what first got me out here, wanting to be in a city where there's a lot going on and a lot to do. LA is definitely unique. It's perfect weather year-round. There are always people on the golf course. We have an event at some point during the month for all 12 months. There's no low or dropdown like the winter you have back East. Our what you would call 'off-season' is the middle of February when Riviera hosts the Genesis Open. SoCal and Los Angeles is just a good, active golf area. There are a lot of great golf courses around here, especially in the private sector.

HOW DID SOMEBODY FROM PHILLY WHO HAD LIVED IN

PENNSYLVANIA HIS WHOLE LIFE MAKE THE TRANSITION TO THE WEST COAST SO EARLY IN HIS CAREER?

It's a different way of life out here. Everybody who's been out here gets soft-skinned from the weather. Every time I'm back East it's a reminder of that. It's not quite the same intensity as the East Coast, where the people have a little bit more grit, I guess you could say.

YOU HAD A GOOD THING

A GREAT MENTOR IN JOHN GOSSELIN. THERE ARE A LOT OF GREAT GOLF COURSES IN PHILADELPHIA. IT WOULD HAVE BEEN EASY FOR YOU TO STAY IN PHILLY. WHAT CONVINCED YOU TO TAKE THE CAREER AND PERSONAL LEAP THAT YOU DID?

I interned at Aronimink and had gone back as an assistant. I had a talk with one of the assistants I was underneath there, Matt Rogers, who's now the superintendent at Gulph Mills Golf Club. He said, 'At some point you have to go work somewhere else, learn a different program and be a supervisor at another property.' I had nothing tying me down. As young as I was, I knew I was flexible. I always wanted to try the West Coast. I had always seen and heard about Pebble Beach, Torrey Pines, Los Angeles Country Club, Bel-Air and Riviera. I volunteered to work the Genesis Open at Riviera as a test run to see what it was like working in SoCal. I had a really good time. Between one of our morning and afternoon volunteer shifts, I threw a suit on and took a cab over to Los Angeles Country Club and did a quick interview with Russ Myers who was the director at the time. That was the beginning of it. It all clicked from there. I had a good vibe and I was blown away by it all, especially how great the weather was. I figured if I'm going to be working outside every day, I



might as well do it where it's perfect weather year-round.

WHEN DID YOU REALIZE YOU WOULD BE IN CALIFORNIA FOR MORE THAN A FEW YEARS?

Our industry is small. There are only 15,000 golf courses in the United States. Depending on the level of club you want to be at, you have to be flexible. I was always willing to go anywhere in the country for the right job. Timing just worked out great at Los Angeles Country Club. There was a good bit of movement and I was able to work my way up there until the end when I was North Course superintendent. We also hosted the Walker Cup and it was the same time the U.S. Amateur was in town at Riviera and Bel-Air was right up the street. It was a big year for golf in Los Angeles. Timing was great. A great club, a great opportunity. I definitely feel lucky in our industry to not have to move to take a superintendent job. The only thing that changed was the exit I take off the 405.

WHAT WERE THE CHALLENGES OF ARRIVING AT BEL-AIR IN THE MIDDLE OF A RESTORATION?

First thought is that you would say it's a lot to walk into. You have to learn the old course and new course at the same time, in a very short amount of time. In my first construction meeting, one of the big-ticket items on the table was whether we were going to move the cart path

▲ Justin DePippo became the director of golf course and grounds at famed Bel-Air Country Club before turning 30.

INDUSTRY Q&A

 Justin DePippo arrived at Bel-Air Country Club in the middle of a Tom Doak-led restoration. and shift the tee box to the other side of the third tee and the eighth tee. Everybody was giving their opinion and it gets to me and I said, 'Guys, I have to go see the third tee and the eighth tee before I can tell you.' It was actually great being able to start fresh in a new job with new greens, new fairways, new tee complexes. Plus, all the new infrastructure. We started a new lease package with our equipment. It was a fresh start all-around. Being in a restoration on an old property and getting to work with Tom Doak was great as well. Timing-wise it couldn't have been any better.

GIVE SUPERINTENDENTS WHO MIGHT BE BEGINNING A NEW JOB IN THE MIDDLE OF A MAJOR RENOVATION OR RESTORATION?

Be ready to put in the work. It took a lot of time. Luckily, weather was great for us. We didn't have any major setbacks there. Build rela-

Our industry is small. There are only 15,000 golfcourses in the United States. Depending on the level of club you want to be at, you have to be flexible. I was always willing to go anywhere in the country for the right job."

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tionships quickly with the architect and the construction superintendent, the property manager, the general manager, the greens chairman, the board, your new assistants, your new staff and the whole list of contractors. You

have to build relationships quickly and be ready for the work. Some people are attracted to that. It's a challenge, but it's fun. I enjoyed it. It keeps you on your toes. Looking back, you can say it was definitely an achievement to get through that. We opened up great. The members couldn't have been happier with the new course and the new design, and we have been busy ever since.



WHEN DID THE COURSE REOPEN? July 11, 2018.

WHAT DID THAT DAY MEAN FOR YOUR TEAM?

We had a big countdown timer on the wall. I think we started a 100day countdown. We tried to get as much done as we could and perfect it as best as we could. In our industry and our line of the work, the job is never done. You can always do more. There was never a stopping point. That whole week was exciting. We did tee times that first week, so everybody had the opportunity to play at least once. A lot of people wanted to get out. All that hard work we put in – and people got to finally enjoy it. Everybody here takes a lot of pride in their work. We have a good staff. To have 37 guys that all take pride in their work is unique and special. We also had quite a few barbecues.

WHAT IS IT LIKE MAINTAINING A COURSE WITH THROWBACK CHARM AND MODERN INFRASTRUCTURE?

It's a very unique property. Logistically, it's one of the most difficult properties to get around. There are four tunnels that you can barely fit a small golf cart through. We have the iconic swinging bridge to get from the 10th tee to the 10th fairway. The property has a lot of history. It's one of the main things that makes it so special. When you get to walk through the canyons and you're in these foothills, it's amazing how perfectly the holes fit into each canyon. I was walking with Ron Whitten from Golf Digest one day and he said it perfectly, 'If any of these holes had been 20, 30 yards wider or 20, 30 yards tighter, it wouldn't have worked.' The fact that they laid that out in the mid '20s with the equipment that they have ... it's amazing that it fits. With opening up the vistas and views with all the trees that we removed. it was kind of somewhat hidden how great the course really was. It's always been a great golf course and a known property, but I don't think anybody knew how great.

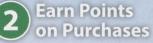
YOU WERE COMING INTO BEL-AIR AS A 28-YEAR-OLD DEPARTMENT LEADER. HOW WERE YOU ABLE TO GAIN THE RESPECT OF THE MEMBERSHIP AND YOUR CREW EARLY IN YOUR TENURE?

I'm a believer that you have to earn respect, not demand it or expect it. From when they hired me, they knew I had a decent amount of experience. That's why they hired me.

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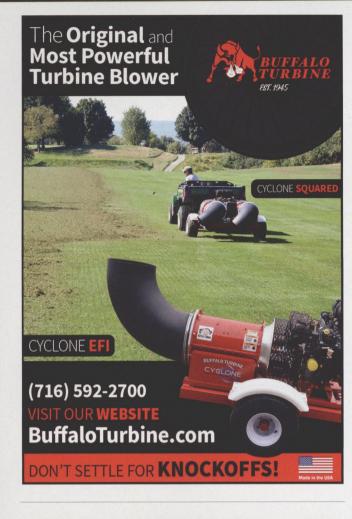
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INDUSTRY Q&A

It definitely wasn't because of my age. One of the things that I said, 'Being as young as I am, it's an advantage to the club.' I have everything to lose because I have my whole career ahead of me. If I didn't give it 110 percent or give it my all, I have my whole career ahead of me to have to make up for that. I thought being somebody who hadn't built a name for himself or been a head superintendent was a huge advantage.

YOU JUST TURNED 30. DO YOU FEEL ANY DIFFERENT NOW THAT YOU HAVE JOINED THAT AGE BRACKET?

Not really. Everybody says the only birthdays that matter now are the decades: 30, 40, 50 ... Yeah, maybe knowing I'm not in my 20s anymore you really feel like an adult, but I don't feel any different. I have always been told I'm mature for my age. I have had crew members ask me all the time how old I am and tell them to guess. And they start with 40!

A LOT OF PEOPLE IN THIS INDUSTRY MUST WAIT A LONG TIME TO BECOME A SUPERINTENDENT. YOU BECAME ONE EARLY IN YOUR CAREER. WHY DO YOU THINK IT HAPPENED SO FAST FOR YOU AND WHAT WOULD YOU TELL SOMEBODY WHO WANTS THE SAME TYPE OF JOB YOU HAVE EARLY IN THEIR CAREER?

You have to set yourself apart. There are good people in every industry who want it just as bad as you do. A good way to separate yourself is to be the hardest working person

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in the room. I learned working at Aronimink and Los Angeles Country Club that there's competition at those places. Big staff, quite a few assistants, AITs, interns. I was willing to do whatever it took. I was willing to sacrifice my time, vacations, whatever. I worked probably every day through my summer internships at Aronimink. I didn't really do the beach trips or the weekends off. If we wanted to get a night spray in on intermediates or tee boxes, I would come in with the assistant. He'd light the place up ahead of me and I would be spraying behind him. Try to make yourself the go-to person; make yourself part of somebody's solution. The job is never finished. If you are that person who's willing to do whatever it takes to make it better, then you can really set yourself apart and move up. I tried to take one or two trips back East a year and it was tied onto the Penn State Turf Conference or volunteering at Lancaster Country Club for the U.S. Women's Open, Oakmont for the U.S. Open or Liberty National for the Presidents Cup.

HAVE THE SACRIFICES YOU MADE BEEN WORTH IT?

I think so. I enjoy what I do every day. My fiancée thinks it's weird sometimes how much I enjoy coming into work. I'm here six, seven days a week. It's not work for me, though. I really do enjoy it. If we are doing something different on greens or testing out new equipment, that's fun. When I'm trying to build a staff here or work with the guys under me, I want

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INDUSTRY Q&A

everybody to enjoy coming to work every day. Creating that environment and then having a lot of guys who take pride in their work, you can build something special and something that people want to be part of.

DO YOU WONDER HOW LONG YOU CAN KEEP THIS PACE?

I guess I have never really thought about how long I can keep this pace. I have a good bit left in me. I don't quite worry about that



yet. Who knows if you ask me that question 20 years from now or 30 years from now what I would say.

IF SOMEONE HAD TOLD YOU WHEN YOU WERE A STUDENT AT PENN STATE YOU WOULD BE THE SUPERINTENDENT AT A COURSE SUCH AS BEL-AIR COUNTRY CLUB BY THE TIME YOU WERE 28, WOULD BU HAVE BELIEVED THAT WOULD BE YOUR CAREER JOURNEY?

I don't know if I would have believed the journey. But I'd say, 'Yeah. That's the goal. That's why I'm putting in the effort.' When I was interviewing at Bel-Air, one of the things I said was that my whole career had been building up to this moment. That's why I moved from the places that I did and worked for the guys that I worked for and volunteered as many tournaments as I could. Putting in all that time and the hours... it was building up to that moment. That's everything you're working for.

In 2008, I volunteered the U.S. Women's Open at Saucon Valley. I had lunch during one of the day shifts with Mr. (Paul R.) Latshaw. At the time, I didn't know who he was. I was 17 or 18. I was helping move plastic boards for mowers. The entire operation blew me away. I had never experienced such detail, passion and culture. It wasn't until my roommate, an older gentleman and previous superintendent trying to get back into the industry, asked me if I could introduce him to Mr. Latshaw. At the time, I didn't think much of it or understand it. When I was in school and working, and later working at Aronimink, I saw the articles and heard the stories of Eric Greytok, who hosted two major championships by 28, John Zimmers, Russ Myers, Paul B. Latshaw and Jim Roney. They all took superintendent jobs at a young age. It really opened the industry up for me and what I felt like was another level. I'm lucky enough now to have built relationships with these guys today, but they had set the bar for me then. They all had stacked resumes and put in the work. They gave it their all. I wanted that. It pushed me to network, work hard and volunteer at least one event a year. GCI

Guy Cipriano is GCI's editor.

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Innovation Never Stops: THE REVYSOL° STORY Part 4 In the field By Rick Woelfel

(Editor's Note: This year, BASF and GCI are working together to tell the story of how a new active ingredient is coming to life for the golf market. The idea is to help you learn the scope of the R&D, testing, investment and plain hard work that goes on behind the scenes of product development. The formulations reached the golf market earlier this year. This is part 4 of a 4-part series on the remarkable process of bringing new chemistry to your golf course.)

fter years of preparation and testing, and no small amount of anticipation, superintendents are now able to make Revysol a part of their fungicide regimens.

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Developed by BASF, the active ingredient mefentrifluconazole may now be used in the field, either as a standalone (brand name: Maxtima[®] fungicide) or in a compound with Insignia[®] (brand name: Navicon[®] Intrinsic[®] brand fungicide).

Whether as a standalone or as part of a compound, superintendents are eagerly anticipating having another weapon in their arsenal in their ongoing battle against dollar spot.

Scott Bosetti is the superintendent at White Beeches Golf and Country Club in Haworth, N.J. The 18-hole private facility is located 20 miles northwest of midtown Manhattan.

Bosetti started working on golf courses a quarter century ago. He's spent 18 years as a superintendent, 13 of them at White Beeches where he has been regularly plagued by dollar spot issues — issues that have become more problematic in recent seasons because of wet, humid weather. He seized on the opportunity to try Maxtima when it became available this summer.

"The ability to throw a DMI chemistry out in the middle of the summer was very appealing," Bosetti says. "Once the heart of the year gets to us, we're kind of handcuffed. There is a just a certain amount of different types of products/ chemistries that we can use, so being able to throw a new chemistry out there in the middle of the summer was something that really interested me."

Bosetti put down an application of Maxtima in late July at a rate of 0.4 oz./1,000 square feet. When he spoke with *Golf Course Industry*, he had effectively received 21 days of dollar-spot control from the application.

While making the Maxtima

fungicide application, Bosetti simultaneously applied Primo Maxx as a growth regulator. I'm mostly *Poa annua* here," he says, "and you're always worried about throwing a growth regulator in with a DMI, no matter what time of year it is."

But Bosetti was assured by BASF representative Paul Ramina that the growth regulator would not cause a problem. "He told me, with all the research they've done, either on other golf courses, or at Rutgers, it had no effect on it." Bosetti recalls, "so I went out with an 11-oz.per-acre rate of Primo and got no yellowing, no nothing."

Tim White is in charge of the turf at Prestwick Country Club in Frankfort, Ill., roughly 35 miles south of Chicago. The 18-hole private club features a Larry Packard-designed golf course that was completed in 1964.

When White arrived at the club in 2005, he found himself facing dollar-spot issues that were exacerbated by resistance issues related to DMI-based chemistries that were used by his predecessor to the point where White was getting no more than 10 days of control per dollar spot application (White is quick to point out that those chemistries were state-of-the-art at the time his predecessor applied them).

White found that Emerald was effective against dollar spot; at one point, he was getting 40-plus days of control. Fifteen years later, he embraced the opportunity to have history repeat itself, this time with Maxtima fungicide. "I just thought the product sounded interesting," he says. "I saw some of the research numbers online and our sales professional (Andy Morris) got us a trial sample."

On Aug. 6, White applied Maxtima on one of his fairways.

"We picked a hole that we knew had previous issues with dollar spot," he says. "We also picked this hole because it has a fair amount of *Poa trivialis* in the fairway, especially on some of the fairway edges."

The fairway in question also had summer-patch issues. Within six days, though, the dollar spot on the trial fairway was gone — and within a week, the summer patch was all but gone, White says. Twenty-one days later, the summer patch had not returned, he adds.

Two Michigan-based superintendents are hoping to achieve similar results with Maxtima fungicide that Bosetti and White have attained.

Jeff Holmes is the longtime director of agronomy at Egypt Valley Country Club, a private facility in Ada, an eastern suburb of Grand Rapids. He's been at the club for 25 years and has worked in the turf industry for 34. He spoke with *Golf Course Industry* the same week he put down an application of Maxtima.

Holmes decided to try the product based on past success with DMI-based chemistries and his ongoing relationship with BASF. "They usually deliver good products," he says, "and the price point value is very favorable for just fighting against dollar spot and not worrying about other diseases."

Holmes had bigger problems with dollar spot in 2018 than he did this season. He believes the weather was a factor, noting that in recent seasons he has found himself applying fungicide more frequently than in years past. Ideally, he'd like to apply a fungicide on a monthly basis, but circumstances don't always allow for that.

"I think our durations are shorter," he says, "but it's really hard (to determine) unless you have a checkplot and are going year to year. Sometimes, a certain product will work one year and the next year it doesn't work quite as well, so I really think a lot of it is weather-driven, but I do feel that the durations are a little shorter than what they were.

"We've had products that have gone 28 days and longer and we've had products that have lasted eight days, and sometimes that same product worked three months earlier or the year before," he adds. "That's why I say sometimes it's just the climate and the conditions and not knowing if the pathogen is already in the plant and how we're affecting it. There are a lot of variables."

Tom Schall has worked in the turf industry for more than three decades. Today, he's in charge of the turf at the Oakland University Golf and Learning Center in Rochester, Mich. The center features two 18-hole courses plus a state-of-the-art practice area.

When *Golf Course Industry* spoke with Schall, he was pre-

Revysol fungicide **C** at a Glance

- Tradename for turf is Maxtima[®] fungicide
- A second turf product, Navicon[®] Intrinisic brand fungicide, includes Insignia SC (pyraclostrobin).
- The active ingredient is mefentrifluconazole
- Class of chemistry is DMI
 (azole)
- Strong potential as a resistance management for DMI-resistant dollar spot
- Primary diseases controlled: dollar spot, anthracnose, summer patch, spring dead spot and fairy ring
- Received registration this year

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paring to apply Maxtima for the first time; the application was tentatively scheduled for the end of August. He is hoping that Maxtima will prove an effective remedy for the dollar spot issues that have plagued him in recent seasons "I'm not getting the length of control that we were used to," he says. "Two weeks is almost unheard of anymore."

Schall says early season rains exacerbated the dollar spot issues he's been dealing with this summer. "Normally, what we do is put an application down for dollar spot earlier in the spring as a (preventative measure)," he says, "and we just didn't have that availability to do that this year with the rain. I think that's one of the reasons we're having this problem."

Apart from its effectiveness against dollar spot and other diseases, early indications are that Maxtima fungicide offers financial benefits. Bosetti estimates that his 21 days of dollar spot control cost him approximately \$100 per acre. And longer intervals between applications allow superintendents to devote labor to other tasks. "(Maxtima fungicide) is going to allow us to move people to do other things in the fall," Schall says, "and not have to put so much time into making a fungicide application. We've got a couple of renovation projects going on too. Whenever you're doing a project, things come up and you have to move people around, so it's going to help us be able to do that."

White is already thinking about 2020 and how he'll integrate Maxtima into his fungicide protocol. He anticipates making an application somewhere around May 1.

"We're going to give it a whirl for sure on our tees next year," he says. "We're going to do an early season app for dollar spot reduction, summer patch and take all patch. I'm assuming on our tees we should get at least a month out of that, maybe longer, for dollar spot. We'll probably do a fall clean-up on the tees also for dollar spot."

White is also planning to try Navicon Intrinsic on greens.

"Historically, we get a couple applications during the summer months of an Insignia product," he says. "Whether it's Lexicon, or Honor, or Insignia, there are planthealth based benefits, there's no doubt about it."

White believes that utilizing Insignia has contributed to making his turf more stress resistant.

"When you make an application prior to a stretch of (90-degree days) that roll in and sticky nights, we just noticed that the grass responds better than it does when we're not using the products," he says. "We're using less water, there's less stress, the plant seems to have an ability to just handle the stress much better ... the plant just seems to be a little bit tougher, a little bit stronger.

"I don't have numbers to back that up, but based on previous years when we didn't use any of it versus years when we have, it just seems like the plant can go through those periods of warm, humid days and sticky nights with less decline."

White believes that dollar spot is becoming less of an issue than previous years because of the introduction of new products. But it's safe to say that it will always be a concern for turf professionals. With Maxtima fungicide and Navicon Intrinsic brand fungicide now available, they have two new tools at their disposal.

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CONSTRUCTION AND RENOVATION

2019 CONSTRUCTION GRENOVATION ISSUE

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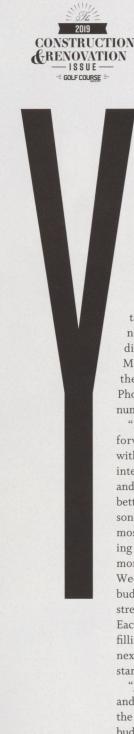
CONSTRUCTION AND RENOVATION

BETTING ON BENTGRASS

HOW LEVERAGING NUMBERS, EXPERIENCE AND RELATIONSHIPS LED TO DESERT MOUNTAIN BRINGING COOL-SEASON TURE TO EVERY ACRE OF AN ARIZONA COURSE.

By Matt LaWell

Desert Mountain Club director of agronomy Shawn Emerson and team managed to grow 52 acres of bentgrass in the desert thanks to years of research and a perfect microclimate.



ou need to understand your numbers.

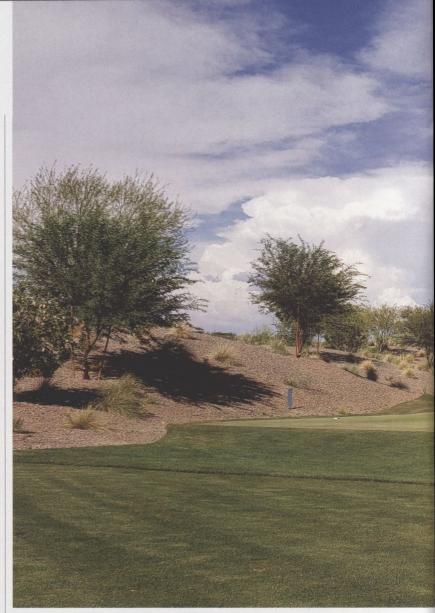
You need to understand line items, too, and you need to think about wages rather than hours, and you need to document every last financial transaction, because if you fail to document something, it never happened. But more than anything else, please, you need to understand your numbers.

This is Shawn Emerson talking, the Sun Valley veteran now in his third decade as the director of agronomy at Desert Mountain Club in Scottsdale, the seven-course oasis north of Phoenix. He knows plenty about numbers.

"If you want to survive going forward," he tells a room filled with six of his seven course superintendents, a handful of assistants and some visiting consultants, "you better know your numbers." Emerson schedules a meeting like this most Wednesdays, but the meeting this Wednesday is longer and more detailed than normal. This Wednesday, he focuses on 2020 budget preparation. The meeting stretches almost an hour and a half. Each superintendent is tasked with filling out his own budget for the next year. The process can never start early enough.

"Just make sure you can justify and get it approved," Emerson tells the room. "Just because it's in your budget doesn't mean it's approved."

Emerson was never a numbers nerd growing up, but he studied finance at American University in Washington, D.C., then moved west and realized there was far more to course maintenance than growing grass. He mastered the numbers, then he mastered analytics, and now he wants to put every one of his superintendents in a position to do the same. During his 22 years and counting at Desert Mountain, he says, probably four of



about 40 superintendents have really conquered the numbers. "You have to have a plan," he says. "Or you're not going to make it."

He dives into the current monthly budgets for each course - Cochise and Apache, Outlaw and Geronimo and Chiricahua, the sparkling new par-54 Seven that might provide a different avenue to welcome in folks to a sprawling golf community (see Lucky Number Seven, page 34), and, of course, Renegade, the oldest course on the property, the course Emerson worked on as a superintendent for five years back in the 1990s, and the site of one of the more daring renovations in recent years anywhere in the country. Some of those courses hit their budgets. Some did not.

"You should always be \$1 under budget," he says. "That was always my goal. Not \$10, not \$100, not \$1,000. One dollar under budget." He looks up at a superintendent who missed his budget. "This is a team," he says. "You're \$242 over budget right now. You didn't make it."

Hang around Emerson for even a day or two and the admiration he has for his staff is obvious. He loves them — it's a tough love, but it's still love — and it's not enough for him to tell them what to do. He needs to explain *why* they should do things. He wants to teach them about the business. He wants to prepare them all to not only to do their jobs well but to do their jobs well anywhere.

"

I think the question to anybody doing golf course construction today is, Where do you want to put your money? Do you want to put it in the front end? Or do you want to put it in the back end?" — DESERT MOUNTAIN DIRECTOR OF AGRONOMY SHAWN EMERSON



Alex Ward

"There is no other group I'd rather rely on than you guys," he tells them, some encouragement as they head back out into 112-degree mid-morning heat after a meeting filled alternately with sound questions, feigned disappointment



▲ Shawn Emerson

Alex Ward says. "At least not the way he does it." Emerson oversees seven courses spread across almost 8,000 acres of parched terrain. He is a leader for water advocacy in a state where the stuff is regulated more closely than just about anywhere else in

and that signature

tough love. "But

you're going to

have to do your due

diligence. No one

knows this busi-

ness better than

you guys know it."

that anybody else

could his job,"

Renegade course

superintendent

"I don't know

the country. He also planned and executed a renovation of one course and the construction of another simultaneously.

Oh, and he figured out how to grow bentgrass in the desert.

EMERSON LEARNED EARLY on that he wasn't what he calls "the most talented guy."

"My Dad gave me the best tip," he says, referencing his father, legendary course superintendent Bill Emerson, who passed away earlier this year. "Surround yourself with people who are better than you and you won't have any problems."

Emerson regularly calls on top consultants like Dr. Rick Brandenburg, an extension specialist and department extension leader in Alex Ward moved over to course superintendent at Renegade this year after a dozen years at Apache.

© MATT LAWELL

One big

benefit of

bentgrass?

Renegade

will no longer

need annual

overseeding,

which cost more than

\$400,000.

entomology and plant pathology at NC State University who was in town during the budget meeting. He used to work so closely with Dr. James B. Beard, the Texas A&M University legend who formally retired in 1992 and passed away in May 2018, that when Emerson first floated the idea of bentgrass back in 1999, it was Beard who stopped him. "We looked at when the golf course would be in its best condition and it kept pointing us to October through May," Emerson says. "Why not put out the best grass that would be the most successful at that time? But he was worried about the water quality."

No matter how many brilliant agronomists have tried to steer him away, Emerson was determined to at least test bentgrass. The benefits were too great — highlighted by a lower water usage rate and the end of overseeding, a process that now runs Emerson about \$350,000 to \$400,000 per course per year — to not study how it might react to desert weather on a scale larger than a handful of acres.

Emerson reached out to Dr. Leah Brilman, who has worked with Seed Research of Oregon and DLF Pickseed. She sparked Emerson toward "probably one of the pivotal decisions I've ever made in this business" and the pair worked together for years to develop the 007 MacKenzie bentgrass mix. Brilman called it Winter Activity. "Anybody who starts a project,

they need to know the grass types they want," Emerson says. "The design matters." The decision might not make sense even a dozen miles away, but within the Desert Mountain microclimate — high temperatures, low humidity, drier than Prohibition — a cool-season turf would play perfectly.

Even with his bentgrass mix in hand, Emerson still required enough water and perfect infrastructure in order to swap grasses. Creeping up on 30 years old, though, the Renegade infrastructure was wilting with age.

After designing the original Renegade course back in 1986, Jack Nicklaus returned to tour the property and redesign the course. He found as much as 22 inches of sand on greens — nearly a foot more than the 12 inches required by the USGA — thanks to years of topdressing. "If you have to rebuild them," Nicklaus told Emerson, "why not put them wherever you want?" Nicklaus dispatched his associate Chris Cochran and the

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I don't know that anybody else could his job — at least not the way he does it."

---- RENEGADE COURSE SUPERINTENDENT ALEX WARD

redesign started in earnest.

Emerson toured the country, talking with other superintendents about their redesigns and current equipment, about processes and pitfalls. "Superintendents are willing to tell you, 'I would have done this, I would have done that," Emerson says, "and contractors are the same way."

Back at Desert Mountain, Mike Gracie, then the Renegade course superintendent, established a baseline for everything that required an update or a fix. "We wanted to redo everything and try the bentgrass," Gracie says. "So, in 2017, we killed off all the Bermudagrass, overseeded it with straight ryegrass, did a couple test plots of the 007 MacKenzie bentgrass mix, grew those in on the fairways on 10, the approach on 12 and the little fairway on 17. We were happy with what we saw and happy with how it grew it in.

"Shawn pulled the trigger and said, 'Let's do it all.""

The course closed on May 1,



Extraordinary

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Ian Materkowski



Eric Materkowski Golf Course Superintende St. Clair Country Club



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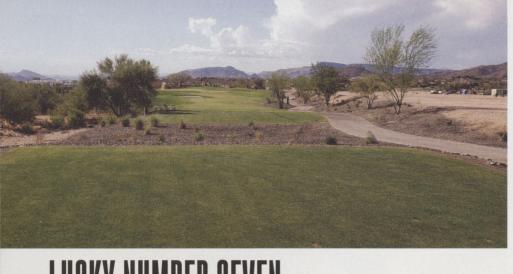
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Desert Mountain expands its vision with a par-3 course that it thinks can open the game to new audiences.

What is the future of golf?

Drive around 92 developing acres of Desert Mountain Club in Scottsdale, Ariz., and it's easy to fall in love with the idea that the future of the game itself will depend on par-3 courses that are maintained to the same exacting degree as any championship course big brother.

Desert Mountain has been home for years to a sextet of those championship courses — represented even in its six-peaked logo — and, for months, to a seventh course: a beautiful par-3 course rather appropriately named Seven that director of agronomy Shawn Emerson thinks might just catch on. "We were concerned that we were an aging club," he says. "We needed a plan to keep people playing five years longer."

Why not carve out some land that would have otherwise been filled with another subdivision and transform it into a sparkling short course that tops out at 3,114 yards and allows both older players to hang on a while longer and, perhaps even more important, provides a less intimidating entry point for players picking up clubs for the first time?

Somewhere around 24.2 million people six years and older played at least one round last year — a 1.68 percent increase over 2017, according to the National Golf Foundation's most recent annual Golf Industry Report — and the average number of rounds per player was just shy of 18. Almost 15 million more admitted they didn't play a round last year but were "very interested" in playing on a course.

"Get 'em from Topgolf and this is the next step," Emerson says. "You have no shot longer than 100 yards, then you go to 150, then 200, and you progress. You can practice your game if you're already a good player. And it's enjoyable to walk and exercise."

The course was developed in concert with about 150 home sites, which required Wendell Pickett of Greey|Pickett and Bill Brownlee of M3 Companies to design the course alongside new infrastructure like roads and pipes. Unlike other Desert Mountain courses, Seven was developed with golf first, though "the quality and conditions of the golf course match those of any championship golf course," Emerson says. "We're not just putting an afterthought out there. We're maintaining it like it's 8,000 yards of Renegade." And because Renegade was renovated at the same time Seven was constructed just miles up the road, they feature nearly identical materials, including oop MacKenzie bentgrass.

"Not a lot of people have time for a four- or five-hour round of golf," says Seven course superintendent Ryan Williams, who Emerson shifted to the new course because of his eye for meticulous details. "These executive par-3s are going to maintain interest in the game."

Williams leads a crew of seven full-time employees on Seven, along with a salaried assistant, an hourly assistant and an irrigator. "You have to pay a lot more attention to the details," Williams says. "Raking the walking paths on tees, edging heads and approaches and fairways.

"The expectations are just as high as at any course."

With a reported \$8 million price tag, they probably should be. The course measures less than 35 acres, with about 20 of those dedicated to turf. That works out to about \$270,000 per acre, or what Pickett calls one of the more expensive courses — or maybe even the most expensive course — ever built, at least on a per-acre basis. "From the start, management, the board, the developer did not shackle the design team at all," Pickett says. "There was never an argument on site, never a miscommunication, and it was always fun."

And fun is the idea. Some courses might be described as a front porch of sorts to bring people into home ownership and the game. Not Seven.

"I think this is the back yard and the pool," Pickett says. "Everybody's invited."

— Matt LaWell



2018. Working with Cochran's design — which included rolling tees and multiple greens on each hole, less severe mounding and added length — an enormous team filled with Emerson's brand of "people better than" himself started a job that stretched almost a year: Emerson installed Desert Mountain agronomist Keith Hershberger as the project manager to work with Cochran and a team of contractors that was led by Heritage Links vice president Oscar Rodriguez and included irrigation consultant Bob Bryant, who oversaw the installation of IC units with 55-foot spacing. Because Nicklaus Design wasn't able to work on site every day, Emerson called in Phil Smith Design as a third-party project manager. Gracie, meanwhile, was tasked with growing in and maintaining the golf course once the grass hit the ground.

"That was my introduction to construction life," says Gracie, who's now the superintendent at Chiricahua. "It was like drinking water from a fire hose."

A couple miles west on Cave Creek Road, Bruce Church of Desert Reflections and Marvin Mills of Rain Bird highlighted the team of contractors working on construction of Seven at the same time. "The contractors worked well with each other," Emerson says. "The sand was the same, the parts were the same. They would trade parts. If I needed a sprinkler head, they would give it to the other because they were the same. If one was long on something, we just transferred it over to the other." Everybody huddled for construction meetings every week and financial meetings every other week.

The numbers are necessary and staggering: On a property where the annual golf maintenance budget currently sits at \$19.3 million, Emerson budgeted more than \$3 million for drainage alone and another

CONSTRUCTION AND RENOVATION

\$2 million or so for more than 100,000 tons of sand, trucked in a ton per day from August through January.

"We had three trucking companies hauling sand up here," Sev-

en course superintendent Ryan Williams says. "The original suppliers couldn't get enough trucks."

"It was almost like a parade of trucks," says Ward, the current Renegade course superintendent. "And hindsight is 20/20, but we did make one mistake: We should have had them haul it up and store it up here somewhere."

"They were dumping it on the hole it was going on and we were smoothing it out," Williams says.

"It was the biggest, most difficult part of the process," Emerson says. "But I think the question to anybody doing golf course construction today is, Where do you want to put your money? Do you want to put it in the front end? Or do you want to put it in the back end? Some people decide to not use sandcapped fairways, then they end up buying sand and topdressing fairways. How much does that cost you every year? We made an evaluation and decided to put the money up front and get the best price for it."

Weather slowed the projects, notably 8 inches of monsoon-season rain during the first two weeks of Octo-



▲ Ryan Williams

ber, a dusting of snow on New Year's Eve, then 12 to 16 inches of snow covering the course in early February. The longest uninterrupted stretch for bentgrass germination was a little

more than two weeks, and it was Brilman, who developed the bentgrass mix with Emerson, who provided what Emerson calls the greatest advice: "She told us not to stop seeding," he says. "That's where the ability to listen and have people help you comes in. The bentgrass grew in in weather no one expected it to grow in."

The back nine opened in April for limited play of about 70 rounds per day, followed by the front nine opening in June. The course was closed again July 15 for about seven and a half weeks, reopening Sept. 5. "The heat is one thing," Ward says, "but you combine monsoon season with the humidity and your bentgrass is not going to transpire the way it's supposed to. You put traffic on that, it would just be deadly."

Ward is learning about bentgrass maintenance on the fly along with the rest of his crew, though he does plan for what he describes as "a lot more vertical mowing next year" and topdressing every two weeks probably starting in March. "We've had bentgrass greens up here forever," he says, "so where I used to have six



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SHARPENING SOLUTIONS



Desert Mountain sits south of Tonto National Forest, which gained its designation in March 1907, five years before Arizona became a state. acres of greens, I now have 50 acres of greens. You can't have the same cost per acre, but a lot of the cultural practices are going to be very similar."

"Most people are very short-minded when they build a golf course," Emerson says. "You have to think about what you want 10, 15 years down the road. You should start your capital re-

placement funding immediately after you open. When are you going to replace your grass? When are you going to replace your irrigation system? They're not built to last forever. And most people go into these plans, look over



five years, and don't think about it again.

"You have to build a program to sustain it. You don't have to be elaborate, you just have to build a program to sustain it to move forward." EMERSON WAS BORN in 1963, the same year his beloved Baltimore Orioles started a 23-season run that included 22 winning records, seven division championships, six pennants and, better than everything *continues on page 70*



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Superintendent Eric David and architect Andrew Green are guiding a renovation of the William Flynn-designed United States Naval Academy Golf Club.

FINESSING FLYNN

Preserving the last act of a storied architect is driving a major project at the United States Naval Academy Golf Club.

By Rick Woelfel

visitor to the United States Naval Academy is immediately stirred by the sense of history that is discernable at every turn.

That same historical aura is in evidence at the United States Naval Academy Golf Club in Annapolis, Md., where superintendent Eric David is charged with overseeing a major renovation while at the same time helping preserve and enhance the work of one of the greatest architects of all time.

David, who has a two-year turf degree from Michigan State, was hired in June 2017 after a decade at Baltimore Country Club. He was well familiar with the planned renovation even before he arrived.

"My boss at Baltimore Country Club (Tim Kennelly) had worked here in the late '80s and early '90s,"

CONSTRUCTION AND RENOVATION

David says, "and had always told me about what a special place this was. Although it might not be the big-name club, he had always said that it had a fantastic membership and great people to work with and be around, and when the job came open, the (word) had been going around that this golf course was going to be renovated."

The first golf course on the property was completed in 1928, the work of Chicago architect Harry Collis. At the time, the site was home to the Greenbury Point Yacht and Country Club. The club collapsed during the Great Depression, but the Navy purchased the site in 1938, in part for the purpose of constructing radio towers.

Nine holes reopened in 1940 before legendary architect William Flynn arrived on site in 1942. Over the next two years, he would revise some of Collis's work and design additional holes. Flynn's 18-hole course opened for play on May 1, 1944. It was the last course he designed; kidney disease took his life the following January at age 53.

The renovation will seek to both restore and enhance Flynn's work. All 18 greens will be rebuilt to conform to present-day USGA standards and restore as much of Flynn's original unique shapes, many of which have been lost over the course of time. The bunkers will be rebuilt and, in some cases, repositioned.

Finally, the entire course will be regrassed.

If all goes well, and the weather cooperates, the project will be completed sometime in late summer 2020.

Work commenced Aug. 5, but David and his team of 15 began their preparations well in advance of that date. Tree removal was – and remains – a priority along with removing unwanted strains of grass.

The property features an abun-



dance of turf species, including bent/*Poa annua* greens, along with Baymont Bermudagrass fairways and mostly Bermudagrass tees, save for those in shaded areas where ryegrass is prevalent. The rough features cool-season grasses, ryegrass, fescue and bluegrass, along with zoysiagrass bunker banks.

David's experiences at Baltimore Country Club taught him about caring for multiple turf species simultaneously.

"A lot of my program has come from taking what I already know," he says, "and trying to tweak it to fit the grass and the soil types we have on this property.

"I rotate through most of the fungicides that are on the market for summer patch, dollar spot, Pythium, Pythium root rot, brown patch. I use quite a few different products in order to target different issues at different times of the year."

Prior to the start of the renovation, David and his team focused considerable attention on the green collars. "We have a lot of Bermudagrass contamination in the green surrounds," he says, "so we're trying to remove as much Bermudagrass as possible."

David also made sure all the necessary equipment was on hand. "We were really focusing on having all the equipment and the pieces that we need to use for taking care of brand-new grass," he says, "and trying to teach the crew how to properly use the equipment. When you get to the very new grass, I think there's going to be quite a bit of a learning curve for all of us as we get moving along, but I have full confidence that we'll be able to take care of everything."

Andrew Green is the architect in charge of the project. Based in Baltimore, the Virginia Tech graduate spent 14 years at McDonald & Sons and started work on a master plan for the Naval Academy course more than 15 years ago. When he was out on his own in 2014, the USNA project went with him. Work on the 15th green at the United States Naval Academy Golf Club.





THE FINANCIAL SIDE

The renovation of the United States Naval Academy Golf Club will cost an estimated \$2.4 million. But U.S. taxpayers aren't getting stuck with the bill.



The club operates similar to a typical private club and the funds for the renovation were donated by members past and present.

"The funding came from donations and people that have interest in the golf course, people that played on the golf team many years ago and they finally got the funding together in the last couple years to make this happen," David says. "There were a lot of fundraising efforts that are continuing today to restore the golf course the way it should be and kind of be representative of what the Naval Academy is as a whole."

And while there is a sizeable number of retired Naval officers on the membership rolls, civilians comprise the majority of the membership.

"We are a private golf club, the Naval Academy Golf Association," David says. "It's been a private golf club for many years. You can join as a civilian member, you can join as a retired officer, but we also allow active duty military to play out here as sort of a public golf course.

"So, I would almost say we're a semi-private club. The members have a little bit more flexibility on tee times than the active duty personnel who come out here and play, but it's open to everybody who is in the military and certainly open to retired officers for membership. The big thing is we have a lot of civilian members out here who come from the Annapolis area." Green is a restoration specialist, with a resume that includes Inverness in Toledo, the site of the 2021 Solheim Cup. He's currently working on the East Course at Oak Hill Country Club in Rochester, N.Y., site of the 2023 PGA Championship. For the USNA project, he reunited with McDonald & Sons, which is handling the construction aspects of the project.

An admitted history buff, Green is a fan of the Golden Age of golf course architec-

ture, particularly the Philadelphia School of design, which boasts William Flynn as its most prominent member. Green says, "The passion and thought, the way the architects of that tine were communicating and trying to one up each other or utilize these great piec-

es of property to create wonderful golf and strategy. How can you not fall in love with what that era brought?"

Green strives to take Golden Age design concepts and adapt them to golf's modern era. "That's where I find my energy and passion, "taking those great ideas and making sure they work because the game has changed so much that just tying those two pieces together is a lot of fun," he says.

Some would debate whether the Naval Academy project is a renovation or a restoration, but Green's efforts, however they are categorized, are intended to restore as much of Flynn's work as possible, while making allowances for 21st-century realities.

"With this project, the greens

will go back as close as we can get them to original shapes, sizes and contours." Green says. "Some of the green contours will have to be softened because of modern green speeds. But for the most part, the greens will be put back to their original condition."

David adds the new greens will be built to withstand the warm, humid conditions that are common in the area during much of the golf season.

6

This renovation is for the next 50 years. I don't see this golf course being renovated again any time soon, so the big thing for us is making sure we get it right, that we nail it exactly the way it needs to be done." - FRIC DAVID

"Pushup greens tend to get wet and stay wet," David savs. "We have thunderstorms in the Mid-Atlantic all the time. The reason for going to the sandbased greens is just that. If we were to get a thunderstorm, a couple inches of rain, and the sun comes out and the heat and humidity go back

up in the '90s, we would lose the (pushup) greens."

Bunkering is a key factor in any renovation effort. A number of Flynn's bunkers have disappeared from the Naval Academy layout over time. Others no longer affect play due to advances in equipment technology. And some greenside bunkers are farther from the greens than they were when they were built because the putting surfaces decreased in size. The project will include outfitting the bunkers with new sand and concrete liners.

"In terms of their positions, depth, sizes, and things; we'll try to follow Flynn's plan as best we can in that regard," Green says. "It's really the fairway bunkers and maybe some tee placements that will be adjusted for the modern game and

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the distance of the long player."

The layout at the Naval Academy has changed relatively little since Flynn finished his work. Fifteen of his original holes and part of a 16th remain, although the routing has changed somewhat over the past 75 years.

The most significant changes occurred at what are now holes 12 through 14, which were reworked around 1954 or '55, possibly by Bob

Williams, the club's golf professional at the time, because the Navy wanted to construct a building in that location.

When Green's work is complete, the 12th hole, now a short par 4, will be a long, reverse Redan par 3. The 13th, now a par 4, will become a double-dogleg par 5, while the 14th, now a short par 5, will become a long par 4. "Those holes will add to the variety for all the players on the back nine," Green says, "and try to pay more homage to Flynn."

The renovation commenced with the closing of the back nine. Work on the inward nine's greens and the bunkers should continue

Crews from McDonald & Sons are working with superintendent Eric David's team on the United States Naval Academy Golf Club renovation.



until October, when the back nine will reopen, albeit with temporary greens. At that point, work will begin on the front nine along with perhaps fine-tuning some fairway bunkers.

By early December, the course will be shut down for the winter. It will reopen in early May for member play for approximately six weeks before it is shut down again for the summer while the tees and fairways are converted to Tahoma 31 Bermudagrass, which was developed at Oklahoma State University and has been shown to be resistant to drought conditions and cold weather, both of which are causes for concern in the Mid-Atlantic.

David's goal is to have the fully renovated golf course reopened for good by next August or September. But if it takes longer to do the job right, so be it. This renovation, after all, will shape the future of the club for decades to come.

"This renovation is for the next 50 years," David says. "I don't see this golf course being renovated again any time soon, so the big thing for us is making sure we get it right, that we nail it exactly the way it needs to be done."

David notes the club's members have been extremely supportive of the renovation effort. "Many of them have been members for 30 to 40 years, and it's almost like when they get it back, they get a whole new golf course," he says. "New cupping locations, new grass, different ways to play the golf course.

"Still maintaining the Flynn course and the greens the way they were originally designed but really, again, going back to how it was built in the 1940s." GCI

Rick Woelfel is a Philadelphia-based writer and frequent GCI contributor. The author wishes to acknowledge the assistance of golf historian Wayne Morrison, the co-author, along with Thomas Paul, of The Nature Faker - William S. Flynn, Golf Course Architect.

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▲ Le Triomphe Golf and Country Club hosts the Korn Ferry Tour's Chitimacha Louisiana Open.

BETTER GOLF ON THE BAYOU

Using thorough research and clear communication with club officials, superintendent Ramsey Prescott forged a plan to help elevate a tournament-level Louisiana course.

e Triomphe Golf and Country Club sits in the heart of what's known as Cajun Country in hot, humid, south Louisiana on the edge of the town of Broussard located in Lafayette Parish and about a twohour drive west of New Orleans, just off Interstate 10. The 145-acre, Robert Trent Jones Jr.-designed course opened in 1986 and is one of only three golf courses in the state that hosts PGA Tour events. For nearly three decades, Le Triomphe has hosted the Korn Ferry Tour's

Chitimacha Louisiana Open.

Mississippian Ramsey Prescott became the club's superintendent in fall 2017. The

23-year turf management veteran, who has a degree in agronomy, spent 18 of his years in the business as a superintendent at clubs in Florida before making his way to Louisiana. "I'm always looking for challenges and learning opportunities," Prescott says. He took a position in Pensacola, because he "wanted to learn a new turfgrass," paspalum, a

By Monique Bozeman

perennial indigenous to tropical and coastal areas.

The courses in Florida are built on sand, Prescott says. In Loui-

siana, "the only sand you'll find is on the greens. It's a totally different soil structure; it's all clay, which doesn't drain at all." He was up for a new challenge and accepted the responsibility for turfgrass management and environmental stewardship at Le Triomphe in October 2018.

"I was impressed with the club's reputation as one of the state's most

respected golf properties, and that it's a PGA Tour host facility," he says. The single-ownership status and the club's financial strength were also positives. "I've worked at places where there were greens committees or a management company with people having competing agendas and priorities. A single owner where decisions are made quickly and there's a budget and an obvious desire for excellence were very appealing."

Prescott says he was given the opportunity by club owner Michael P. Maraist and Le Triomphe general manager and CEO Dawna Waterbury to assess the current conditions (course and club grounds) and develop his own strategy and agronomic plan, but "had no idea the amount of autonomy I'd be given along with trust and confidence."

Prescott gathered facts by talking with his immediate predecessor and even spoke to the superintendent who was there when the turf was originally implemented to obtain as much information as he could about the history and maintenance practices. A common theme was the ongoing challenge of establishing a healthy turf root system from the time the Jones dwarf Bermudagrass was installed in 2003.

"The outgoing superintendent was taking a sabbatical from his career to make an attempt at professional golf and did a phenomenal job at maximizing the playability and extending the life of the greens, but struggled to develop and maintain adequate roots," Waterbury says.

Prescott says while talking to former superintendents was initially helpful, he says, "at the end of the day, the greens talk to you, revealing the most telling information." Prescott continued to assess the condition of the greens, spending the next few months examining every aspect of the 145-acre property to determine the root cause of the turf issues.

FIRST THINGS FIRST

Prescott says, given his experience, he knew in his gut the greens were at the point of no return and would eventually have to be replaced, but he wanted to do everything possible to make sure that was a last resort. And before new greens, he says, "you've got to have the proper irrigation to grow the greens in.

"Everything has a lifespan – a green, a bunker, an irrigation system," he says. The general lifespan of an irrigation system is usually 20 to 25 years and Le Triomphe's irrigation system was 33 years old and based on outdated hydraulics technology, according to Prescott.

Prescott received funding for a full upgrade on the irrigation system in fall 2018. After extensive research, he selected the Toro Lynx 2-Wire Smart Hub system along with a new state-of-the-art MCI pump system Model MPC with a nema-4-enclosure and cellular-remote. Le Triomphe secured industry irrigation design consultant Bryant Gordon Taylor, based in Costa Mesa, Calif., to facilitate the bidding process for contractor selection and to assist in the oversight of the construction.

As the irrigation work progressed, Prescott determined installing a new pump station represented the best plan for the course's long-term

future for multiple reasons: the old hydraulics-based system was poised to become obsolete and looming major repairs or replacement of the pumps would result in heavy equipment moving across the seventh fairway. "Just from a general maintenance sense, the current location needed to be eliminated," he says.

"We had many challenges during the design phase and the installation," he adds, "but we now have one of the most sophisticated irrigation systems in the world on our golf course, and it's been a huge factor for the initial improvements in the fairways and throughout the course."

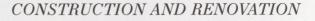
The 1,200-head Toro Infinity system took approximately 18 weeks to install beginning in late October with the course remaining open during construction. The project wrapped up in March in time for the club's annual PGA Tour event.

THE STRUGGLE TO ACHIEVE SUPERB TURF HEALTH

With the new irrigation system in place, Prescott turned his attention to the condition of the greens and the ongoing struggle to achieve superb turf health. He was determined to uncover why the greens were failing and to exhaust all options before considering replacement. He sought answers to a series of questions that hounded him: How did what he considered to be an incredible amount of organic matter accumulate on the top layer of every green, despite diligent cultural practices? Why weren't vents installed during the 2003 renovation? These questions

 A desire to rebuild irrigation and greens sparked a renovation at Le Triomphe Golf and Country Club.







 Ramsey Prescott, red shirt in back, and the Le Triomphe golf course maintenance team. still lingered as he moved forward.

"My instinct was to be as aggressive as possible with regard to removing the layer of organic matter that had accumulated in the greens over the years, but traditional aerification methods were not an option due to the subsurface," he says. Prescott resorted to the DryJect method, although he adds even that practice had "limitations due to the delicate root system of the plant."

In a June morning meeting with Waterbury, Prescott discussed his efforts to date and the challenges his team faced. During that meeting, club owner Maraist happened to call Waterbury to discuss that very matter – the condition of the greens. Waterbury relayed to the owner a summary of the information she'd just received from Prescott and before she'd hung up, Maraist greenlighted the greens renovation. Within three weeks of that meeting and call, turf renovation began.

PHASE II: GREENS RENOVATION AND INSTALLING TIFEAGLE

Prescott knew he wanted to replace the Jones dwarf with TifEagle Bermudagrass because it's highly tolerant of the environmental stresses found in southern climates. "I've managed and grown in TifEagle greens and have extensive history with this superior turfgrass and its time-tested resiliency, consistency and overall playability." Prescott says. In superintendent terms, Prescott adds, "it likes to be beat up and can take abuse. It's very drought tolerant and disease resistant."

Le Triomphe sought and received bids from some of the industry's more respected contractors and selected JGCC Golf Inc. out of Ormond Beach, Fla., to handle the project. The project started June 21, and TifEagle from King Ranch Turfgrass in Cleveland, Texas, was planted and sprigged on 3.67 acres of greens. The revamped greens were ready for full play by the end of September. Play never stopped during the summer season, though, as the club used temporary greens during construction.

The staff expected the play to slow down a little during renovation, says Le Triomphe's PGA head golf pro Rob Spiars. "Short game practice such as putting and chipping were hindered a bit, but players could still work on their game hitting drivers on par 4s and 5s," he adds. "We are lucky that we have a membership that's been very supportive and patient and understands the improvements are ultimately for the benefit of the members."

During the renovation process, Le Triomphe finally received answers to questions that lingered for years. The Jones dwarf didn't stand a chance in the suffocating Louisiana growing environment because the greens vents (clean-outs) installed in 2003, which weren't visible, were never brought to the surface. They were left three or more feet below the surface of the turf and capped off.

"Think of holding your thumb over the end of a drinking straw that you've dipped in a glass of water," Prescott says. "Holding your thumb over the end captures water and holds it in the straw." That these vents were buried and never brought to the surface as they should be, caused this thumb-over-the-straw effect of holding water inside the turfgrass cavity.

Prescott and his team discovered that the outfall pipes were also completely covered up, causing drainage failures in many greens. The water had been trapped in the tiles, producing CO2, methane gases. If these gases can't escape through the drain tiles, they begin to travel back through the greens profile and aren't able to escape because of the higher-than-desired organic matter content. These factors combined to create a breeding ground for anaerobic conditions, with black layer and organic matter build-up and an overall weak stand of turf grass. The greens also lost roughly 3 percent of surface area, due to significant encroachment and contamination. Severe collar dams had developed around entire greens, forcing the greens to have a bowl-like appearance where surface water became trapped on many putting greens and resulted in major puddling and water-logged conditions.

"Over half of the USGA specified golf courses that have drainage don't know that both ends of the drainage have to be open at some point," Prescott says. "They just don't know." He learned about the importance of air flow, oxygen and drainage — and how critically related it is to the health of the greens — years ago from David Doherty, CEO and founder of the International Sports Turf Research Center. "David did a seminar for *continues on page 70*

OUTSIDE/THE ROPES



BELLYACHING ABOUT BUNKERS

I was standing in our golf shop recently when a member came in and started complaining about the condition of the bunkers. "I expect to get out of bunkers 75 percent of the time," he said. Hmmm. Interesting self-evaluation, I thought. After his flagellation of the golf course staff – without the superintendent present, of course – I let this chucklehead know that the best player on the PGA Tour averaged 63 percent for sand saves in 2019, a fun fact I like to keep on hand when the NARPs (Non-Agronomic Real People, for those who missed my August column) get a little full of themselves.

Bunkers, penalty areas, sand traps, pits – whatever you want to call them (I prefer bunkers) – are designated penalty areas and I, for one, am tired of trying to make them perfect for golfers who know little to nothing about the rules, agronomy or strategy. Rule 12 defines bunkers as "specially prepared areas intended to test the player's ability to play a ball from the sand."

In other words, if you land in a "hazard," deal with it. Instead of placing the onus on the superintendent to make the sand surface practically flawless, you should 1) practice and 2) understand that these features are there primarily to piss you off.

Or as a wise long-time superintendent once said, "I can do anything you wish to the golf course, but I cannot fix your inability to hit a golf ball!"

One fundamental of good course design is that hazards are to be avoided. They're supposed to be hard to get out of (hence the term "hazard"). So why are superintendents spending so much time and money making bunkers easier? It looks to me that at many

courses more work is going into tending to bunkers than putting greens, where nearly 50 percent of the game is played. That's just wrong.

The Average Golfer should be happy if they find a bunker that is raked, the sand is smooth, there is a margin around the hazard, and there are no roots, rocks or other crap that might cause injury. And that's all.

In case you don't understand the purpose of bunkers – and certainly if you want to enlighten any NARPs you might know – here are the five principal functions of bunkers:

- Strategy to define shot values, options and direction
- Retention to prevent errant golf balls from worse fates
- Safety to prevent errant shots from injuring people or damaging structures
- Direction to define the correct path to play toward or away from
- Aesthetics to look pretty Relating especially to the last item, golf architects would be wise to limit what they create. Unfortunately, some architects like to use bunkers and other hazards as "signature" elements. I wonder how they would feel if they were the ones manually raking them every day in 100-degree heat and humidity?

Beyond aesthetics or to force the player to make a strategic decision, is there any reason the club should spend more money, take more time to repair and utilize more labor to prepare the hazard for shot opportunities? I think not. As for being able to extricate yourself from said hazards? Take a lesson.

And don't blame the superintendent. Wind, rain, exposure to sunlight, design, position, and the age, quality and size of the sand itself all influence the playing quality of any bunker. I don't have to tell you that it isn't just raking, and that it is damned hard to maintain a consistent sand surface day after day after day.

If we're assigning blame, give some to Augusta National. Every April, we're mesmerized by The Masters, ogling those beautiful, stark-white, pristinely maintained bunkers. Did you know the club has more than 100 volunteers helping out during Masters week?

Also, when you start packing bunker faces, similar to the Aussie method, water percolation is impacted, and algae can form in the sand. So now superintendents are applying hydrogen peroxide and fungicides to cure the algae – in sand!

Here is all you and your staff should worry about when preparing bunkers:

- Using sand of the right quality and particle size range for your region
- Maintaining uniform sand depth throughout the course
- Crusting potential, color, infiltration rates and daily preparations
- Establishing the margin to the penalty area ... hazard!
- Eliminating rocks, roots or sub-sand liners that could cause injury

That's all. Your job is to make the course fair, not easy. **GCI**



GUY CIPRIANO

TIM MORAGHAN, principal, ASPIRE Golf (tmoraghan@aspire-golf.com). Follow Tim's blog, Golf Course Confidential at www.aspire-golf.com/buzz.html or on Twitter @TimMoraghan



SCIENCE SHINES IN THE

Bentgrass greens in Alabama? A savvy collaboration resulted in Vestavia Country Club making a gutsy decision.

By Jason Farrell

e peered through the expanse of trees and neighboring shrubbery, blurring his eyes and imagining the possibilities. The 18-hole golf course at Vestavia Country Club in Birmingham, Ala., had evolved substantially over the years, and a new vision was necessary.

"I saw a golf course that had been overplanted with trees — all the scenic views had changed," golf course architect Lester George says. "It had been planted-in like so many golf courses had through the '60s, '70s and '80s. It was a course that with the right design and execution could have so many extraordinary opportunities for view corridors, and the turf wasn't up to par due to the agronomics. It just couldn't get any light or air."

Located above Vestavia Hills on 176 acres, Vestavia began as an equestrian club before featuring an 18-hole course and a nine-hole par-3 course. Construction began on the private club in 1948, and it opened to its membership June 12, 1950. Over the next six decades, the course was renovated, deconstructed and reconstructed before the club determined that a major overhaul was necessary – a new "vision" was needed. And after interviewing numerous candidates, the club selected George based on his past work and – perhaps more important – on what he envisioned the course could be.

"The course didn't hold the imagination anymore," George says. "So during the interview process, we showed the club a couple of holes we thought could be made better, with split fairways and option holes where there may be a 'risk/reward' option to drive it over a certain part of the property.

"Looking back on it, I believe that's why we were hired. We showed them

opportunities that were hidden. It was clear as a bell to me. They had view corridor and agronomic issues. They had a golf course that needed renewal as it was short on interest and strategy, and we showed them a master plan to give it just that."

Agronomy plays an immense role in golf course design as non-indigenous grasses are often used to get the club's desired results. The plant needs just the right amount of water and air to prosper, especially over a long period of time. Should the soil drain too quickly, the greens will get too dry and suffer. If the soil is packed too heavily with organic material, such as peat moss, it won't drain well enough and roots will become waterlogged.

The club requested George use AU Victory bentgrass, which is a cool-season grass typically used in courses much farther north than Birmingham. Due to Alabama's hot and humid summers, George looked to create a greens mix that would be playable and durable while being able to handle the elements. An ideal mix would promote oxygen within the root zone and provide good filtration rates, making water available to the plant's roots.

The project required almost 12 years of planning before construction finally commenced in 2017. Construction was handled by Landscapes Unlimited, and grow-in took 18 months and was continuously challenged by more than 80 inches of rain and subsurface rock Vestavia
 Country Club
 is a private
 course in the
 Vestavia Hills
 section of
 Birmingham,
 Ala.



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remediation.

The experiment began when George hired John Maeder, golf business manager at Profile Golf. Along with Vestavia director of grounds and facilities Owen Coulson, the two of them discussed what they wanted to get out of the course and how they were going to get there. Samples of Vestavia's sand were sent to Profile's lab to determine which mix would work best with the bentgrass in Birmingham's climate. What they settled on was a volumetric blend that was 90 percent sand and 10 percent Profile Porous Ceramic Greens Grade.

"It was a good fit from the beginning," Maeder says. "Lester and Owen determined the greens needed to be United States Golf Association spec, 12 inches deep, and we evaluated performance characteristics in the lab, which would give us values for non-capillary (air) and capillary (water) porosity. We would also get infiltration numbers, so we knew how fast the mix was going to drain. After that, we received a uniformity coefficient, which would tell us how firm the putting surface would be. Basically, we tested the mix's physical performance characteristics to see if it drained well, had plenty of air in it and would putt fast."

Traditionally, golf greens makeup was instituted by the USGA. In 1960, the USGA created greens construction guidelines, which included a mix of sand and an organic, usually peat moss. The USGA updated its recommendations in early 2018. Greens built with Profile Porous Ceramics were designed to meet USGA guidelines.

Coulson has been working at Vestavia for more than 15 years. Along with the agronomy, he noted the course's irrigation and bunkers presented additional challenges.

"An old irrigation system and non-functioning bunkers were two more reasons for the initial push to take on this renovation," Coulson says. "Those two areas devoured most of our labor and efforts every single day. And even after hours and hours of labor, the membership rarely noticed anything had been done at all. Now that those two very time-consuming areas have been completely

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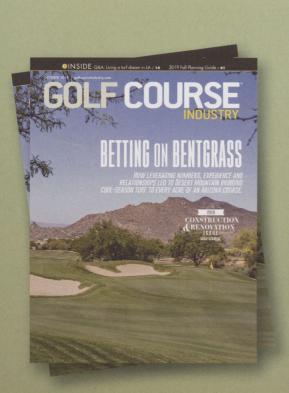


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renovated, our team is able to focus on delivering (course) conditions the members and their guests love."

The project was not without its difficulties, as the construction team was forced to wade through torrential rainfall during the build.

"We got 85 inches of rain in 14 months, including 45 inches of rain during a threemonth span when we were starting the grass" George says. "It was biblical and it was horrible. Thankfully, the greens were already built when the rain started. Any other product would've flushed the organics out of those greens with that amount of rain. I would've had to rebuild 21 greens for an additional \$500,000."

At one point during the grow-in, Vestavia received 5 inches of a rain in a single occurrence. But the mix held strong.

Even though the planning and execution of the course took years, and the flooding nearly washed it away, it was worth the wait. The final product blends picturesque views, multiple options of play, numerous elevation changes and exceptional greens.

The renovation also resulted in new tees, greens, fairways, bunkers and cart paths on all 18 holes, 10 of which were entirely redesigned. In addition, new water features were added, and a new driving range was installed. New mowing patterns give the club at least 20 percent extra fairway width, and zoysiagrass was used on fairways, providing more disease tolerance and requiring less water. It also provides contrast with the Bermudagrass rough, giving the holes greater definition.

"The renovation was a success," Coulson says. "The greens are excellent throughout the year and because of better science and everyone's efforts, the course plays great." GCI

Jason Farrell is an Arizona-based writer.





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OUR MAJOR PRESENTED BY AQUA-AID SOLUTIONS AQUA-AID

22

The par-5 14th hole at Magna Golf Club. The private course in Aurora, Ontario, hosted the 2019 CP Women's Open.

OUR MAJOR OUA-AID PRESENTED BY AQUA-AID SOLUTIONS

OUR NAJOR AN INSIDE LOOK AT THE PEOPLE AND PRIDE ASSOCIATED WITH PREPARING

PRIDE ASSOCIATED WITH PREPARING FOR A COURSE'S BIG MOMENT.

By Guy Cipriano

Part 3: CP Women's Open

he 14th hole at Magna Golf Club slithers west and gradually descends from tee to green, offering views of modern mansions dotted across the Oak Ridges Moraine. Residents are within commuting distance of a global commerce center, yet the 30-mile separation between their community — Aurora, Ontario — and Toronto means escapism from tussles for living and recreation space.

Courses such as Magna in places such as Aurora were built to provide enthralling escapism. The sensation permeates near the 14th tee box on a comfortable late-summer morning. The sun lifts, creating a collection of colors — blue, white, orange and yellow with drops of red and purple — directing eyes focused on defined tasks upward. A colorful sky makes one forget artistic eye-level hues: swaths of verdant bentgrass, blends of bluegrass and ryegrass, and fiery fescue.

Magna International, a global automotive supplier founded by

businessman Frank Stronach, owns the exclusive private club. Corporate offices are adjacent to the second hole, a par-3 playing over water. The second hole, like the 14th, offers abundant color and visual inspiration.

Outsiders experienced the escapism this past summer as the volume of activity at Magna escalated Aug. 19-25, when the club opened its gates for the CP Women's Open, the only Canadian event on the LPGA schedule. The presence of LPGA players, including homegrown megastar Brooke Henderson, and fans provided escapism from regular maintenance for the unique crew assembled by longtime superintendent Wayne Rath. While numerous grandiose clubs are tournament mainstays, 18-year-old Magna existed as a secluded recreational haven for its members and guests.

"At first, I didn't even know Magna had a golf course," veteran crew member Austin Muongchanh says. "My parents had been working in a Magna plant for over 20 years and they didn't even know Magna had a golf course."

When Golf Canada announced Magna as the 2019 site for one of its signature events – the organization also stages the PGA Tour's RBC Canadian Open — it surprised many Canadian golf enthusiasts who figured the club preferred operating outside the limelight. Rath and senior assistant superintendent Terry Magee emphasize a culture of excellence in discussions and demonstrations to a 50-worker crew. They just never envisioned melding excellence with bleachers, ropes and global television coverage.

Rath started his relationship with Magna via turfgrass management reports he conducted as part of the

permitting process in the late 1990s. He served as the project manager during construction and remained with the club as superintendent. Rath spent 10 years as the superintendent at Toronto's Islington Golf Club before his involvement with Magna. A superintendent since age 25, Rath had never led a team responsible for hosting a televised tournament until the CP Women's Open.

"For a lot of our staff, it's the only time they are going to ever to do this," he says. "It's probably going to be the only time the golf course ever does this. The stars lined up with the properties around our property for support. That might not happen ever again."

Rath's team received a little more than 13 months to prepare for the event, as Golf Canada announced Magna as the 2019 tournament site on July 9, 2018. The opportunity to than you think," says Campbell, who was raised on a farm in Uxbridge, a rural community less than 20 miles from Aurora. "You don't want to be rushing around at the end."

Beyond timing fertility and spray programs around the tournament, Rath downplays how the event changed 2019 expectations. His team, after all, has provided tournament-caliber conditions since the course opened. Until the CP Women's Open, the 2013 PGA Championship of Canada represented the biggest outside event hosted by the club. The event featured a match-play format, lacked live television coverage and Rath's team prepared the course for just two competitors on the final day. "It was a good event, but it was a small event," he says. "The spectators were family and friends."

Seeing Henderson, who won her first major as an 18-year-old, appear turned to Magna during an August break from school. "They were setting stuff up and I was like, 'What the heck is this?" Point says. But the crew quickly adapted to the advance and tournament-week hustle. The LPGA reserved Tuesday for fullfield practice rounds and Magna's televised tournament rookies had all playing surfaces mowed by 7:15 a.m. Rath offered succinct messages to employees in a pre-shift meeting: repeat Monday's efficient performance, don't fret when players aren't putting to cups and avoid giving rides to spectators or non-turf volunteers.

"I have always believed you treat people the way you want to be treated in this business," Rath says. "When you're outside, you can't make people do a good job for you. You have to give them the energy, you have to give them the resources, you have to give them the knowledge and the in-



work the CP Women's Open represented one reason Shaemos Campbell left a job he enjoyed at nearby Pheasant Run Golf Club for a technician position at Magna. Early in his Magna tenure last fall, Campbell observed the tidying of phragmites near a pond on the first hole. "I was like, 'OK, this is a bigger venture

at Magna for a pre-tournament media day July 2 elevated internal buzz for the CP Women's Open. Employees then received daily reminders of an altered workspace as contractors started building grandstands and fan zones around the 17th and 18th greens.

The scene stunned seasonal employee Alyssa Point when she rethis week. This is just the culmination of all the effort and everything they have learned. Everything they have been trained to do ... I think we're reaping the rewards right now." Kendra Kiss

spiration to do a

qualified as the lone veteran of the multi-shift tournament cir-

cuit when the week started. Kiss. an enthusiastic, determined and knowledgeable spray technician/administrative assistant who has spent a decade as one of Rath's confidants, had volunteered for a pair of Waste Management Phoenix Opens at TPC Scottsdale. Hosting the CP Women's represented a highly personal career



highlight for Kiss, who helps hire and train a diverse crew. "We definitely make sure we spend the time with people, making sure they are comfortable and not just being thrown into the fire," she says.

Rath proudly notes his team includes energetic employees in their teens, 20s, 30s, 40s, 50s and 60s. Nearly a third of the crew is female. Magna's maintenance facility includes locker rooms for both genders and female employees handled every CP Women's Open hand-mowing assignment.

The presence of all-female mowing teams surprised — and subsequently inspired — athletes representing one of the world's more diverse sports organizations. LPGA players frequently chatted with crew members during practice arounds and pro-ams.

"We had players stop us and ask, 'Are all of you cutting?" says Michaela Point, who split morning collar-mowing duties with her twin sister, Alyssa. Michaela adds, "It's probably nice for them to see that, because they aren't used to seeing so many girls cutting."

This past summer likely represented the final season the sisters will work on a golf course. Alyssa and Michaela, recent graduates of Brock University in St. Catharines, Ontario, are pursuing careers in massage therapy and dermatology, respectively. Their long-term memories of Magna should be pleasant. The duo spent their childhood and college years playing soccer and running track while averaging 20,000 steps per day mowing bentgrass. "I have learned a lot about work ethic through this job," Michaela says. "I didn't realize how good of a worker I was. Wayne and Terry wanted to have us back each summer. It's good to see that hard work does pay off."

Turfgrass maintenance is set to become Nichole Parker's chosen field, thus her decision to immerse herself in CP Women's Open week by working morning and evening shifts. Grueling days are the norm for Parker. She worked a pair of industry jobs at contrasting facilities this past summer: maintenance at Magna and operations at public Bushwood Golf Club. At 23, Parker is the same age as Henderson, one of her nation's more celebrated athletes.

Two jobs are a necessity, because Parker is paying her way through turfgrass management classes at Penn State World Campus. A quartet of fascinating summers at Magna convinced Parker, who earned a twoyear landscape management diploma from Seneca College, to pursue turf instead of a career in landscape and horticulture. Despite an active childhood and having a grandfather who holds ownership shares in a public golf course, Parker had never stepped foot on a course until arriving at Magna.

"The most interesting thing about turf is the machinery and the different jobs that you can do within it," she says. "I like being busy. If they would let me work for 10 hours, I

OUR MAJOR AQUA-AID PRESENTED BY AQUA-AID SOLUTIONS

and cross counwould go out there and work for 10 try. Golf course hours and not say anything. I can't maintenance stand places where it's like, 'OK, we fulfilled intangihave a job for you and it's going to ble benefits they take an hour and you're going to twidwanted from a dle your thumbs for a bit.' There's so summer job: a much to do here." chance to move From helping execute spray pro-

grams to integrating Magna International's structured employee hiring, training and safety programs into the club's turf department, constant communication and motion turn many of Kiss's workdays into sprints. Her path to playing a key part in hosting one of her country's bigger sporting events started nearly 2,200 miles from Magna. A Calgary native, Kiss relished hiking in Alberta's scenic mountains as a child and a maintenance position at Kananaskis Country Golf Course satisfied a desire to work outdoors.

Her career commenced at Kananaskis in 2001. Eighteen years later, at 5:30 on a comfortable Tuesday morning in August, Kiss sprayed a putting green surrounded by 26 flags representing the nations of the 156 CP Women's Open participants. The field included 15 players from her own country, many of whom galloped and gawked when they reached the 14th hole.

"I have put a lot of heart and soul into this place and I really love being here," she says. "To be able to showcase the golf course on a world stage is amazing. It's definitely a pride thing for us. We're showcasing the greenkeeping side of what we do." GCI

About this series

ur Major is a three-part series exploring turf teams preparing for big moments. Subscribe to Golf Course Industry's enewsletters for digital exclusives about the events profiled by entering <u>http://</u> <u>bit.ly/GClenewsletters</u> into your web browser. Part profiled the team involved with the RBC Canadian Open and Part 2 featured the team involved with the Sparrows Point (Md.) Member-Guest.

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hen battery-powered golf cars suffer from intermittent performance issues, one of the most common reasons for this is poor battery cable connections. Ironically, loose connections can be caused by both under-tightening and over-tightening of the battery terminal connectors, as well as corrosion that can occur over time. Deep-cycle battery terminals are made from lead which is a soft metal that creeps over time. The result is that they must be retightened regularly to maintain proper torque levels. If too much torque is applied when attaching cables to battery terminals, however, it can cause damage to the lead terminals preventing them from making a proper connection. Battery manufacturers recommend terminal torque specifications that vary with the different types of terminals used for

deep-cycle batteries.

Deep cycle batteries can come with UTL, UT, large and small L, Offset S, and SAE tapered post terminals, among others. For UTL and UT battery terminals with threaded studs, the recommended torque is 95 - 105 in-lb. (7.9 - 8.8 ft-lb.). For bolt-thru terminals such as large and small L and Offset S, the recommended torque is 100-120 in-lb. (8.3 -10 ft-lb). SAE terminals have a recommended terminal torque of 50-70 in-lb. (4.2 to 5.8 ft-lb.). For other terminal types, consult the battery manufacturer's recommendations. When measuring terminal torque, use a torque wrench with settings or readings in the o - 200in-lb. (o - 16 ft-lb.) range. Larger torque wrenches can inadvertently exceed the recommended settings or readings.

It is also important to consult the battery manufacturer's recommenda-

tions for the proper type and assembly of the terminal hardware. Most manufacturers provide stainless steel nuts and lock washers or plated bolts, nuts, and lock washers with the batteries depending on the type of terminal used. The correct method is to position a lock washer between the nut and the connector (never between the connector and the lead terminal) and apply the recommended torque to completely compress the lock washer without deforming the lead terminal

Clean terminals will also maintain the best connection so if corrosion is observed on the battery terminals and connectors, they should be cleaned with a wire brush and a solution of baking soda and water to neutralize any electrolyte that may be on the surfaces. To reduce the formation of corrosion on the terminals, battery manufacturers recommend using a corrosion inhibitor after making proper connections. Never apply grease or other lubricants between the terminals and connectors since they can interfere with the connection.

Check the cables to determine if they are corroded and need to be replaced. Corrosion can extend under the cable insulation but is often not visible. A good tug on the cables can expose weak connections. If new cables or connectors were added during the life of the vehicle, make sure the wire connectors are properly crimped and soldered to the cable ends. Studies have shown that wire cables with crimped connectors that are not soldered to the cable ends, can corrode faster and create a high resistance connection between the wire cable and crimped connector. This high resistance can cause excessive heating during discharge and melt

the lead terminal causing a loss of connection and permanent damage to the battery. If any of the cables show signs of melted insulation, corrosion under the insulation, or have bare wire showing, replace the cables and connectors.

While faulty connections are often the cause of battery terminal meltdowns, using properly sized wires, crimped and soldered connectors, and tightening them to the recommended torque settings, will reduce the chances that poor connections will adversely affect battery performance. For additional information on battery terminal types, terminal torque and connection hardware specifications, and proper maintenance of deep cycle batteries visit www.usbattery.com.

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Ping! Employee 1: "Hey, I've been up all night with a stomachache and I'm not feeling well. I'm not going to be able to make it in today." Me: "10-4, Hope you feel better."

Ping! Employee 2: "I have a nail in my tire and I can't get there until after the garage opens at 7:30 a.m. Sorry for the inconvenience." Me: "10-4, Thanks for the heads up."

Ping! Employee 3: "Sorry, I'm going to be late today. I forgot my boots and had to turn around."

My old boss and mentor, Rick Owens, CGCS, once told me a mediocre performer is better than no performer. These words have stuck with me throughout my career and are probably a good reason why I'm patient and tolerant when it comes to evaluating employees. But it's hard for one to reach a level of mediocrity when they're not here frequently enough to evaluate.

Times have changed and websites like Indeed.com and Craigslist have replaced traditional help-wanted ads. Job postings are inundated at first with responses of interest giving you a momentary pause of hope, but that soon fades when you realize more than 70 percent aren't what you're looking for, and of the 30 percent you contact for appointments, more than half don't respond – or even worse – fail to show at the appointed time.

I have fewer than 10 people on a staff that co-hosted the U.S.

Mid-Am last year. Nearly 60 percent of my team from one year ago is new. In other words, the "Green Team" at Carolina Golf Club is green. Despite that level of inexperience, I believe we have produced conditions this growing season rivaling, if not exceeding, those of last year's championship. But the road remains bumpy.

I didn't realize how spoiled I was with an experienced staff until they were replaced with young men who spent the bulk of their youth indoors. One morning, as I was headed onto the course, our equipment manager told me he witnessed a newcomer assigned to mow greens leaving the shop without a bucket for the mower. I had assigned that individual Route 1, which meant he was headed to the first green, nearly a half-mile from the Turf Care Center.

I quickly sprang into action. I grabbed a bucket and headed toward the first green, thinking I would save time by preventing him from backtracking to the shop. As I arrived and he was about to pull away, I handed him the bucket with a smile on my face and a clever comment.

Two minutes later, I'm taking TDR readings on the green he's supposed to be mowing and he still hasn't started. He walked over and told me I brought him the wrong bucket. In my haste, I didn't pay attention to which bucket I snagged. Total facepalm emoji moment.

I quickly called an assistant to bring a proper bucket. Several more minutes passed. Our equipment manager then called across the radio: "Someone has taken the wrong mower and we need to locate it, and have it returned and exchanged." You guessed it. After two attempts to prevent this young operator from having to backtrack, he had the wrong mower and had no choice but to return to the shop.

I was talking with a peer about this same topic recently and he referenced a grizzled, veteran superintendent he knows who never would have tolerated this type of behavior 20 years ago. He now finds it to be normal. As a result, that superintendent has lowered his expectations of what his agronomy team can produce.

Even patient people have limits. Mine have been stretched and tested this year. Between personal ailments to automobile issues, something is always causing someone to call or text reasons for tardiness or inability to work.

And it would be easy to terminate the culprits. But considering the pain and trouble experienced in finding, let alone hiring these lads, I've worked around it. So, is this the new normal or am I alone? I hope it's the latter, but something tells me others have experienced this too.

For the record, I partied a little too hard at times in my younger days. My mother always stressed if I wanted to engage in those activities, I was not permitted to do so at the expense of my job responsibilities. But times are different, so I take a deep breath and remind myself growing grass is the easy part. Then I brace for the next bump in the road. **GCI**

MATTHEW WHARTON, CGCS, MG, is the superintendent at Carolina Golf Club in Charlotte, N.C., and President of the Carolinas GCSA. Follow him on Twitter @CGCGreenkeeper. © IRINA I ADOBE STOCK

2019 FALL PLANNING GUIDE



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2020 STARTS NOW

The 2019 season is lingering on, but make no mistake: 2020 is here, and we know what it will bring. Wait...no, we don't. We have some hunches, but there's really no telling what the new season will dump on us. That's why we need to start planning now.

My fellow employee-owners of PBI-Gordon and I are proud to once again be a part of this Fall Turf Planning Guide. Proper planning is vital when it comes to hitting your budgetary goals, and there's no better place to start than with PBI-Gordon 2019 Early Order Program.

Our EOP gives end-users great deals when they order qualifying products from a PBI-Gordon distributor between October 1 and December 13, 2019. And they maximize their rebate when they place their order in October.

The PBI-Gordon EOP features 14 of our most popular products, including:

Katana® Turf Herbicide – Delivering exceptional control of Poa annua plus 58 listed weeds including ryegrass, sedges, tall fescue, and tough broadleaf weeds.

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Once again, the employee-owners of PBI-Gordon are honored to join Golf Course Industry in bringing you this Fall Turf Planning Guide. We don't know what 2020 is going to throw our way, but we'll be ready!

Jim Goodrich

Marketing Product Manager Fungicides, Insecticides, and Plant Growth Regulators



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To see the full list of qualifying products, visit eop.PBIGordonTurf.com.

*Rebate bonus is calculated from the rebate amount.

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STARTS



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WE STILL NEED TO MOW

Revenue possibilities abound as the golf season stretches into new months. But later play leads to tricky maintenance decisions involving your course's greens.

By Ron Furlong

o, turf professionals, there's good news and bad news regarding warmer temperatures in the fall and even into early winter.

Good news first. With the warmer late-season temps being observed in recent years, there is more golf being played later into the season, especially in cool-season climates when golf is normally winding down for the season. This longer golf period no doubt equates into more revenue for many golf courses and a healthier industry for us all.

But that brings us to the bad news. This extended period comes with having to determine how to maintain greens in this late season at a level more consistent with late summer or early fall playability.

Factors to consider are numerous. How low do you mow in the season? Are late summer speeds OK in late fall? How often do you mow? What considerations do you give to mowing heights after a hard frost? Do you increase rolling frequency? Can you use your seasonal PGRs out of season without detriment to the turf? Do you have the staff this late in the year to manage greens like you did when fully staffed in the summer?

I chatted with a few professionals to get their opinions



and input on this relatively new problem for golf course superintendents.

"The major challenges superintendents face with this late-season mowing is simply having the labor to do that," says USGA Green Section director of education Adam Moeller. "Labor challenges are by far and away the biggest obstacles superintendents face on an annual basis."

Moeller offers a few suggestions that can help superintendents get around this labor shortage problem.

"One way superintendents can deal with the labor problem is more triplex use and less walk mowing as you get into the shoulder seasons and your staff is down," he says. "The triplex helps compensate for not only the smaller staff, but also the light issues in the morning and not having as much time to mow before play starts.

"The growing degree day models are also helpful, with respect to knowing how long your plant growth regulation products are working," he adds. "If you know your PGRs are still active, this knowledge might allow superintendents to not mow as often in the shoulder season while still maintaining an acceptable speed. A lot of this can be attributed to growing degree day research that was done at the University of Nebraska and the University of Wisconsin."

Moeller admits he has seen an increase in superintendents being pressured to produce almost top-quality greens much later into the fall.

"One of the risks in

cold-weather areas, if you're mowing the turf longer in the season but you're remaining at a summer mowing height, you may not give the turf enough time to acclimate to cold weather and prepare for winter," Moeller says.

"You could see an increased potential for winter injury." In addition to PGRs, Moeller shares a few other ways su-

perintendents' can offset the potential for damage to the greens by mowing too low in the off-season.

"Make sure you're consistent with topdressing," he says. "And, of course, rolling the greens instead of mowing to manage your speeds and smoothness that way. You want to make sure you give the plant enough time to grow up prior to winter."

Sean Reehoorn is superintendent at the Tom Fazio-designed Aldarra Golf Club in Sammamish, Washington, just east of Seattle. Reehoorn agreed with Moeller about the importance of roller use in the late season.

"The roller has been a huge tool added to our toolbox" he says. "Roller selection is actually vitally important. We move to a solid roller in the winter and away from the grooved roller we use in the summer. This has greatly improved the health of the turf late season."

Reehoorn stressed not only the importance of the roller selection, but the importance of training employees to properly roll Aldarra's bentgrass greens. Poa annua-free bentgrass is uncommon in western Washington. "Training employees to roll, or selection roll, is crucial," he adds. "Our biggest key is we want dry weather so additional moisture isn't an issue."

I also talked with Dr. Gregg Munshaw, who is an extension specialist at the University of Kentucky. Munshaw's concern with this new "season stretching" – maintaining green speeds late season at midseason levels – is making sure the temperatures are warm enough where the greens will accept this type of management.

"Say what you will about global warming," Munshaw says. "If we are staying warmer longer, I've got no problems being out there mowing. If the grass is growing, we need to be out there keeping it playable. But if the grass is slowed, and we're not getting much growth, there's not really much reason to keep after it. Other than smoothing the surface and getting rid of cleat marks, etc. The problem I have is if they are sending the triplex out in the cold, when play is down, for no other reason than 'just because.' To me, that's just wear and tear on the machine and wear and tear on the grass, as well as compaction causing and all that entails. I don't really see a lot of benefit to it in those instances."

Reehoorn agrees with this assessment, which also fits his situation in the Pacific Northwest. "It's really a balance for us late-season," he says. "Mowing enough for playability and not enough to cause any unnecessary wear and tear."

Munshaw, being in Kentucky, sees the issue from all perspectives: cool-season grasses, warm-season grasses and Transition Zone grasses. "With Bermuda greens, it's a bit different," he says. "You're not going to get top growth after that first hard frost. For them, the only reason to be out there at all with anything is to smooth the surface. Dormant Bermuda greens roll excellent. Most supers paint, just to give them color. But they tend to be a great putting surface, so it's not as much of an issue for them as their northern counterparts."

Brian Kearns is golf course maintenance manager at Primland, an upscale resort in Meadows of Dan, Virginia. He agrees that the playing season has definitely expanded at Primland.

"Our season used to be April through October," he says. "A few years ago, we added a week in November. Then a second week. Then we figured why not go through Thanksgiving to the end of the month?"

Kearns has also found keeping the greens playable in this extra added month has been, with a little common sense, fairly manageable. "Due to slow growth, we are able to raise mowing heights and still get our desired speed," he says. "We do roll at least three days per week when we don't mow."

There's little denying temperatures are rising across the planet, and in many golf-happy regions across the world, this means an increase in play later into the year than we've seen in the past. In this economy, embracing these new rounds is going to be essential for superintendents. Finding a way to manage greens at a higher level than we used to during these months — and to do it without long-term damage — will no doubt be the challenge.

Ron Furlong is the superintendent at Avalon Golf Links in Burlington, Wash., and a frequent GCI contributor.

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Munshaw

WHERESHOULD ALL THE CARTS GO?

Superintendents share their struggles – and successes – with managing four-wheel traffic in shoulder seasons.

here's a John Fogerty song from the '80s called "Change in the Weather" that seems to ring rather true these days. With warmer temps into the fall and even into winter apparently the norm now, superintendents are dealing with some late-season issues that they didn't have to in the past. One of those issues is more cart traffic later in the year.

As warm-weather turf turns dormant and cool-season turf becomes soft, what steps should superintendents take to protect fairways from late fall and early winter wear and tear?

Several turf professionals offered success stories and guidance from their experiences.

Brian Green is the director of golf course maintenance at NC State's Lonnie Poole Golf Course in Raleigh, which hosts about 38,000 rounds annually. "About 25 percent of the rounds are from November through March, when our warm-season turf is dormant," Green says. "Over the years, we have experienced winter injury, especially in high-traffic areas. The holes that run east to west have cart paths on the south sides of the holes with tall trees bordering them. These holes tend to be more of a challenge because the rough areas between the paths and fairways, where carts drive through, receive less sunlight, especially in the late fall, winter and into early spring."

Patrick Reinhardt, the superintendent at the Georgia Southern University Golf Course in Statesboro encounters similar challenges, although the majority of play occurs when fall and spring classes are in session.

"Statesboro has a population of roughly 20,000 people, and

our university has about 20,000 students," Reinhardt says. "When classes are in session, our population essentially doubles. The bulk of our play will be September through November, and then March through May. Our grass is growing at its peak mid-May through mid-September. This provides the challenge in that the majority of our play (and cart use) is on grass that is not growing."

This isn't a new problem for Reinhardt. But it has intensified with higher winter rain totals in recent years. "The biggest problem for us is when it gets





wet in the winter," he says. "It definitely takes longer for the dormant fairways to dry out. If you damage the dormant turf during the winter, it's a very long and slow recovery period."

A little further north, Pat O'Brien is superintendent at Hyde Park Golf and Country Club in Cincinnati. For O'Brien, even though rounds may be picking up in October and November compared to past years,

restricting carts to the paths only is still the only option for him.

"Here in the Transition Zone our Zoysiagrass fairways present an interesting challenge with cart traffic," he says. "Typically, once we go dormant, usually in October, we start restricting carts to the cart paths.

"A big issue with Zoysiagrass health is shade, especially when it's not growing. Keeping carts off this time of year is crucial for us. One challenge for us is toward the end of winter, early spring, when the grass starts transitioning from dormancy and starts to wake up, I'll get pressure

Anderson



Reinhardt





Green

the paths. Then we get a cold snap and

to let carts off

that's when we get a lot of our damage." Bill An-

derson is an agronomist for the Carolinas Golf Association and had spent more than 40 years at Carmel Country Club in Charlotte. "In this part

of the country, you have to have cart paths," Anderson says. "There's a few exceptions, but not very many. We actually have more trouble

with the roughs, on the exits and entrances, than with the fairways. Fairways tend to get better care. Have better turf. Less shade. Get aerification and topdressing. Those exit and entrance points are the biggest issues with cart traffic."

What solutions are working?

"We use cart exit posts on the edge of our fairways to let golfers know where to exit each hole," Green says. "The posts are easily moveable, which helps us manage traffic patterns and doesn't take too much time for our equipment operators to move. We also have GPS systems in our carts, which enables us to lock carts out of certain areas. This is very helpful and effective for managing carts. We can even create reminders on the screens on holes that are cart path only."

Reinhardt pulls the plug on cart use when necessary. "Because some of our holes don't have cart paths, there are a few times during wet dormant periods we completely prohibit cart use," Reinhardt says. "Another successful tool is making an effort to communicate to our patrons about restricting their cart use on the course."

Anderson emphasizes improving the known wear areas during the summer.

"One of our best tools is improving and amending those exit and entrance points in the summer – when those areas are healthy and growing - that we know are going to be a problem come late fall and through the winter," he says. "Aerifying, topdressing, adding organic matter, drainage."

O'Brien recommends rope as well as cart directional signs, but also cautions one's expectations with compliance.

"To be honest," he says, "I'm pretty happy when we achieve 50 percent compliance with members following signs. Doesn't sound great, but it's just enough that we're limiting the amount of carts getting into areas they really shouldn't be." 💈

A TWO-WHEEL SOLUTION?

A relatively new factor to consider with cart traffic is the sudden appearance of golf bikes, boards and scooters, which are single-person cart experiences.

The golf course I've been superintendent at for the last 18 years, Avalon Golf Club in Burlington, Wash., recently leased eight



golf bikes on a trial basis. Although we stay open year-round (barring snow cover, which happens from time to time), our winters are very wet and the turf becomes fairly saturated, especially by the end of winter.

The golf professional at Avalon, Eric Ferrier, thinks that despite our winter-long western Washington rains, we will be able to use the bikes off paths this winter, something we don't allow the regular carts to do once the November rains hit.

"I believe the single-user rider experience is going to become much more prevalent on a national scale, really in the next five to 10 years," Ferrier says. "I think we're talking about at least half of a golf course's fleet being somehow dedicated to this experience.

"There are a few reasons for this. One, I think it adds more fun to the game for a golfer. Whether it be on a golf board, a one-wheel, a Finn Bike, a Segway, whatever that single user experience is. Secondly, the cost is coming down for these units, thus it's becoming more economical for a golf course to dedicate their funds toward them, especially when you can charge a little bit more. And third, if more of the people on the course are on a single-riding unit, the pace of play will speed up, which, of course, is a huge issue for golf right now."

One challenge with these bikes that I'm finding as the superintendent here at Avalon is coming to a mutual agreement with Ferrier about where they can and can't go. Ferrier initially wanted the experience to be the same as if the user had a pull-cart, meaning, for us, they could ride up right next to greens and even on tee-tops. However, we have noticed that after some significant rain the golf bike is leaving some ruts in soft spots around the greens and tees.

Thus, for now, we've decided to give the golf bikes more leeway than a golf cart, but we restrict their use on the slopes of greens and keep them on the paths next to tees.

- Ron Furlong

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GETITGREEN IN 2020

By Matt LaWell

Following a few guidelines this fall can help make turf pop when golfers are itching to get on the course next spring.

f you have a question about turfgrass soil, or water management, or just agronomy in general, odds are good you have reached out, in some way, to Dr. Bill Kreuser.

"I have people texting me every day," says Kreuser, an assistant professor and extension turfgrass specialist at the University of Nebraska in Lincoln. "I have people sending me Instagram messages. I have people sending me Twitter posts, emailing me, calling my office phone. It's hard to keep track of them all sometimes when you have so many different avenues to communicate nowadays."

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Preparing your course for spring blooms can be hard, too, which is why Kreuser and a handful of other researchers and educators blocked out some time to look ahead five or six months. How should you prep for spring? And when should you start? (Yesterday. You should have started yesterday. Or maybe last week.)

FOCUS ON FUNGICIDES

More than anything else, Kreuser and his fellow researchers want you to at least think about fungicides and how you use them. Are you using more than your course needs? Do you have too many applications scheduled on your calendar? Are some of those applications redundant?

"One thing that I'm seeing frequently is that people forget that DMI fungicides and plant growth regulators are very similar in how they work," Kreuser says. "I'm seeing a lot of people putting plant growth regulators down at the end of the year with their snow mold, and a lot of times their snow mold apps contain some type of a DMI fungicide." That can result in a slower greenup — "weeks," Kreuser says, "not just a couple days" — and, even more jarring, plenty of damage. Kreuser is working with graduate student Parker Johnson who is studying the effects of mixing DMIs with PGRs and how much various DMIs suppress growth.

A fall fungicide program also helps control spring dead spot, according to Dr. Mike Richardson, a horticulture professor at the University of Arkansas whose research has focused on cultural practices that affect cool- and warm-season turfgrass production in the Transition Zone. "Two applications of a preventative fungicide in the fall will generally give you good protection," he says, with the





first scheduled around the start of October and the second about a month later.

"Spring dead spot is often not treated as aggressively on fairways or roughs," Richardson adds, "but control on a putting green is just critical because if you have a severe outbreak of spring dead spot on your ultradwarf greens, you're going to be looking at those scars and you're going to have a pretty bad surface for two or three months into the following season before those can really recover. It can really affect the playability and the aesthetics of the course if those diseases aren't addressed, and you have to start in the fall to get ahead on them."

And that is the bottom line: Without an appropriate mix, "the grass will look bad," Kreuser says, "when the golfers want to be out golfing."

CUT BACK ON FERTILIZERS

Shorter days and cooler nights curtail growth rates, which leads to less and less of a need for fertilizer. Applications vary from course to course and from region to region, of course, but Richardson tends to recommend most courses cut their fertility levels by about 50 percent in early fall — and in some cases even 75 percent.

"You just don't want to stop fertilizing altogether, because the plant is still photosynthesizing, it's still metabolizing energy, and it's still growing, too," Richardson says. "You may not see as much above-ground growth, but you

may be getting some reserves down in your root system. You just don't want to put it into a situation where it's really nutrient-deficient. Finding that balance is key."

"It's popular to apply potassium in the fall," says Dr. Eric Reasor, who joined PBI-Gordon as a research assistant earlier this year after two years as an assistant professor in the department of plant and



Kreuser



illadoli





Koch



University. "A little is good, but you don't want to overdo it because the plant is only taking up so much nutrient there heading into fall. You don't want to aggressively cultivate or aerate the plant heading into the fall, and you don't want to damage the plant when it's trying to acclimate."

soil sciences at Mississippi State

Better to stay on spoon-feeding programs, Kreuser says, "so that you're having nice green color but you never get a big bang of growth." That means "not putting down too much in, say, September here in the center part of the country or in the Northeast part of the country. You just continue to spoonfeed with light rates of fertilizer all the way through the year on greens." The farther north you are, "you kind of want to limit your fertilizer" even in early October "because it sits in the soil and can either be lost to the environment, or it sits in the soil all winter and then we get this huge amount of fertilizer in the spring, the grass bolts out of the ground and it's really hard to keep up with mowing."

SHADES OF GRAY (AND GREEN)

Fall is a fantastic time to dive into light and shade analysis, according to Dr. Paul Koch, an assistant professor in the department of plant pathology at the University of Wisconsin in Madison who recommends studying shade patterns in June or July, then

again in October as the sun is getting lower.

"Full shade is really damaging and can leave turf really susceptible to winter injury, ice cover, anoxia and crown hydration," says Koch, whose expertise includes turfgrass management and urban ecology. The importance of studying "those more severe areas that have false shade" cannot be understated. "Making sure you have good sunlight penetration into those susceptible areas well into the fall will help that turf be healthier going into winter and it'll just survive winter better."

Tree shade can also provide a challenge to grasses to sense days are getting shorter, Kreuser says, as well as limit the amount of sugar that they can store going in the winter. "Shade management is always something we're thinking about with winter hardiness."

Shade analysis can also benefit weed control. "You can look in the shaded areas and see if you have weeds, like ground ivy or wild violet, and if you don't have enough light to control them, those species are going to be more competitive than more desirable turfgrass," says Dr. Matthew Elmore, a weed science extension specialist in turfgrass, landscapes, pastures and forages at the University of Rutgers whose program focuses on novel strategies to control weeds with fewer pesticide inputs. "You can use those weeds as indicators of a low-light situation — and maybe show your members that some trees need to come down."

Whatever you do now will follow into and throughout — 2020, a year that will, no doubt, be filled with quips about hindsight.

"Your disease management program is a holistic program," Koch says. "It's not something that if you have that problem on July 15, I can come in and we can look at some things related to what you're spraying. Really, it's a holistic thing. It starts the previous fall with aerifications and all sorts of stuff to promote deeper root penetration, then continues into the early spring as you start to wake up and. It's progression.

"A lot of times, if you have issues with dollar spot or anthracnose, it's a buildup of something wrong with the program overall — and it's not normally something that's going to be a real quick fix. When I'm in there and I'm talking with the superintendent, I don't just want to see their fungicide program. That's an important part of it, but I want to see what else they're doing. Are they knocking dew off? Are they fertilizing properly? What's their irrigation schedule? How is the moisture content level? A lot of times you can kind of see that when you're out on the golf course."

Matt LaWell is GCI's managing editor.



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else, a trio of World Series championships. Emerson attended one of those Fall Classic games in 1971, when a Pirates fan inadvertently spilled beer all over him and apologized profusely.

Those were formative years for Emerson, whose father was teaching him even then about club politics. "I can still name you every player," he says, and then he does, from the early 1960s right through the early 1980s. "Back then, they played the Oriole Way," he says. "They had to hit the cutoff man, they had to advance the runner. That was how they won, good pitching and solid defense."

Emerson has enough Earl Weaver in him that he has installed a sort of Desert Mountain Way. "Every job we do on a golf course, everybody does it the same," Ward says, "We actually have a training guide. How I have a guy raking bunkers on Renegade is the exact same way they're raking them on Apache. If Cochise needs three guys to mow greens, I can take any of my guys and send 'em up there. All you have to do is show 'em where to go. You're not retraining 'em."

Emerson pays more attention these days to the Oakland A's. His younger brother, Scott, is the pitching coach. Under longtime general manager Billy Beane, the A's rebuild the bulk of their roster almost every season, often signing overlooked players for far lower salaries, and giving plenty of credence to analytics.

"I like what Oakland does," Emerson says. "I like that every year is a new team, and I try to take that philosophy that every year is different and to not let one roll into the next. Set a goal, then reestablish the goal without giving up the major theme. What are we trying to accomplish this year?

"You have to look at your team and ask yourself, What do they need from me today? The guy whose role should change the most is me. It's easier for me to change than it is for 180 other people to change. I should be able to adjust to what the team needs, and I have to manage everybody differently. You have to study yourself before you can make change. You have to understand what your strengths and weaknesses are. If you can't manage yourself, how can you manage others?"

Because no matter how many millions you pour into course renovations and reconstruction, no matter how innovative your vision or how perfect your plan, the project you can and should revisit — day after week after month after year after decade — is your own self. **GCI**

Matt LaWell is GCI's managing editor.

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myself and all the superintendents in the Southeast," Prescott says. "He showed us how to set this up in house and even showed us how we could make something like our own version of a SubAir system to create an ideal environment for turf growth and management.

"Right now, the contractor that did our greens is coming back to the property to install four-way vents right at waterways. We get so much rain on our property and we have a couple of greens with drainages that go out into what we call coulees (ditches) here in Louisiana. These greens need vents and don't have them because they are stubbed out under water. The contractor will raise all the vents to the surface, dig up existing drains and anywhere there was a drain dug up we'll install the vents."

Since the green renovation and irrigation upgrade, Prescott has implemented proper, transparent maintenance processes for his team to follow. For example, topdressing with sand dilutes organic matter through its life, Prescott says. "We are now on a regimen of proper maintenance and management of organic matter and are keeping the greens oxygenated. We topdress adequately and consistently to avoid layering and develop a consistent profile all through the soil profile. Overall, the improvements mean we as a team are operating as we should – proactively instead of reactively."

In just 18 months, Prescott has overseen a transformation that will further elevate one of Louisiana's more renowned courses. The nimble way the club operates and the ability to make timely decisions are the foundation of Le Triomphe's success, he says. Prescott's plan and clear vision for the course and club grounds aligned with what the club wanted to achieve and what the owner was willing to invest, Waterbury says. Le Triomphe is unveiling the upgrades to the membership this fall.

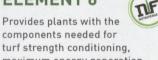
"Ramsey was so methodical in his assessment and his open dialogue with me every step of the way," Waterbury says. "It solidified my confidence in his abilities and ultimately laid the foundation for the club's owner to decide to invest millions of dollars in upgrades and renovations." GCI

Monique Bozeman is a Louisiana-based writer.

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* Research performed at Michigan State University 2015/2016

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TRAVELS WITH TERRY

Globetrotting consulting agronomist **Terry Buchen** visits many golf courses annually with his digital camera in hand. He shares helpful ideas relating to maintenance equipment from the golf course superintendents he visits - as well as a few ideas of his own - with timely photos and captions that explore the changing world of golf course management.

SPACE EFFICIENCY

hese 12 custom-made hose storage racks are made of ¹/₈-inch thick 8-gauge aluminum. The back baseplate measures 12 inches by 8 inches. The curved aluminum part was cut and bent into a 24-inch long by 12-inch wide piece that the hoses rest on. The 1-inch square tubing that is beneath the curve extends outward 13 inches and upward 6 inches to hold the hoses in place. Galvanized bolts measuring %6 inch by 2 1/2 inches mount the hose racks to the wooden beams of the metal maintenance building. They have stood the test of time, and they are now 15-plus years old and counting. It took about 30 minutes to build each one and the estimated material costs were less than \$25 each. Olde Florida Golf Club equipment manager Guillermo Gomez, assistants Andy Polzin and Matt Klein, and superintendent Darren J. Davis, CGCS, are an extremely efficient team in Naples. Davis was the 82nd president of the GCSAA.





BUNKER RAKE BLOWER RACK

he 2018 Stihl BR450 Backpack Blower is mounted to the 2018 Green Touch Industries Backpack Blower Rack (\$89.99), ordered from Humphries Farm & Turf Supply, that is mounted to the 2018 Smithco Sand Star II Bunker Rake's ROPS bar. The blower is mounted quickly and easily to the rack using a steel plate and lynchpins to hold it in place. The black plastic "snout" snaps into place in a specialty holder on the rack. The blower is used to clear any debris prior to raking of the bunker to provide a uniform appearance and playability. The rack took about 10 minutes to install using 5%-inch by 1-inch self-taping screws. Equipment manager Eric "Skip" Bridges, lead mechanic Ronnie Smith and superintendent Owen Coulson represent teamwork at its finest at the Vestavia Country Club in Birmingham, Ala. GCI

Terry Buchen, CGCS, MG, is president of Golf Agronomy International. He's a 41-year, life member of the GCSAA. He can be reached at 757-561-7777 or terrybuchen@earthlink.net.

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SHOTS



Strictly business

In just the past five years, our industry has seen some huge corporate changes. Mergers, acquisitions, downsizing, upsizing and even a few companies that exited the golf market entirely. While it's never fun for the people involved in that kind of turmoil, we tend to call it "business as usual" and not bat an eye. Some other company will come along and serve those needs, right?

But when another large organization in golf announced recently it was reducing its headcount through voluntary retirement incentives, it raised a lot of eyebrows. Why would the venerable United States Golf Association need to cut its staff just a few years after announcing a ginormous TV deal with Fox? Why do the cuts seem to hit hardest within the already diminished Green Section, where 11 senior folks were offered and accepted early retirements?

Allow me a few observations ...

The Green Section's mission had already been evolving over the past decade from dispensing agronomic expertise to superintendents to helping clubs with business, labor and communications challenges. Why? Quite simply, most private club superintendents don't need the turfgrass consulting services that were the original driving force behind the Green Section. Turfgrass science is now everywhere thanks to universities, industry, private consultants and Twitter. Consequently, the number of clubs willing to pay the annual fee for consulting also shrank.

We're also seeing the USGA take much the same route as universities — providing education and extension via social and digital media as the resources required to do face-to-face events and visits dry up. Adam Moeller and his team are doing an outstanding job of creating and disseminating focused, timely information via the weekly Green Section Record e-newsletter and an amazing catalog of short videos designed to educate golfers about the reali-

ties of agronomy.

So why is this happening now? We asked Rand Jerris, the senior managing director of public services, and here's what he said: "Earlier this year, the USGA presented a strictly voluntary retirement incentive to more than 60 employees across the organization who were part of a pension plan that was offered to employees who joined the USGA prior to 2008. We made a decision to freeze the pension plan based on participation numbers. We opted to provide each person in the plan who was over the age of 55 a one-time option to receive additional years of eligibility and other benefits (such as continued healthcare) if they chose to retire early. Among those eligible, 49 accepted the offer -11 of whom worked for the USGA Green Section."

It's seemingly all about money and a pension plan that got hammered by the recession. Half the companies in America have had the same problem. As that famed management guru Michael Corleone once said, "It's not personal. It's strictly business."

Unfortunately, there is a very personal side to all of this. I bet virtually all of you reading this know at least one of the eight Green Section veterans who have accepted the retirement offer. Some of you, like me, know all of them: Dave Oatis ... Jim Skorulski ... Patrick O'Brien ... Pat Gross ... Larry Gilhuly ... Bob Vavrek ... Dr. Mike Kenna ... Dr. Kimberly Erusha. Three admin employees also accepted retirements: Shelly Foy, Denise Covell and Karen White.

Let that sink in for a minute. As a friend pointed out on Twitter, those individuals represent collectively 325 years of top-level experience. To paraphrase the late Ross Perot, that giant sucking sound you hear is three centuries of wisdom being removed from the Green Section.

But beyond experience, the USGA is jettisoning a far more valuable golf industry asset. In fact, it's the most valuable commodity in our entire community: relationships.

Each of these folks has hundreds of decades-long relationships with club leaders, superintendents, academics, architects, builders and even media who are critical to the USGA's mission. While I understand that it's only business, I also tend to think the folks in charge at Golf House don't fully realize what they are giving up in order to fix the pension plan and move on with the evolution of the Green Section.

So, things change and we move on. But this time can we all do one thing that we don't normally do when there's some kind of seismic corporate shuffle? Can we all just say thanks to these folks? Call them. Write them a thank-you note. Buy them a drink. Take them to dinner. Log on to Twitter or Facebook and express your gratitude. Let them know that you genuinely appreciate all they've done for us.

Or you could write them a column like this and just say "thank you." GCI

ST.

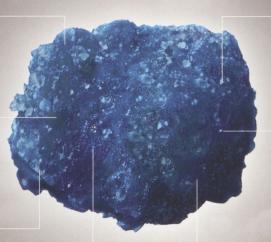
PAT JONES is the editor-at-large of Golf Course Industry. He can be reached at pjones@gie.net.

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