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PUMP SELECTION – FLATTENING THE CURVES

At the heart of every irrigation system beats the pump station. And from that heart flows water—the lifeblood of turf and landscape plants. For every golf course there are several distinctive requirements—and opportunities—for creating the optimal pumping system. Water sources, power availability, operating window, design hydraulics, emission choices and more determine capacity needs and restrictions around which to actually design a pump station.

REVIEW THE TECHNOLOGY
Background information is always helpful when facing a pump station rebuild or replacement—or when increasing the performance of your existing system. Four basic types of pumps can be used in design to deliver the tremendous range of flows and pressures demanded by modern golf courses and country clubs:

- Centrifugal pumps used for surface or ground water sources are primary water suppliers (transfer pumps). Centrifugal pumps can lift water, but suction/lift capacities vary, usually fill 10-foot maximum. This brings obvious limitations, along with reduced efficiency, and therefore is not common in today’s systems.

- Centrifugal pumps with positive suction pressure are used as surface water boosters—most common in the boost of a water tank or city supply. These systems can be both constant-speed and VFD controlled.

- Vertical turbine pumps also are used as primary water suppliers, moving water from lakes, rivers or wells into irrigation systems. These pumps are most prevalent—often using multiple stages—and can run at lower RPMs. They are most common in today’s systems, and when coupled with VFD controls, are the most efficient means of water delivery today.

- Submersible pumps, too, are used as primary suppliers, moving water from lakes, wells or rivers. Trash pumps could fall into this category as well, and are mostly used to transfer water. Said pumps have high initial costs and generally low efficiencies.

ASSESS RESOURCES AND GOALS
Pumps with a high efficiency at minimal flow rates obviously cost less to operate. Constant speed systems that utilize multiple pumps of various sizes are moderately efficient, while variable-speed drives (VFD) use fewer but larger pumps and enable the fluctuation of pump speed to match any oscillating flow requirements, thus producing the highest level of efficiency. Today, as costs go down and efficiency rates go up, about 90 percent of golf controls are VFD coupled with turbine stations. Of all the different combinations of controls and pumps, this is the most efficient for pressurized irrigation.

Proper pump and impeller selection up-front results in lower power costs, in addition to lower maintenance and repairs down the road. In theory, by selecting the most efficient impeller, less energy will be required at selected flow rates for either constant-speed or VFD systems.

Because each golf course is one of a kind, engineering the perfect pump station takes a team.

ASSEMBLE YOUR TEAM
No single assortment of pumps and controls suits every application, nor is there a single manufacturer that can meet every customer’s needs. Your type of source water and water quality should ultimately determine the optimum combination of necessary equipment. Because each golf course is one of a kind, engineering the perfect pump station takes a team. Those responsible for system cost, design, installation, operation and maintenance must contribute to make the best station selection. This includes owners and consultants, superintendents and irrigation technicians, certified manufacturer technicians/contractors and manufacturers.

There’s a long list of considerations in engineering an efficient, durable pump station. Begin your quest with a strong knowledge of your site, sources and personnel. Formulate the necessary support team and ensure that all consultants, distributors and representatives speak your language.

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HOW THE TIMES ARE CHANGING

A few years ago looking for an equipment technician was one of the toughest tasks to accomplish in our industry. Why? Quite frankly, because there were so few of them. I don’t know if this has changed today, but one thing I am certain of is the role is attracting a new audience.

Recently, I began searching for an assistant technician at our facility and anticipated a long process with one to four candidates. Well, it’s still a long process, but made more challenging because the number of candidates has quadrupled. What’s interesting is many of these candidates are superintendents. At least half of the 15 applications I received are from former superintendents. Most of them cite the economy and the tough job market and their desire to remain in the industry but go in a different direction.

Here’s another good indicator of this trend. When the economy sinks, college enrollment spikes because more people seek training for new careers. This year, Florida’s Lake City Community College has between 13 to 15 technicians enrolled in class, whereas a few years back they had three to five students.

A few years ago the IGCEMA called for an industry meeting where we invited instructors, manufacturers, associations and equipment distributors to discuss the “future of technicians” program. This meeting, designed to compel the industry to push the equipment manager or equipment technician as a viable career path, was put together due to the severe lack of technicians in our industry. At that time we asked whether there were too many assistant superintendents in the industry, and was it possible to attract some of these individuals to the technician’s field? While at the time this seemed unlikely, now it seems to have become a reality.

One thing is evident: Despite any change in the amount of interest in technician job openings, this side of our industry still needs qualified equipment managers. We still see more equipment technicians retiring every year then coming into the industry and the need for educated technicians is even greater. The transition from being a superintendent to an equipment technician is not a seamless process. Individuals must understand ever-changing technology and the expectation that doing more with less is now a requirement. It’s important that proper training is available to ensure success. Employee numbers are dwindling and managers are taking on more and more responsibility to fill those gaps. Superintendents who decide to transition to the equipment side of our industry need to pursue the proper education and have the required interest level to succeed in the field.

With business models changing it’s easy to get in the mind-set that the expectations are lower since we don’t have the same budgets that we have had in the past. This is wrong – if anything expectations are much higher. Clubs today are struggling to find players. The most significant action we can take as an industry is to maintain or raise the quality of the product. People are spending money based more on what they need vs. what they think they want. Many people don’t have the financial luxury they once enjoyed to buy the things they want. Instead, they look for better quality things that they need. People’s mind-sets have changed – what sells now is quality conditions. The person who can afford to play needs to see the reason he should pay to play your golf course over the one down the road that doesn’t look as well maintained. Today, people want to get every penny out of the money they’re spending, and if the quality is off, the revenue will be, as well. And I don’t need to say where that road leads to.

These last few years many articles have been published about how we need to cut back and do more with less. In some respects they are not wrong. However, if you choose to pursue that course of action, you must determine how to maintain the same quality to keep your business vibrant. Anyone can make financial cuts, but not everyone can reduce costs and ensure players won’t notice. If you can find the balance between cuts and quality conditions, we will see you on the other side of this economic downturn.

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AMERICA'S FAVORITE GRINDER
The golf industry faces a number of challenges, including a recovering economy, an oversupply of facilities and stagnant rates of player development. However, the National Golf Foundation offers a ray of hope: In the face of all of these challenges, a sizeable opportunity exists to convert infrequent and regular golfers into die-hard players. According to the NGF, these golfers are playing around, just not with a single course.

For example, according to NGF figures, 23 percent of all customers fall into the "regular" category and give a single course between 25 percent and 50 percent of their rounds, while playing an average of 17 rounds at other local competing courses. Infrequent golfers represent the most opportunity, according to NGF data. These customers play 36 market rounds but only three at the subject course, resulting in a 10 percent wallet share and 33 rounds going to competitors.

### Player type | % of customers | Average market rounds | Average wallet share | Average course rounds played annually | Number of customers | Number of rounds | % of course rounds
--- | --- | --- | --- | --- | --- | --- | ---
Die-hard | 22 | 38.7 | 79 | 30.5 | 660 | 20,130 | 62
Regular | 23 | 27.3 | 37 | 10 | 690 | 6,900 | 21
Infrequent | 46 | 36.2 | 10 | 3.5 | 1,380 | 4,830 | 15
Transient* | 9 | 1.9 | n/a | 1.5 | 270 | 405 | 2

*Transient players play three or less market rounds.

Source: National Golf Foundation
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Michelle Feher has never been a typical superintendent, but her story over the past few years is an all-too-familiar tale about how the economy has overtaken the golf industry and forced many to evolve into new roles.

Like many of her male counterparts, Feher was born into the world of farming. She worked her family’s 10 acres of vegetable plots in Hartville, Ohio, enough to know that she loved being outdoors but didn’t want to grow crops the rest of her life. Drawn to turf, she eventually enrolled at Virginia Tech. As an undergrad, she spent three summers interning under Brian Mabie at Akron’s Firestone Country Club and, in 1992, became the first woman to graduate from the VT turf program. (“It was not a big deal,” she recalls matter-of-factly.)

After a stint as an assistant under the legendary Dick Bator at Kirtland Country Club east of Cleveland, she heard about an open position at a modest little facility called Boston Hills Country Club 20 miles south. “When I interviewed, they asked me how long I planned to stay,” she says. “I said a couple of years because I viewed it as a stepping-stone job. That was 13 years ago.”

Female superintendents are as rare as unicorns in the greenkeeping universe. GCSAA has just 279 female members. That means that only about 1 in 60 U.S. courses are maintained by a woman. Feher belongs to the even more elite group as one of just 18 CGCSs who happen to have two X chromosomes.

Over more than a decade at Boston Hills, she helped build the course’s reputation as one of the best-maintained “affordable” facilities in the area. She also jumped into leadership roles with the Northern Ohio GCSA with gusto.

“Sheree Scarbrough (now with Silico Turf) was doing the chapter newsletter and I sort of volunteered to help her for a while,” she says. “That was 15 years ago.”

Along the way, she’s amassed a goodly pile of GCSAA chapter publications awards and learned how to crank out copy, manage advertising and beat up on printers to get her newsletter out the door...all in her spare time.

Life was good at her little course and Michelle Frazier (her maiden name) became known nationally as a leading superintendent and, of course, a bit of a poster girl for the notion that superintendents didn’t all have a Y chromosome. She met and married Chris Feher a few years back and she began to think about the daunting task of being a superintendent/mommy. (Their daughter, Isabella, came along a year ago.)

But, fate had a different plan for her. In the middle of the last decade, real estate values in the Hudson, Ohio, area around Boston Hills ballooned and the facility – which was already being eyed for development in the affluent area – faced major physical changes due to planned road construction nearby.

“We had plans in place to move holes around and continue on as a course, but it seemed far more likely to become condominiums or retail, so they closed up shop in 2007.” Feher considered finding another superintendent position, but there were few openings. And then the economy tanked.

Fortunately, she was hired as a property manager by the company that owned Boston Hills. Now, she oversees buildings, offices and land – including her old course, which now sits fallow awaiting a new, post-recession use. But, she continues her involvement in the profession as the chapter administrator, editor, Web guru and head cheerleader for the NOGCSA. In short, some things never change.

I caught up with Feher to find out what her life’s like these days, being a chick among guys in the golf business and what it’s like to be in the ironic position of trying to sell a piece of land that you put so much TLC into for a decade.

WHAT WAS BOSTON HILLS LIKE?
It is – was, I guess – a neat little course built in the 1930s. It played to anyone’s abilities.
It had tiny greens with a lot of character. We were a limited budget course - my budget for everything was $210,000 annually. It was quite a challenge, but we put out a pretty good product.

**HOW DID YOU LEARN THE COURSE WOULD BE CLOSED AND SOLD?**
Well, everything is for sale, so I wasn’t shocked. Boston hills was positioned in a perfect location for playing golf, but that same location made it prime real estate. We had seen the same decline in play everyone else had and lost outings, so revenue had flattened out. Then the state announced it was expanding and rerouting the highway that had been in front of the course to now run across several holes. Basically, the highway access that had helped us so much was now going to put us out of business. We had a good remodeling plan (to relocate lost holes), but the compensation the state offered versus the cost to make it playable was a bad deal. It was a business decision, plain and simple, at that point.

**WHAT WAS THE PLAN FOR THE PROPERTY?**
It would probably have been shops and houses, but zoning issues slowed it down and then the economy tanked. So it’s sitting fallow, waiting for whatever comes along.

**WHAT DID YOU DO WHEN YOU KNEW ABOUT THE CLOSURE?**
The old owner told me he’d keep me on to do the shutdown of the course. Since I knew in advance, I put out feelers for another superintendent job but I didn’t get any offers I liked, so I stayed on with the ownership group as a property manager.

**WHAT’S THAT JOB LIKE?**
My typical day is dealing with tenant requests, complaints, maintenance issues – it’s different every day. I manage contracts for snow removal, HVAC repairs, lease renewals, vacancies … the whole shebang! I have three techs that work with me on maintenance for six properties. We also do construction when new tenants want to do build-outs.

**SOUNDS A LOT LIKE BEING A SUPERINTENDENT.**
It really is. I’m just not mowing or trying to keep grass alive. Otherwise it is a lot of the same stuff. I worry about weather, construction, aging buildings and equipment that need babying. Those things determine how my day is going to go instead of Mother Nature.

**YOU MAY NOT BE A SUPERINTENDENT, BUT YOU’RE STILL INVOLVED WITH NOGCS AS THE CHAPTER ADMINISTRATOR AND PUBLICATION EDITOR, RIGHT?**
As far as my chapter involvement, nothing’s really changed from what I used to do. I’m not as involved with national activities and I don’t serve on committees or do the chapter
delegate thing anymore. All the rest of the everyday chapter management handle the books. It's a little challenging keeping up with member requests, but I try to give them the same service I give my tenants. I'm still pretty much a volunteer. It's the same service I give my tenants. I'm still pretty much a volunteer. It's just not viable for us to pay a chapter executive a full salary.

**HOW'S THE CHAPTER DOING GIVEN THE TOUGH TIMES?**

Membership is actually about the same. We've had a few guys who are out of work shift to retired status. Advertising in the newsletter has taken a huge hit. That's been extremely difficult financially, so we've scrambled to cut costs. We took the newsletter nearly 100 percent digital. We used to print 550 paper copies of each issue. Now there are just about 50 people that still want a printed copy and the rest get it online.

Sponsorships are down a little, but that hasn't hurt us as much as some chapters. Northern Ohio has always been fiercely independent about keeping business and sales pitches out of meetings, so we've never relied on sponsors for education. We opened the idea up for discussion, but decided to stay lean and not get into sponsorships. The companies actually seem to appreciate that. Affiliates shouldn't have to constantly reach into their pockets to underwrite things. It's not fair and many can't afford it now. In the long run, it makes us more of an equal-opportunity chapter.

**SO, WHAT'S IT LIKE BEING A CHICK IN A DUDE'S WORLD?**

(Laughs). It honestly was never an issue for me. Maybe that's part of growing up on a farm. There's no male/female distinction made. Everyone just works.

**WAS IT UNCOMFORTABLE AT TIMES?**

I occasionally got hit on at conferences or whatever, but I was almost always surrounded by a bunch of guys who just weren't going to let anything happen to me. It was like having a hundred overly protective older brothers around me all the time.

**IS THERE SOME KIND OF EXCLUSIVE SECRET CLUB FOR FEMALE SUPERINTENDENTS?**

I wish! GCSAA did hold a women's forum for a few years. We had about 50 women at the first one, and it immediately turned into a gripe session about sexual harassment, lack of respect and basically all the same darned issues that face any female in any workplace. I sat there and thought, "You've gotta be kidding me!" The solution is simple: You just have to take charge of your life and your career. It's not different in any other industry.

**THEN WHY HAVEN'T MORE WOMEN COME INTO THE PROFESSION?**

It takes a special breed of person to be a golf course superintendent. A lot of women - and men - just aren't cut out for it. When I started school, no one told me to get out or that I was crazy. Dave Chalmers at Virginia Tech thought it was great. I'm not going to say he didn't have concerns, so he did everything to help me make it. I was the first female turf graduate from VT, but I also got a bachelor's degree in horticulture and landscape contracting, so I had it covered if golf didn't work out.

**SO WHAT ADVICE DO YOU GIVE TO YOUNG LADIES WHO ARE INTERESTED IN THE PROFESSION?**

My first question is always, "Why are you doing this?" Are they just picking it for fun or are they really committed? Are they currently working at a course and do they understand the realities? Are they willing to have a strong personality? You just can't take any crap from anybody. The minute you show weakness they'll walk all over you.

I'm always happy to help girls, but I never felt any big responsibility to mentor them any differently than guys. But, in general, they need to understand that this business is not designed for all women. You have to have the work ethic and the physical strength. City girls aren't usually going to do as well as country girls. But, those things are true for guys too! It's a lifestyle. You're in charge of one very large living thing. You work, eat and sleep it. The Weather Channel becomes your "god." That drove my husband nuts!

**SPEAKING OF WHICH, HOW'S MARRIED LIFE IN THIS WEIRD BUSINESS?**

I'd dated before I met Chris, but whenever it started to get serious the guy would get jealous of the job or he couldn't handle my hours. Chris and I really got to know each other well before we married. Our schedules were really different - he's a laid-back restaurant manager and kind of a night owl and I'm a Type-A morning person - but we golfed together a lot and bowled in the winter and got comfortable with each other. I made it clear that, "Here's what I do, I'm around guys all the time, I have pretty rough hours. Take it or leave it." He took it!

**HOW HAVE YOU MANAGED SCHEDULES SINCE YOUR DAUGHTER, ISABELLA, WAS BORN LAST YEAR?**

He's now a regional manager for a pizza chain, so his job is more normal but he still works late sometime. We both get Sundays off together. Isabella's in day care but grandma helps, too.

**SO, IS ISABELLA BEGINNING TO UNDERSTAND THAT HER MOMMY IS A TURFHEAD?**

Not yet, but she will. I'll always be a turfhead at heart. I love this business. I love the people and the friendships. It's not something I can walk away from. So many people helped me along the way, personally and professionally, that I'm not going to throw that away. They're family, too. That's why I do it.