Issue 27 | Spring 2016 BY DESIGN



Excellence in Golf Design from the American Society of Golf Course Architects

ALC: NO DE COMPANY

Great.ipal municipal golf

Also: Design innovation • Water management • Scoring tees • Small projects

Elite courses like Pebble Beach Golf Links have discovered the power of IC Systems. See what IC can do for you at **www.rainbird.com/ICsystem**.



Taking an easier path to world-class conditions. That's intelligent.

Rain Bird[®] IC Systems[™]—pinpoint control and diagnostics for every single rotor.

With a control module built into each rotor, IC Systems from Rain Bird give you an innovative solution for field control—one that eliminates the challenges of satellites and decoders. Now you can manage your system rotor by rotor and track advanced diagnostics down to every individual head. Because achieving elite playing conditions isn't about working harder—it's about working smarter.



Rain Bird is the official irrigation supplier of Pebble Beach Resorts? Pebble Beach, "Pebble Beach Golf Links", Pebble Beach Resorts? The Lone Cypress", The Heritage logo and their underlying distinctive images are tandemarks: service marks and tada dress of Pebble Beach Company. Used by permission.



Fostering innovation

he Golf Industry Show always provides a wonderful opportunity to exchange ideas, experiences and views with industry professionals from all disciplines and all parts of the globe. This year's event—which took place in San Diego in February—was no exception.

ASGCA has a long history of fostering innovation, as was clear to see from the insight shared by members during the week. There were fascinating and detailed presentations about innovations in putting green surfaces, tournament set-up and water management. You can read more on page 5.

And what better place is there for ASGCA members to apply their spirit of innovation than municipal golf courses? Good publicly-accessible facilities are absolutely crucial for the success of the game, and I applaud the municipalities throughout the United States and beyond who work hard to provide their communities with an affordable way to enjoy fresh air, green space and the game of golf.

The cover story of this edition of *By Design*, which begins on page 8, examines the design of municipal golf courses, and considers the experiences and opinions of ASGCA members who have worked on municipal projects. In my opinion, some of our best work is being done at these facilities, creating fun experiences for all.

I hope you enjoy this issue.



Steve Smyers President American Society of Golf Course Architects

BY DESIGN

Editor and Publisher: Toby Ingleton Design: Bruce Graham ASGCA Staff: Chad Ritterbusch; Therese Suslick; Mike Shefky; Aileen Smith; Marc Whitney Photography: Joann Dost; Alex Ferro/Rio 2016; Jessica Larson; Kevin Norby; David A. Parker; Ed Stevenson, Forest Preserve District of DuPage County [FPDDC] Subscribe to *By Design* at www.tudor-rose.co.uk/bydesign

© 2016 American Society of Golf Course Architects. All rights reserved. www.asgca.org

By Design is sponsored by:







CONTENTS

Digest 5

A round up of industry news, including innovation discussion at the Golf Industry Show, a test event at the Rio Olympic Course, and a new course in Virginia.

Municipal golf 8

We consider the keys to providing great golf to local communities, as ASGCA members share their experiences of municipal design projects.

Golf and water 14

A new publication from the ASGCA Foundation helps developers understand good water stewardship.

Scoring tees 16

By Design speaks with Jan Bel Jan, ASGCA, to find out more about her 'scoring tees' concept.

Small projects 20

Why hire a golf course architect for small projects? ASGCA members share their views.

Five to finish 22

For this issue's final five questions, we talk with J. Drew Rogers, ASGCA.

COVER



The municipal Keller Golf Course in Maplewood, Minnesota, was recently renovated by Richard Mandell, ASGCA. Photograph by David A. Parker

Profileg If

When your reputation is on display each and every hole, you partner with those who bring the most to the table.

Profile Golf[™] offers the industry's most comprehensive line of erosion control, turf establishment and soil amendment products. We provide environmentally friendly and sustainable solutions to ensure your course becomes a long-term success.

Through our team of experts and global distribution, we provide:

- On-site support anywhere in the world
- Root zone testing and analysis, and soil amendment recommendations
- Erosion and sediment control, and vegetation establishment solutions

Contact us for project support: golf@profileproducts.com www.profilegolf.com (800) 207-6457



Solutions for your Environment"

Golf Industry Show

ASGCA highlights golf innovation

ttendees at the ASGCA Forum during the recent Golf Industry Show in San Diego heard President Steve Smyers, ASGCA, provide insight on how innovation has been a part of golf course design from the game's earliest days.

"The most successful and recognized golf course architects of past generations were very forward-thinking guys, and the founding members of ASGCA were leaders in the game because they adapted to the modern innovations of the game," he said. "We must do the same. Some of the courses I designed early in my career are modernizing for the next generation of players, with new sand or bunker liners, improved irrigation and the introduction of new turf grasses."

Several ASGCA members provided specific examples of how design advancements have helped meet the needs of players.

John Fought, ASGCA, spoke on the evolution of putting greens, quoting Charles Blair MacDonald, who said: "Putting greens to a golf course are what the face is to a portrait." Today, Fought noted, greens are most often changed for one of three reasons: grass varieties and construction methods, maintenance improvements, and greens speeds.

Rees Jones, ASGCA, presented on the evolution of championship golf. Jones cited a number of specific course examples from a career portfolio that includes leaving his mark on seven U.S. Open venues, eight PGA Championship courses (including the 2016 course at Baltusrol Golf Club), and five Ryder Cup sites.

Andy Staples, ASGCA, provided his insight on water issues, highlighting the release of the new *Golf & Water* publication from the ASGCA Foundation, detailing more than a dozen examples from courses in North America and internationally where ASGCA members and others from the golf industry have positively impacted the management of water (see page 14 for more information). He also noted the 22 percent decline in water usage on courses in North America in just eight years, according to data from the Golf Course Superintendents Association of America.

Sharing success stories

The United States Golf Association hosted 125 industry experts at their Pace and Innovation Symposium in Pasadena, California in January.

The event marked the third time the USGA has brought together experts and leaders from throughout the industry to discuss the issues that often serve as barriers to participation and enjoyment of the game.

ASGCA members shared a number of course design case studies:

- Todd Eckenrode, ASGCA, outlined examples of turf reduction that decreased maintenance expenses, including Brookside Golf Club, which removed 20 acres and saved \$75,000 in water costs in 2015.
- Mike Benkusky, ASGCA, described his redesign of Arlington Lakes Golf Club, in Arlington Heights, Illinois, which will offer three- and six-hole loops for customers who don't have time for longer rounds.
- Andy Staples, ASGCA, discussed his design of Rockwind Community Links, in Hobbs, New Mexico, which strengthened the connection between the municipal course and the community.
- Damian Pascuzzo, ASGCA, discussed his 12-hole Challenge Course at Monarch Dunes Golf Club, in Nipomo, California, which hosts a 'Learn Golf' program.



ASGCA members Greg Martin, Mike Benkusky, Jerry Lemons and Steve Weisser meet at the Golf Industry Show in San Diego

Bamberger to receive Donald Ross award



Michael Bamberger—a senior writer for *Sports Illustrated* and author of several books on golf—has been chosen by the ASGCA as the 2016 recipient of the Donald Ross Award. "Almost every golf fan over the past 30 years has read and been impacted by Michael's writing, in newspapers, on the pages of *Sports Illustrated*, on the web or in his books," said President Steve Smyers, ASGCA.

Sanford and Nicklaus collaborate in Naples



John Sanford, ASGCA, and Jack Nicklaus, ASGCA Fellow, are working together on the redesign of the course at Naples Beach Hotel & Golf Club in Naples, Florida. "The green complexes are relatively small, and lack wanted them partially open to running shots, so about 50-to-60 percent of each green is open to allow the ground game," said Sanford. Of the 100 acres of turf, we will take 30-to-35 acres out of irrigation, resulting in unirrigated natural areas. We end up with 65 or 70 acres of irrigated turf, which will reduce the watering requirements."



Chapter 1

TORO[®] INFINITY[®] SERIES GOLF SPRINKLERS Countless Benefits. Infinite Possibilities.

The opportunities are limitless with the new Toro INFINITY Series golf sprinkler. From immediate convenience, compatibility and labor savings to extra capacity for future technologies, INFINITY keeps you ahead of the game for decades to come.

It's simple Turfonomics.



TOP LINE THINKING

The new patented INFINITY[®] Series changes everything for the better: course quality, workload and most important, no interruption of play.

Calculate the money you'll save by cutting sprinkler maintenance from hours to minutes. And just think about how much better your course will look when you replace shovels with screwdrivers. No holes or piles of dirt to draw unwanted attention from players or the Greens Committee.

BOTTOM LINE THINKING

The new INFINITY[®] Series is built for expansion, not replacement — it's a truly sustainable investment that pays off in cost savings today and has extra capacity for new technologies in the future. With the patented SMART ACCESS[®] you can access all sprinkler components from the top, and adding new capabilities is just as easy, making the future a welcome change.



Learn more at: toro.com/turfonomics

REAL WORLD THINKING

The benefits to course maintenance and quality are countless, but it's the professional benefits that really make the INFINITY® Series the smart choice. The latest innovation from TORO, INFINITY® lets you truly manage your work crews, budgets and course improvements now and in the future. That not only helps you keep your course looking and playing its best, it makes you look pretty good, too.





Golfers praise Rio Olympic course

he first golfers to experience the new Olympic Golf Course in Rio de Janeiro, Brazil have responded with high praise.

"My expectations were surpassed. It's a fantastic course," said Victoria Lovelady. "It will attract golf tourism, people will come here to get to know a nice place and play some golf."

Lovelady was one of nine golfers who competed in the test event—the Aquece Rio Golf Challenge—on March 8, 2016. Brazil's top-ranked female player Miriam Nagl said: "The conditions are very good, the greens are perfect."

"Before we only had old courses in Brazil. This is a modern golf course," said competitor Alexandre Rocha, a Web.com Tour player.

The par 71 course was designed by Gil Hanse, ASGCA, and will host the Olympic golf competition in August 2016.

A report commissioned by the State of Rio de Janeiro Department of Justice and published in late February stated that the course in Barra da Tijuca had: "contributed

George design for Virginia resort

ester George, ASGCA, has been hired to design a new golf course in Virginia.

George will work with the Diatomite Corporation of America to create a master plan for Fones Cliffs-a new resort property in Richmond County. The resort will be built on land that forms part of the Captain John Smith Chesapeake National Historic Trail.

The site lies at the top of cliffs above the Rappahannock River, where in 1608 a battle between Captain John Smith and his crew and Rappahannock Indians took place. The new resort will look to memorialize this encounter through a series of monuments, as well as an education center.

"Having worked extensively in the environmentally-sensitive Chesapeake Bay Watershed for the past 25 years, we



to the growth of local vegetation" in the Marapendi area, and that various species of animal have in fact been returning to a "once degraded area".

The report highlights environmental benefits including a 167 percent increase in vegetation, creating a "positive cycle for fauna development," with 263 species now found in the area—compared to 118 before construction.

understand the requirements of projects like this," said George. "Fones Cliffs is one of the most fascinating and beautiful sites I have ever seen, and I speak for the team when I say we will approach this property with a very soft hand. We will design the golf course with a goal of minimal land disturbance, earth moving, and impacts to the natural habitat in an effort to produce an environmentally sustainable resort."

"Lester George has a proven, awardwinning record of creating challenging, playable, beautiful, and environmentally sustainable destination golf courses," said Robert Coleman Smith, Richmond attorney and Fones Cliffs project coordinator for Diatomite Corporation of America. "You only have to look at Kinloch Golf Club and Ballyhack Golf Club here in his home state to see his broad, creative design palate."

Rogers to reinstate Ross design features at Kenosha



Drew Rogers, ASGCA, is to lead a project to restore the original design intentions of Donald Ross at Kenosha CC in Kenosha, Wisconsin, Many hummocks, cops, banks and faces still exist as originally built by Ross, but have been lost or obscured by trees.

"When we open up these corridors again, through tree removal and fairway realignment, the features will again be exposed to delineate Ross' very clear design intentions," said Rogers. "You'd never know it, but these holes will be far better defined without the trees."

New Dye course in construction in Portugal



A new golf course in Obidos, Portugal-designed by Cynthia Dye, ASGCAis now in construction. Dye's first design in Europe, the new course will be part of the Falesia D'El Rey Resort, an hour north of Lisbon. "I have never worked so hard for so long to see a project through to construction," said Dye. "For many years we had to stay focused on making this course a reality. Now it's very rewarding to see it come true."

Alblic. Service

For many, municipal courses are the lifeblood of golf. But what are the key factors that city administrators need to consider when providing facilities to their communities, and how are ASGCA members helping to deliver value? Toby Ingleton finds out more

The historic Keller Golf Course in Maplewood, Minnesota reopened in 2014 following an extensive and highly successful renovation by Richard Mandell, ASGCA. Mandell sought the input of local golfers throughout the design process **(** There's a great sense of pride among the community that we have a really good golf course," says Cliff Keheley, city manager of Mesquite, Texas.

The municipal course holds a special place in golfers' hearts. For some of us, it may be the one local course that is accessible and affordable, and therefore our only opportunity to enjoy the sport. For others it may be where we first picked up a club. And with city-owned courses regularly featured on pro tour schedules—think Torrey Pines, Bethpage Black and Chambers Bay—they even allow us to walk in the footsteps of our golfing heroes, an opportunity that is rare in any other sport.

Throughout the United States which, like the UK and Canada, is one of only a few countries where municipal golf is widespread local governments face common challenges when providing golf facilities to their community.

In the case of Mesquite, the city sought the help of Jeff Brauer, ASGCA Past President, to deliver a renovation with an emphasis on value. "We have a large number of senior golfers, it was important to maintain an affordable green fee," says Keheley.

The initial goal was to rebuild greens and tee boxes. "But with Jeff's help, we were really able to maximize the budget—we even relocated several greens to add length, and redesigned three complete holes which really changed the character of the course. We got much more than we expected."

Keheley explains that upon completion, play increased dramatically, surpassing their goals for numbers of rounds and attracting a lot of new golfers to the course.

"The key to success with this project was the relationship with Jeff and the contractors," says Keheley. "We worked together and were committed to the same goal."

A sound investment

It is accepted that many recreational activities provided by local governments—like basketball courts, fitness centers and trails will incur a cost. But investments in golf often seem subject to greater scrutiny. As a result, municipalities can go long periods without investing in their courses. "A typical challenge for municipal projects is that their infrastructure has simply worn out," says Richard Mandell, ASGCA, who was responsible for the highly acclaimed 2014 renovation of the historic Keller Golf Course in Maplewood, Minnesota.

"Municipalities have put a great deal of emphasis on cutting maintenance costs, and foregoing capital expenditure," says Kevin Norby, ASGCA, who last year completed renovation projects at Coal Creek Golf Course for the City of Louisville, Colorado, and Elmwood Golf Course for the City of Sioux Falls, South Dakota. "But they find themselves losing golfers due to poor conditions. So often when they are looking for help it's a case of them saying 'we have done all we can to cut costs, we are looking for ways to increase revenue'."

Renovation projects to repair infrastructure can deliver the improved conditions that will not only attract more golfers, and more revenue, but also free up resources to focus on more positive activities. "With new infrastructure the golf club can start managing and maintaining the golf course, rather than constantly fixing



The renovation of Mesquite Golf Course in Mesquite, Texas, prompted a sharp upturn in play

problems," explains Mandell, who is now working on municipal golf projects at Braemar GC for the City of Edina, Minnesota and Hyannais Golf Course for the Town of Barnstable, Massachusetts.

High specification

While city-owned golf courses can go long periods without investments in their infrastructure, when renovation work does go ahead, the work required is often of a high specification. Garrett Gill, ASGCA, who is currently working on projects for the cites of Fargo, North Dakota and Virginia, Minnesota, explains: "The one thing we have noticed is that while the money for investment does not come round every year, or even every ten or twenty years, when it does, governments 'build to last'. There are no shortcuts, and work on tees, greens and irrigation tends to be done to a very high specification."

Gill also observes that while the volume of privately-owned golf projects under way at any given time is closely linked to the underlying performance of the economy, municipal projects seem less affected. This may be due to projects being borne out of the necessity to fix 'broken' course elements. Also, the extensive bid process and consultation period —including various government departments and the public—means the time it takes for municipal projects to get off the ground is often longer, and more tied to due process.

"Consideration of aspects like bonding, insurance, and the entire public bid process—which might see you having 70 questions to answer from various contractors—means that municipal projects involve a high degree of coordination work," adds Norby.

Legislation relating to wages for public work, such as the Davis-Bacon Act, also has an impact. "This can add 25 percent to the cost of the work," says Mark Mungeam, ASGCA. "So any way we can design features that are less time-consuming to build is a benefit."

Mungeam works with the City of Boston on their two courses: the George Wright Golf Course and the William J. Devine Golf Course in



Mark Mungeam, ASGCA, works with the City of Boston on their two municipal courses

Franklin Park, part of Frederik Law Olmsted's chain of Boston parks known as the 'Emerald Necklace'.

"By 2000, the George Wright course was really run down," says Mungeam. A Donald Ross design from the 1930's, it had been through tough times under various management companies. The City resumed control of course operations just over a decade ago and Mungeam participated in the development of a Master Plan to restore and upgrade the course. "Over the past eight years we have overseen numerous projects to restore and upgrade both City courses. George Wright was always considered a good and challenging course. Now it is recognized as a real gem and with William Devine GC (also a Ross design), will be the first public courses to host the prestigious Massachusetts Amateur in 2018.'

Broad appeal

In order to both serve the widest possible cross-section of the community, and maximize revenue generation, a common objective for municipal projects is to ensure the design does not exclude any segment of golfer.

"One of the primary differentiators with municipal golf is the need to appeal to a much wider target market," says Greg Martin, ASGCA. "But this doesn't mean dumbing-down the golf course. The design actually needs to be very sophisticated to work for this broader range of players."

At the Phillips Park municipal course in Aurora, Illinois,

Martin's long-term Master Plan for the course includes changes that make it more challenging for better players, but with wider fairways and large greens to make it more playable for those with lesser ability. "We reduced the yardage slightly but in tournament play scores haven't been lower than four-under-par."

"In this day and age the pendulum has swung away from difficult, narrow setups and it's going back to fun and enjoyment," says Mandell. "It can be harder to sell that to the better, low handicap golfers, but it really doesn't affect them that much—widening fairways from 25 to 40 yards isn't going to dramatically reduce the course record. But a lot of golfers that would have taken eight or nine shots on a hole are then taking six, which really enhances their enjoyment.

"My whole philosophy is 'less is more.' Hazards should challenge, not penalize, golfers, and we should have strategic options. That translates into width and angles. This works well for municipalities because it promotes allinclusiveness. Golfers of all levels can play these golf courses."

"At private clubs the average golfer maybe plays more, and is looking for challenge," says Norby. "Whereas municipal golfers are often shopping for price or value, and may not carry a handicap card. They might often shoot more than 100, or not even keep score, and perhaps not play more than two or three times a year."





The key is to make it fun

Appealing to this broad demographic sometimes requires a change in perspective. "Golf courses often seem to be judged on the speed of their greens. I'm not saying that's not important, but so many other things contribute to making a good municipal course," Norby continued.

"The key is to make it fun. So we pay particular attention to the placement of hazards, slope of greens and how thick the rough is. We include multiple tees and also look to eliminate forced carries. This enables us to marry the desire to deliver fun with the provision of a challenge."

Norby's renovation of Coal Creek was instigated by storms that damaged the course, but he took the opportunity to introduce changes that would make it more appealing to a wide range of players. New forward tees were introduced, bunkers were repositioned and hundreds of trees were removed. Norby also moved two holes to improve sightlines.

As well as differentiating Coal Creek from other municipal courses in the area, the work also meant the course was better able to withstand extreme weather. When storms hit the site again in 2015, newly introduced drainage and collection areas meant that no significant damage was incurred.

Of course, if a municipal course succeeds in its goal to broaden appeal, and attracts more players, it must also be able to withstand high levels of play. "I like to provide wide, unencumbered means of access and egress between paths and tees and greens to better spread wear," says Mungeam.

Mungeam also prefers softer slopes around bunkers and tees for ease of access and maintenance. "I will often shift or eliminate bunkers and trees to speed play, reduce maintenance and eliminate 'cattle tracks' created on the edge of features".

Multi-function

To attract large numbers, many municipalities are working out ways in which their golf courses can be opened up for other activities.

In Fargo, North Dakota, Gill has been hired by the Park District to redesign El Zagal Golf Course. New city levees reduced the space available from 25 to 22 acres and the primary focus of the work is grading and drainage, so the course can improve flood recovery.

Gill created a series of concept drawings highlighting 'convertible' elements. The nine-hole short course could be converted to a driving range with target greens in the spring when the course was flooded by the Red River. This type of innovative thinking was key to securing the project. "We When Kevin Norby, ASGCA, renovated Coal Creek Golf Course in Louisville, a key aim was to make it more appealing for a wide range of players

have found municipal courses to be very receptive to suggestions that would enable them to become multifunctional facilities," says Gill.

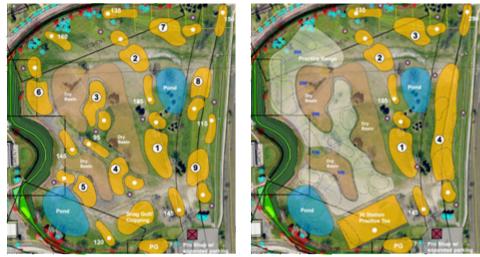
The new course will be among the first (if not *the* first) in the U.S. to be specifically designed for footgolf. The concept originally presented to the Park District included integration of traditional golf, footgolf and disc golf. Gill believes golf facilities need to embrace these types of alternative ideas to attract customers. "It enables multi-generational and multi-use enjoyment—you could have a group going out and playing three different forms of golf, all together".

There is often scope to incorporate completely different recreational activities, such as fishing ponds, lawn bowling, bocce ball courts, and trails for walkers, joggers and cyclists.

And the green outlook provided by hospitality facilities at golf courses can be a unique selling point, particularly for large functions such as weddings and conferences. These can deliver revenue and also raise awareness of what the facility offers to people who might not have otherwise considered visiting.

Green infrastructure

There are additional benefits that can justify municipal golf operations. One obvious example is the preservation of green space. "In many parts of large cities, like New York, New Orleans and Minneapolis, if it wasn't for municipal



Garrett- Gill, ASGCA, designed El Zagal Golf Course in Fargo, North Dakota with a series of 'convertible' elements

golf courses, there wouldn't be much green space left," says Gill. "This really increases their popularity and the enthusiasm of the local population." Gill worked with PGA Tour player Kelly Gibson to rebuild Joseph M. Bartholomew Municipal Golf Course after the devastation of Hurricane Katrina. This was a tremendous commitment by the City of New Orleans to preserve green space and attract residents to return to the city.

"One of the beauties of golf is it can be shaped and shifted. It's malleable, you can push and pull it much more than other types of development," says Martin.

This flexibility allows many municipal golf projects to deliver an important role beyond golf, such as water management or a green space buffer to important environmental areas. "All golf could and should be part of a green infrastructure," continues Martin. "We can devise ways to make sure the wider community-including nongolfers-benefit from the value of the asset. You could think of a golf course as a civil engineering project that also delivers an ongoing revenue stream."

Martin's recent renovation of the golf course at Wilmette Golf Club on Chicago's North Shore improved the golf experience while also addressing stormwater management, wetland mitigation and water quality issues.

He is now working on a project that will deliver a host of environmental benefits-at Oak Meadows Golf Preserve in Addison, Illinois, which is owned by the Forest Preserve District of DuPage County.

Work on the Salt Creek that runs through the site will provide over 10 million gallons of floodwater storage, benefiting residents both up and downstream. 33 acres of wetlands will be added and 67 acres of habitat restored. And improvements in water quality will improve biological diversity.

"Oak Meadows will accommodate the public as a preserve as well as a golf course that will allow the game to be played while carefully revealing the environment, its history and charm and restoring its vital landscape function," says Martin.

When municipalities get the formula for their golf course right, the opportunities are endless.

The ASGCA has prepared a number of free resources to inform golf course projects, including a Life Cycle Chart to help clubs plan for capital expenditures and foresee disruptions to play caused by unexpected component failure. This and more are available at www.asgca.org/free-publications.



Golf & Water | ASGCA

Responsible water stewardship

A new publication from the ASGCA Foundation helps golfers see how the game is committed to good water stewardship

he recent Golf Industry Show in San Diego saw the introduction of a new book from the ASGCA Foundation, *Golf & Water: Case Studies in Water Stewardship.*

With reference to numerous golf courses that have a positive impact on the management of water in their communities, the book examines the relationship between golf and water, and provides guidance on innovative paths to responsible water stewardship.

"This book will help those who develop land—and make decisions about how golf fits into a community—see how golf is committed to good stewardship when it comes to water, our most vital natural resource," said ASGCA President Steve Smyers, ASGCA.

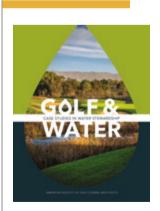
Whistling Rock Country Club in Korea and Charleston Springs Golf Complex in Monmouth County, New Jersey (see boxes) are just two of the many golf courses profiled in *Golf & Water* where ASGCA members have embraced the challenge to positively affect water use through innovative design solutions.

The book also includes a section on innovations in the making that considers some new approaches to the management of water resources This book will help those who develop land—and make decisions about how golf fits into a community see how golf is committed to good stewardship when it comes to water, our most vital natural resource

in golf, plus an irrigation checklist with guidelines of how to proceed with the installation or renovation of an irrigation system.

With financial support from The Toro Foundation and Rain Bird, *Golf & Water* has been developed by the ASGCA Foundation, which was established in 1973 to help fund the research of golf course design and to disseminate that information to those interested in designating green space for recreational purposes.

"Golf & Water continues the more than 40-year commitment of the ASGCA Foundation to support golf and the environment," said ASGCA Foundation President John LaFoy, ASGCA. "The ASGCA Foundation is thrilled with the reception Golf & Water received at GIS and is proud to shine a light on the work of this industry in meeting the challenges of water management and conservation."



Golf & Water: Case Studies in Water Stewardship is available as a free download at www.asgca.org/free-publications. Print copies of the book are available for purchase at Amazon.com, see http://tinyurl.com/zpxsbgb.

Prioritizing water conservation

For the development of Charleston Springs Golf Complex in Monmouth County, New Jersey, golf course architect Mark Mungeam, ASGCA, scouted the available land for a site with surface water, agricultural soils and minimal forest cover. These features made the land inherently conducive to golf design, and therefore more economical to develop.

The budget for water—and the ecological requirements of the facility saw the architect finding ways to collect, retain and filter water for irrigation use. The team designed course grading, drainage and new pond configurations to collect and filter a large percentage of the course runoff. Intensive play areas flow into a series of created wetlands and water quality basins that treat the water prior to it being reused for course irrigation. Irrigation swales were designed to handle runoff and allow percolation to recharge the groundwater. Mungeam



selected drought+olerant grass species and an efficient irrigation system to reduce water dependence.

Conservation of energy—one of the highest-cost aspects of the application of water—was achieved through the use of a number of technological advances in geothermal heating and cooling. Water was conserved and protected through the use of low-maintenance grasses and a highly-efficient irrigation and fertigation system that minimizes the use of higher quality groundwater, reduces fertilization needs and minimizes runoff and leaching of potential pollutants.

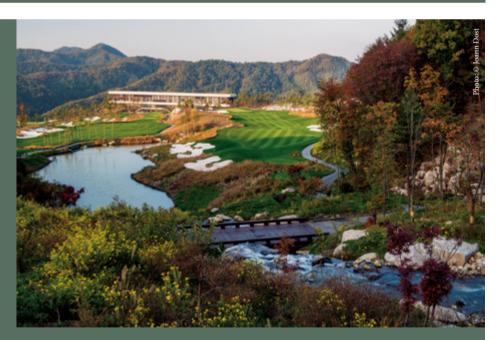
Read the full case study on page 20 of Golf & Water

Controlling flood water in Korea

At Whistling Rock Country Club, located in the mountains to the east of Seoul, Korea, the approving agencies for the project required separate systems for both retention and detention of water serving three distinct drainage areas. A total of fourteen lakes were mandated, eight serving as retention ponds to ensure the site remained environmentally neutral and six serving as added detention basins to control flooding during the monsoon season through the village located below the site.

The challenge for golf course architect Ted Robinson, Jr., ASGCA, and his design team was to incorporate the lakes into the golf course plan in sizes and locations dictated by the agencies while fully integrating them into the site to appear natural in the mountain setting.

A series of visual tricks and welldesigned dams and barriers meant two separate systems would appear as one and look entirely naturalized



within the site. Fairways are irrigated using a modern state-of-the-art irrigation system to minimize water use, with drainage directed to the retention lakes.

While the site's detention system serves to retain six million gallons of water

from the surrounding watershed, when combined with the retention system, the site regulates over 14 million gallons during a storm event.

Read the full case study on page 14 of Golf & Water

Interview | Jan Bel Jan, ASGCA

Scoring for all

By Design speaks with the newest member of the ASGCA Executive Committee, Jan Bel Jan, ASGCA, to find out more about her scoring tees concept and how it can benefit all golfers—from novice to professional

n 2011, golf course architect Jan Bel Jan, ASGCA, inaugurated the concept of 'scoring tees' for Green Valley Country Club in Greenville, South Carolina. The concept opens the game to a much wider group of participants by creating age, gender and skill neutral tees. In 2015, Bel Jan expanded the concept at Pelican's Nest Golf Club in Bonita Springs, Florida, by using on-site fill generated during the renovation of the club's Hurricane Course to add scoring tees. She now finds herself with a growing list of golf club clients wanting to adopt this successful concept. We spoke with Jan to find out more.

Tell us about 'scoring tees'

Everybody wants to score better that's how I came up with the name 'scoring tees.'

When a new golf course is designed, it's usually done with the excellent player in mind, players who have faster swing speed and thus can hit the ball farther. Such designs begin with the back or tournament tees and continue with other tees farther forward to accommodate golfers with moderate to average swing speeds, including men and women.

In addition to designing better courses for these traditional classes of golfers, I wondered why we couldn't do something more for players with slower clubhead speeds. There have been calls for the usual modified golf courses—whether they be three holes, six holes, nine holes, etc.—to keep people in the game and as a way to introduce new players. Few clubs have the resources to build such standalone courses; however, many clubs can afford to introduce 'scoring tees' to give themselves a more playable 'course within a course.'

What are the principle purposes of scoring tees?

First, to provide golf holes and a golf course that golfers with slower swing speeds can play and enjoy. To accomplish this, we locate scoring tees forward of existing tees and in such a way that penal hazards are either eliminated or can be managed more easily. Immediate advantages of using scoring tees are that golfers will have more fun and enjoy faster play. If we can make it possible for players with slower clubhead speeds to have more success getting on greens in regulation, we have the opportunity to keep them in the game, and this, in turn, will keep members and memberships healthy.

Chris Sheehan, director of golf at Pelican's Nest, tells a story about when he worked with Craig Harmon, son of the legendary Claude Harmon. His sons all teed up at the tips and then Claude marched farther forward. They protested "What are you doing, Dad? We're all playing from back here," and he said: "Boys, I've hit fairways and greens my whole life. This is my tee. This is where I play from today." Claude Harmon won the Masters Tournament in 1948 and his short game was still world-class. He was not too proud, however, to advance to a forward tee when playing against his long-hitting sons. Neither should you be.

Second, scoring tees can also be used profitably by even the best players in the club. If you look at collegiate golf, many coaches have their teams play from the most forward set of markers at least once a week. Why? Because it helps team members learn better course management and how to hone a better short game as well as to gain confidence in scoring low. On a shorter hole where low handicappers will not need to hit a driver, they must think about which club to use from the



If we can make it possible for players with slower clubhead speeds to have more success getting on greens in regulation, we have the opportunity to keep them in the game

The scoring tee on the ninth hole of the Hurricane course at Pelican's Nest sits behind a fairway bunker, 230 yards from the center of the green. The hole plays 443 yards from the tips

tee. They must also plan where to land their tee shots so as to give themselves the best approach into the green.

Is the name 'scoring tees' important?

Yes, because the label 'scoring tees' is all-inclusive. There are many golf courses that already have a set of formal tees between 4,000 and 4,400 yards, but they're titled 'speed tees,' 'fast tees,' 'forward tees,' 'short tees,' 'ladies' tees,' 'fun tees,' etc. All those labels tend to exclude certain golfers. If somebody says 'let's play the fast tees,' you might feel that you must play fast. That puts a lot of pressure on a short hitter or less skilled player.

Colored tee markers are a traditional feature of most golf courses, but this can present difficulties, too. Twenty years ago I did a presentation for the USGA about the stigma of the red tees or short tees for women, and the stigma still exists. Some clubs have moved away from using colored tee markers and use unique names for their teeing grounds based on topographic features or different kinds of trees or historical names associated with the golf course.

At Pelican's Nest there are seven different sets of tee markers. Roman numerals are used. The Scoring Tees have their own designation, the 'S' tee, with their own scorecard and ratings for men and women. The fact that the club honors the Scoring Course with its own name and scorecard emphasizes that this is an official 'course within a course,' that it provides an alternative challenge, and that it is age-, gender- and skill-neutral. By creating these formal teeing grounds, the club proclaims 'we want you here' whether you are a junior, super-senior or scratch player.

How would clubs go about introducing scoring tees on their course?

Every golf course is different—in the past year, I've played eight courses in Ireland, four in England and a variety of

courses in the U.S. All but one course had forward tees of 5,100 to 5,800 yards—those long courses are not fun for players who have slow clubhead speeds, whether juniors, novice adults or distance-challenged experienced golfers. So the first thing I would do is to look at the scorecard and see if the total yardage from the forward tees is more than 5,000 yards. If it is, it is too long for 'scoring tees.' The ideal scorecard for the shorter hitter will be somewhere between 4,000 and 4,400 yards. If more than 50 percent of the female golfers at your club have handicaps over 25, the length of the course they commonly play is too long. It's also important to put yourself in the

shoes of shorter hitters and observe how

17



they really hit the ball. Take into account the trajectory of their shots. Consider the number and length of forced carries and the locations of cross-hazards. As for everyone, wind conditions and firmness of ground impact playability.

Try to make the size of scoring tees similar to the others on the course—at Pelican's Nest, the scoring tees are at least 25 by 25 feet (to match the turning radius of a triplex) so the golf



The Scoring Course at Pelican's Nest has its own scorecard, emphasizing its status

course superintendent can manage them cost-effectively and time-effectively. The scoring tees should blend seamlessly with the existing contours so they appear to have been part of the original design. Scoring tees allow more players to follow the USGA/PGA's encouragement to 'tee it forward.' We've seen that once players experience better scores because they can more often reach the greens in regulation, they are less interested in going back to a longer course. Enthusiastic participation will almost surely result in increased pace of play and rounds played as well as in greater satisfaction by the members.

What else would a club need to consider?

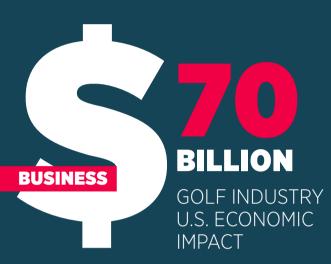
It's important to have club leaders who believe in the concept because they want members and guests to have fun, and who have the passion to implement the idea. If finances do not permit creating scoring tees for every hole, the club can begin with a loop of a few holes that return to the clubhouse or some such convenient arrangement. Once you've built scoring tees you need to have programs and cheerleaders who will use and promote the use of the tees. With enthusiastic encouragement by the club's leadership, particularly the golf pro, results can come quickly.

Clubs can adapt or devise their own events for these tees and provide added entertainment and enjoyment for the members. At Pelican's Nest they schedule and promote events from the scoring tees that include all players such as 'Five-iron Fridays.' And on 'Threeclub Thursdays' you and your chums go out with whatever three clubs you want. How much fun is that?!

For more on scoring tees, download the PGA of America's guidebook Setting Up Golf Courses for Success from www.pga.org. And for good advice on introducing scoring tees at your club, find an ASGCA member at www.asgca.org/members.

GOLF BY THE NUMBERS

THE GAME OF GOLF REMAINS STRONG. AS THESE STATISTICS FROM ASGCA, GOLF 20/20 AND WE ARE GOLF ILLUSTRATE, MORE GOLFERS ARE PLAYING MORE OFTEN, AND LIKELY ON A COURSE TOUCHED BY AN ASGCA MEMBER.



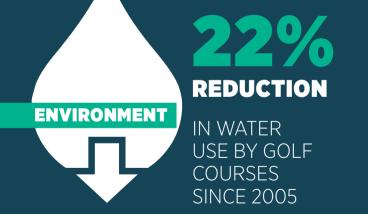
2 million – U.S. jobs with direct ties to golf
\$3.9 billion – Annual amount raised by golf industry for charity (more than all other sports combined)

76% – Golf played on public courses



• 2 million – Those trying golf for the first time in 2015 (more than any year since 2002)

• 29% – Increase in number of youth golfers ages 6 to 17 in the past three years



- 65% Golf course facilities who have upgraded irrigation systems in the past 10 years
- 77% 18-hole U.S. golf facilities that have taken steps to conserve energy



AVERAGE NUMBER OF NEW 18-HOLE COURSES DESIGNED BY AN ASGCA MEMBER

- 96% Advise clients on water quality/availability
- 93% Help clients improve/expand practice areas
- 93% Add tees to accommodate juniors, women & new players

DATA COURTESY OF



Small projects | ASGCA

The wise decision

With more and more small renovation projects taking place at courses, golf course superintendents are working in concert with ASGCA members to ensure a project's success

t's a common scenario: a change to the golf course is required, or has been proposed, and the superintendent is asked to handle it themselves. But even for small projects, partnering with a golf course architect can reap many rewards.

Jeffrey Brauer, ÁSGCÁ Past President, highlights the broad perspective that a golf course architect can offer: "Typically, superintendents design for maintenance, contractors design for construction ease, and members design for their own games. Golf course architects design from all perspectives, and have the skills to bring it together with appropriate compromises."

On average, ASGCA members have almost 30 years' experience and have been involved with nearly 150 projects. This wealth of experience means that they will often have previously addressed, multiple times, issues that a golf club may face only once.

Our years of experience with all kinds of design solutions have prepared us to address every detail of a golf course, no matter what the situation



Scot Sherman, ASGCA Whatever you move on a golf course, there are safety issues and a standard of care to consider



Stephen Kay, ASGCA

"It is not often that there is an emergency on a golf course, but one client encountered a situation recently that required immediate attention," explains Scot Sherman, ASGCA, of Greenville, South Carolina. "A bridge crossing one of their lakes had become very unsafe. Having worked with many talented bridge builders in the past, I knew what to construct. Despite there being no specialist bridge builders available in the area and timeframe required, I was able to work alongside a commercial building contractor who was working on another project on the site to create a solution."

Sherman, the contractor and club collaborated and in six working days they designed, constructed and opened the new bridge, spanning 50 feet across the lake.

"Our years of experience with all kinds of design solutions have prepared us to address every detail of a golf course, no matter what the situation," concludes Sherman. Throughout North America there are ASGCA members who conduct the majority of their business regionally—this proximity enables them to offer a great service, even for small projects.

"I had a client that just wanted to add one sand bunker and one forward tee. But they couldn't agree where to put them, so they gave me a call. I had another appointment nearby so it was easy for me to call in and take a look," says Stephen Kay, ASGCA, who is based in New Jersey and has worked for more than 300 clubs, primarily in the Northeast.

"The original plan for the bunker would have put it on the main irrigation line, so it needed to be moved, up to 20 yards one way or the other. And that would then impact the placement of the forward tee.

"In addition to making sure the work went smoothly and on budget, one great benefit to the club was having someone to take final responsibility for the decision. It gave them confidence that they were making the correct choice, and

Hiring an architect is not as expensive as many perceive



John Sanford, ASGCA It's kind of like a financial planner taking all your information and analyzing it



wouldn't find themselves having to do the work again."

John Sanford, ASGCA, of Jupiter, Florida, echoes the point of responsibility: "Hiring a golf course architect will safeguard the superintendent, committee members, professional and general manager from scrutiny by members or other stakeholders. An ASGCA member will take all issues into consideration, and prepare their vision for review and comment. Final plans will be made with feedback from all stakeholders in mind."

By consulting a golf course architect, clubs are also demonstrating that they are taking steps to protect public health and welfare. "Whatever you move on a golf course, there are safety issues and a standard of care to consider," says Kay. "An ASGCA member has the experience to ensure that safety issues are fully considered and inform the work that is being done. I also advise my clients to notify their insurance company of any changes, and invite them to review the work."

Concern over fees often leads clubs to think twice about consulting an architect for small projects. But hiring an architect can deliver savings in multiple ways.

"Hiring an architect is not as expensive as many perceive," says Sanford. "Even if it's a small project an architect can quantify the work and prepare a bid sheet so that golf course contractors can bid competitively with the same specifications. This process will get you the best contractor for the best price."

Kay describes a project where a client had received a bid from a contractor for the work but decided to bring in an architect before going ahead.

"It was a good decision, because immediately—through preparing proper bid sheets and getting prices from three contractors—we realized a 15% saving on the original price. That was more than double the amount of my fees."

Many ASGCA members also provide a low-cost service that will help guide in-house teams on small projects. The September 2015 edition of *Golf Course Management* highlights the one-day evaluation that Chris Wilczynski, ASGCA, offers his clients. "It's kind of like a financial planner taking all your information and analyzing it," Wilczynski explains to GCM. "My goal is to provide a list of things that can be done in-house—things that are simple and may require in-house labor but not a lot of capital investment."

Having an architect oversee in-house work in this way provides clubs with confidence that their changes have been professionally validated—even more so if their golf course architect has drawn up a Master Plan for the course. This

Everything should be designed, not just built.Design is the difference between delightful and dull



Jeffrey Brauer, ASGCA Past President

way the club can ensure that small changes are also contributing to the long term design vision for the course.

But perhaps the biggest risk associated with handling small projects in-house is compromising the golf experience. "Everything should be designed, not just built. Design is the difference between delightful and dull," says Brauer. "Golf course architects think in terms of maximizing enjoyment. And we know how to create those 'magic moments' that will make the best golf experience from your course."

Find an ASGCA member in your area by visiting www.asgca.org/members.

5 GREAT REASONS TO CONSULT A GOLF COURSE ARCHITECT FOR SMALL PROJECTS



SAVE costs

A golf course architect will design the most cost-effective solution possible, and can prepare bid sheets to ensure maximum value from contractors.

2 ASSIGN RESPONSIBILITY

Getting an expert to oversee course changes will help achieve buy-in from all stakeholders, and minimize the chance of the work having to be re-done.

3 MAXIMIZE GOLFER ENJOYMENT

Not only will a golf course architect help you to achieve technically the best result possible, they will design it for maximum enjoyment for members and guests

A golf course architect will ensure that any changes that are made are done safely, with a standard of care to staff, golfers and their neighbors.

5 COMPLY WITH **REGULATIONS**

Golf course architects are familiar with permitting requirements, helping clubs to stay on schedule and avoid fines.

FIVE TO FINISH



I'm more a fan of a strategic, thinking man's test than holes requiring brute strength and precision

J. Drew Rogers, ASGCA

provides answers to our Five to Finish questions

resh off the back of the highly regarded restoration of Harry Colt's work at Old Elm in Chicago, Drew Rogers, ASGCA, is enjoving a thriving design business. He has multiple projects under way throughout the United States, his growing portfolio built on a reputation as a great collaborator who delivers an outstanding final product. His skills were developed during 19 years working with Arthur Hills, ASGCA Past President-a period which included the design of Newport National in Rhode Island and Oitavos Dunes in Portugal-before establishing his own design business in 2010.

How is your game?

I was a decent player when I was younger. But now, it's tough to put much of anything together unless I'm able and willing to work for it—and therein lies the challenge. I guess that has taught me some humility! I found a good teacher last summer here in Sylvania, Ohio, so we're working on some things that will hopefully help me to start breaking 80 again!

Which three people would make up your dream fourball?

I know this much, those three folks better be able to laugh and have fun! Recently, my 12 year-old son has taken up the game. I enjoy watching him develop—he has the proper attitude, so he would have to be one. Ben Crenshaw would be another—he just seems to have an ideal disposition and perspective of architecture and the game, he smiles a lot and represents golf with great values. Perhaps Old Tom Morris could come back and join as the third. It is said he was a cheerful and humble fellow, kindly and gentle—and with all that inspiration in him to promote our great game, I think a chance to spend time with him would provide for a fascinating and unforgettable day.

What is your favorite hole in golf?

I'm more a fan of a strategic, thinking man's test than holes requiring brute strength and precision, so it would have to be a short par-four (under 330 yards) or a short par-three (under 120 yards). Shorter holes don't tend to exclude the potential for success or enjoyment by lesser skilled players, yet they can still imply just enough treachery to give good players fits-that's what great holes do, in my opinion. I can't say as I have a particular favorite, there's just too many to consider, but the tenth at Riviera and 'Postage Stamp' eighth at Royal Troon are great examples. More recently, I have been inspired by Bandon Preserve, the 13-hole par-three layout by Coore & Crenshaw in Oregon. I can't think of a more enjoyable golf experience anywhere in the world than those magnificent short holes.

If you could change or add one rule, what would it be?

Perhaps a stiffer enforcement of the time it takes to play would benefit everyone's enjoyment of the game. The Brits rarely allow a four-ball match (only on certain days or after certain hours) and medal play is seldom favored over match play. A move in that direction would help improve speed of play here in the US.

What project are you currently working on?

Most of our work is course renovation and restoration these days—and I really enjoy that blend of work. I'm fortunate to be really busy, just off the heels of our reinstatement of Harry Colt's Old Elm in Chicago. A similar approach is now in motion at Kenosha Country Club in Wisconsin, an intact layout by Donald Ross. When complete, that course will demand some much deserved notice. Perhaps one the most exciting projects right now is Canal Shores in Evanston, Illinois-a reassembling of the course there into an amazing presentation of golf offerings in promotion of 'golf for everyone' in an urban neighborhood setting. I'm collaborating on that one with a creative team consisting of the USGA, Luke Donald, Dave Zinkand and fellow ASGCA member, Todd Quitno.

SPONSORS



By Design would not be possible without the support of its sponsors, who have played a key role in the publication of this magazine.



Profile Products

Profile Products manufactures a comprehensive line of soil modification, erosion control and turf establishment products. Its experienced team takes a consultative approach with golf course architects, builders and superintendents to design and specify customized solutions for maintenance and construction.

Profile's team designs root zone mixes utilizing Profile Porous Ceramics to meet USGA guidelines. Its ceramics permanently modify the root zone to better conserve water and retain nutrients.

Profile's complete line of hydro-seeding products is the leading specified brand by golf course architects. Profile works with architects and project managers, establishing effective erosion control and vegetative establishment practices.

www.profileproducts.com



Rain Bird Corporation

Since 1933, Rain Bird has built a reputation on delivering irrigation systems that combine performance with efficiency. Rain Bird leverages state-of-the-art technologies to innovate and develop products that apply water in the most effective and efficient manner possible.

From highly-efficient sprinkler nozzles to cutting-edge control systems and pump stations, Rain Bird is widely recognized as the leader in golf course irrigation control system technology. We take the challenge of using water responsibly very seriously. That's why our over-arching philosophy, *The Intelligent Use of Water™*, guides everything we do. The revolutionary Integrated Control System™ provides innovation at a lower overall cost to golf courses enabling the user to maximize system efficiency and conserve water with a smaller environmental footprint.

For more information, please contact 1-800-RAINBIRD or visit:

www.rainbird.com



Toro

The Toro Company is proud of its legacy of quality and innovation. Customers around the world rely on Toro for high performing products that include precision fairway and rough mowers, greens mowers, compact utility loaders, commercial zero-turn mowers, bunker management machines, and water-efficient irrigation systems.

In 1921, Toro developed the first fairway mower and six years later shipped the company's first golf maintenance products overseas. Today Toro continues to lead the global market with best-in-class turf maintenance equipment and precision irrigation solutions. Approximately two-thirds of the top 100 courses in the world use Toro irrigation systems. The company also leads the way in environmental innovations, making products safer, cleaner and quieter whenever possible.

ASGCA Leadership Partners



Supporting Education in the Golf Course Industry

ASGCA thanks the following companies for their continued support of golf course development and renovation—helping ASGCA members do their jobs better, for the good of the game.

Major Level Partners

