Toro and MTI Distributing have donated a GR3150 to the First Tee of Minnesota. ALL proceeds from this sale will be divided evenly among Minnesota's First Tee facilities as they promote the game to the next generation. Ask your MTI salesperson how to submit your own bid.

For commitment and high quality, contact MTI Distributing!
Internships Offer Invaluable Experience To Young Turf Professionals

By Jonathan Spitzer
Student, University of Minnesota

My internship at Whisper Creek Golf Club was probably the best experience I have had thus far in the golf industry. The club is an 18 hole, upscale, public golf course, located within Del Webb's Sun City of Huntley, IL. This is a middle-income retirement community in the far northwest suburbs of Chicago. The golf club also contains a five-star practice facility including a driving range, two putting greens and a chipping area.

I completed my internship at Whisper Creek during the summer between my junior and senior year (May - Aug 2004). Currently I am a senior at the University of Minnesota-Twin Cities and am expecting to graduate in May of 2005. My experience was excellent and I really couldn't have asked more from my superintendent, Bryan Stromme, and his assistant, Lucas Johnson.

An internship is one of the most important steps in the learning process of becoming a superintendent. Even though many people participating in golf maintenance have worked on a variety of courses, I believe that an internship is what really introduces you to the important aspects of the industry. This is why I feel strongly it is important for the intern and the superintendent to have an idea of what they want to get out of the internship. Whether learning general maintenance practices, management, pesticide application, irrigation or special projects such as drain tile installation, it is important for both of the parties to have an outline for the experience.

My personal plan for my internship was to learn as much as I could in various areas of golf maintenance. The things that I wanted to focus on in the program were irrigation, pesticide application, developing an eye for detail and the management of staff. These were all things that I had not been specifically trained for in previous work experiences, nor had I learned in school. Therefore, I made sure I aggressively pursued opportunities in these areas when they came up throughout the summer.

I was one of the primary pesticide applicators at the course during my internship. Most often I assisted Bryan in the initial mixing and loading of the sprayers, and many times he observed my techniques as I sprayed on the golf course. If I had problems with an area, Bryan would join me on the sprayer and show me the best way to approach the area so that areas of turf would not be missed or over-sprayed. His "hands-on" teaching was very important.

Irrigation was a little different. When there was a repair to be made, my supervisor would help me find the leak, and then let me figure out what to do. After I reviewed the problem, I would suggest ideas for the fix. He would then approve them or suggest other ways to effectively repair the problem.

Detail was another aspect of turf management important at Whisper Creek. Developing an eye for detail, I believe, is one of the most difficult things to learn in golf maintenance. From picking up garbage to noticing that there are weeds growing in the native areas are things that are hard to catch on to when you are concerned about what your daily tasks are. Developing an "eye" is something that I tried to work on every day throughout the summer. As the summer went on, I began to feel more skilled at it.

It was very difficult at first to learn what was acceptable and what wasn't as far as detail goes. While people besides the customer that we really needed to keep happy as well.

These were the residents who owned homes surrounding the course. Most of the holes of the golf course backed up to the back yards of the residential homes. Many of these residents had different ideas than the golfing clientele of what was needed and not needed on the golf course, and this made it very difficult for golf maintenance in that the players were demanding one thing and the residents would demand another. Management of staff was also a very important part of the internship. Whisper Creek has a crew of thirteen Hispanic workers along with Bryan, the superintendent, and Luke, the assistant superintendent. We also had a full time mechanic, Rob, who was very helpful with the crew. Every morning we would arrive at work about a half-hour before the crew to get their equipment ready. All machines were checked before they were pulled out to make sure blades were sharp, set correctly, etc. I believed this helped cut down on machine breakdowns, scalped turf, leaks and etc.

After the crew arrived we would have a short meeting to discuss what was going to happen on the course for the day, and who was in charge of what. After the meeting we would go out with the crew and check mowers and make sure that everything was operating properly. Throughout the day we would periodically check back with the crew, and answer any questions that they would have and make sure that their equipment was working properly. Bryan and Luke made sure that I had a lot of experience with this.

As I stated earlier, I really couldn't have asked for more in my internship as far as an experience in the golf industry. A couple of areas where I would have liked to learn more about were the scheduling of irrigation, and the financing and budgeting of golf course maintenance, things that time did not allow for throughout the internship.

(Continued on Page 23)
Internships—
(Continued from Page 22)

Even though three months seems like a lot of time for an internship, it really isn't. There is so much to learn and all of these things take a lot of time. If it were possible, I would recommend an internship of six months. This way the intern could be present throughout the growing season and be involved in spring start-up and shutting the course down for the winter. Many students, especially from this area, do not get to experience these critical chores. This is due to the way our seasons run and the way semesters are set up at many universities.

From the perspective of an intern, I would advise superintendents to keep your interns interested in what they are doing by rotating them throughout the different areas of golf maintenance, and by giving them as much responsibility as they deserve. Both Bryan and Luke made sure of this and it really helped me through my internship. I have heard too many stories of interns that only changed cups or mowed greens every day followed by line trimming or hand watering. Even though these are important aspects of golf maintenance, it is not a way to learn the industry.

It is also important for the superintendent to keep track of how the intern is doing and letting the intern know what they like and don't like about the intern's performance. Bryan and Luke did biweekly meetings of progress that I found very useful. This helped me in knowing how I was doing and also gave me a chance for Bryan and Luke to express their feelings of my performance.

My advice to interns is to ask a lot of questions, and always be available at any time to work. Make sure that you are aggressive and available to work, even if you have worked for two weeks straight. You must be willing to do anything and everything you can to help your superintendent and your course, and help them make their deadlines and achieve their objectives.

It is also very important to be reliable. I believe the worst impression that an intern can make, or any employee for that matter, is to be late, or constantly asking for time off. An internship is not just a job, it is a learning process, and many times interns tend to forget that. Also, it is important to keep an open mind when you are learning. A negative attitude will get you nowhere in this industry. Finally, be proud of what you have accomplished, and be proud of your course.

In closing, I would like to thank all of the people that made this internship an excellent learning experience. These people include Bryan, Luke, Jim, Chad, Rob, Kevin, Chris, Gilbert and Jeff. This was an awesome experience, and I am grateful for the experiences you guys provided for me.

---

Kawasaki
UTILITY VEHICLES

- Liquid-cooled, V-Twin engine
- Air intake system overhead
- 1,330 lb. load capacity
- Rack & pinion steering
- Sound-insulated and extra-quiet muffler
- Governed to 16 mph safety
- Lock-out differential for min. ground disturbance
- Full line of accessories available

Call Tim Commers or Steve Scanlan today...
(612) 333-3487 or Toll Free 1 (800) 759-5343

KAWASAKI 3020 MULE™

CUSHMAN MOTOR CO., INC.

2909 EAST FRANKLIN AVENUE, MINNEAPOLIS, MINNESOTA 55406
(612) 333-3487 • Fax (612) 333-5903 • Toll Free 1-800-759-5343
Premier Irrigation, Inc.

Providing Quality Golf Course & Athletic Field Irrigation

- New Golf Course Construction
- Certified Irrigation Contractor
- Licensed, Bonded & Insured
- Flexible Installation Schedule
- Financing Options Available
- Renovations, Additions & Upgrades
- Pump Stations & Retrofits
- Fountain & Aerators
- Repair & Service
- Winterization & Start-ups

Premier Irrigation, Inc. is the only irrigation contractor also to be licensed by the Minnesota State Board of Electricity as a Class "A" Electrical Contractor. This distinct advantage allows us to do all our own electrical work without involving other subcontractors.

2 YEAR WARRANTY ON ALL NEW IRRIGATION SYSTEMS

Premier Irrigation, Inc.
Hastings, MN 55033
Call to Schedule a Free Site Visit
621-480-8857 • 651-480-8854 Fax
PART II

Design Review: 1985-2005

By GARRETT GILL, ASGCSA
Gill Design, Inc.

Prelude

Jack MacKenzie, CGCS, asked me develop an article on changes in golf course design from a more recent historical perspective. I chose the 20-year period from 1985 to 2005 for three reasons. First, this period represents one of the greatest periods of golf growth and, more recently, one of the most severe declines. Second, this period represents one of the most significant in terms of sophistication and advancement in golf turf grasses, maintenance equipment technology and golf club/ball technology. And thirdly, as a design company, we are celebrating our 20th year of professional practice in golf course architecture.

This is part two in a three-part series. Part I, presented in the November-December 2004 issue, reviewed the basic design changes we have seen as golf course architects in the period from 1985 to 2005. Part II examines the changes during this 20-year period in maintenance considerations and practices and their more subtle impact on golf course design. Part III, will focus on golf participation, management philosophies and legal issues that have changed during this period.

Seasonal Variations and Expectations...

Even in the 20-year period prior to 1985, seasonal variation in course conditioning and playing characteristics was fading, but I think it has been lost in its entirety since 1985. I'm not arguing good or bad, just the fact that today, as golfers, we expect to play the same course in May as we would in July, and as we would again play in September. Time commitments, cost to play and peer pressure may all be reasons. However, in my opinion, courses have flattened the ridges and valleys of seasonality through directly related golf course cultural practices:

1) Continued demand for greater sophistication in course irrigation
2) Improved short-cut hybrid bluegrasses
3) More regular use of plant growth regulators
4) Aggressive deep cultivation practices on poor quality greens, tees and fairways.

In the 20-year period prior to 1985, course conditioning was largely predicated on the quality of course irrigation. This was a tremendous boom period for the irrigation industry and the irrigation design consultant. The irrigation design bar was raised substantially. Double row was no longer a dream but a base system. True computer control was a reality. Few people even knew or heard of Larry Rogers before 1985. In the period since 1985, irrigation is still a significant factor in course maintenance and turf management. We now regularly include back-up sprinkler heads and small support rotor or spray heads around greens, tees, hazard areas, and water features; use adjustable arc and adjustable nozzle angle sprinklers are used to resolve slope or oddly configured turf areas and superintendents make active use of on-site weather station data, remote moisture sensors and vfd/pump controls.

Short-cut hybrid bluegrass varieties were released and became available in the late 1980s. The improved low mow bluegrasses have continued to be popular. In the mid 1990s we witnessed the mowing height drop from 3/4" to 1/2" on the then new hybrid varieties. And now, as many of you are aware, the newest varieties can be cut at 3/8." The net result is that as more courses convert fairways from the old blues and poa annua to the "new blues," more consistent playing conditions will even be easier to establish and maintain.

Other practices which I believe have influenced consistent playing conditions are the regular use of plant growth regulators (PGR) and deep tine cultivation on golf turf grasses. Both of these practices were introduced and caught hold during this period. Consistent growth led the way for consistent conditioning. Deep tine cultivation and aeration of low quality fairways, greens and tees became standard practice to reduce loss of turf in spring and mid summer due to winter kill or heat stress.

The Course Natural...

During the period from 1985 to 2005, the new golf course in Minnesota changed from one that ignored what nature provided to one that embraced it. For example prior to the Clean Water Act which came into law in October 1990, wetland areas on golf courses were oftentimes filled if they were in the way of a fairway, green or tee. These wetland areas were considered swamps and havens for the mosquitoes and other no see ums. Much of that is still true today with the exception that as designers we embrace the diversity and challenge that these natural attributes provide, and of course, they can no longer be indiscriminately filled.

Willingers Golf Club, designed and built in 1990 / 1991 and established in 1992 outside of Northfield, was one of the early new courses which succeeded in bringing and binding wetlands habitat and beauty onto golfers the places-to-play list. So important was this aspect to Willingers that it became their trademark and logo.

Also during this period, the use of naturalized areas as an active design element to reduce the overall extent of mowed turf became prominent. Whether done to conserve water usage, promote wildlife habitat, reduce maintenance costs, create isolation between holes or to increase the visual appeal from either inside the course or onto the course from adjacent property, golfers have learned to accept these areas as commonplace. We have found the active design using intermediate height naturalized areas visually connects the ground plane of turf with the tree canopy or horizon line.

And as previously briefly discussed last month we are slowly learning, late in this time period, that removing misplaced, over-planted, over-shading, over dominating trees is good for the golf course.

Supersonic Green Speeds...

Higher green speeds have brought the golf course architect substantial amounts of renovation work. Since 1985 average public course green speeds have increased dramatically from around seven feet to nine feet and it is not uncommon to play speeds of 11 or greater on the newer

(Continued on Page 27)
order after order,
load after load,
year after year.
100 year supply!

Plaisted Companies - a reputation for results.

Plaisted Companies
INCORPORATED
P.O. Box 332 • 11555 205th Ave N.W.
Elk River, MN 55330
(763) 441-1100 • Fax (763) 441-7782
Toll-free (877) 564-8013
www.plaistedcompanies.com

Construction Material • Top Dressing Blends • Bunker Sand • Cartpath Aggregate • Draintile & Decorative Rock
Design Review –
(Continued from Page 25)

courses or private clubs. The speeding of the greens has defied the mantra of being able to stop a ball within two feet of the cup as originally conceived by USGA Green Section Director, Al Radko. On many older greens which are not only small in size but more sloping or contoured for better surface drainage, we need to recognize that each course has its own optimum green speed based on the contour of its greens and if a club truly wants faster green speeds it may need to invest in new, larger and flatter greens. Moreover, with today's technology, superintendents will be mapping acceptable cup locations on their greens based on the "speed of the day" to insure fair play. Let's also keep in mind that the whole reason Eddie Stimpson developed the original stimpmeter in 1937 was to aid in green consistency. It was thought then, and still is today, that uniform green speeds across all 18 holes are a desirable attribute. Maybe we are putting too much stock in this?

Sustainable Golf Design...

Perhaps the biggest challenge facing architects in the next 10 or 20 years will be reducing the inputs necessary to maintain our golf courses. At the 2001 GCSAA conference in Dallas, Texas during the golf course architects' presentation to the GCSAA membership, I presented the concept of Sustainable Golf Design and asked the question "What would you do if fewer golfers played your course due to a less robust economy?" Fewer rounds equates to less revenue and less to spend on maintaining the same quality of play. In the four recent years since 2001 we have seen over a 50% drop in new course construction. The pressure is on the existing courses to get by with less. Sustainable design now is not a choice... but to do less with less -- it is the concept of reducing the inputs of energy and the demands on the earth's resources to obtain a specific result.

Principles of Sustainable Golf Design

+ Design within the natural or native context of the site
+ Consider origin and fate of materials
+ Minimize need for specialty maintenance -- design sustainable, maintainable space
+ Create efficiently maintainable fairways, greens, tees and bunker complexes,

(Continued on Page 30)
One Superintendent’s Perspective

Fred Taylor, CGCS, Mankato Golf Club

Mankato Golf Club’s first nine was designed in 1920 by Thomas Bendelow. The second nine was designed by William Langford in 1953.

Years in the Business

I have been in the golf business since 1974. My first job on a golf course, however, was at age six when I was assigned to remove broadleaves from the greens at a small course that my folks had just purchased. Later, as a high school junior, I worked at that same course for a different owner, thus beginning my career in turf. I later attended the University of Minnesota-Waseca for turf and landscape development. I did an internship at the Mankato Golf Club and continued to work under Boots Fuller after graduation from UMW. Later, I went back to school at Minnesota State University - Mankato for a business degree, graduating in 1985. Soon after, Boots asked me back to help out at MGC for two weeks while he went on vacation in Europe. That was 20 years ago, and I’ve been at the club ever since.

What was the highest point in your career?

The chance to serve on the board of MGCSA has to rank as a high point. It’s the opportunity to get to know fellow superintendents who share the goal of improving our industry and who work hard to afford that goal.

What has been your lowest point?

Losing a good deal of fairway turf to pythium one hot, humid summer. The pain of looking at dead grass for several weeks was embarrassing and demoralizing. Thankfully, our membership was understanding, and the crew was very supportive. I learned some good lessons, though.

Are your greatest challenges political, agronomic or managerial?

I think the challenges are relatively equal, and that the ability to juggle these three areas of responsibility is the key to success. You know how it goes; you find a turf problem in the morning and address it. The afternoon brings a complaint from the wife of the Board President, so you address her and then the problem. The next day it’s the intern who is half an hour late for work, so you deal with that. Then it’s the green chairman’s favorite tree that needs to be removed....

What is the most difficult disease to manage on your golf course?

Pythium has caused the most anguish for me, but the phosphite materials have given us a nice tool to help with this disease.

Is it hard to find good help in your area of the state?

I have been blessed to have a great team to work with. Our full-time guys are the best, and we are able to get quality employees from the ranks of retired folks, to students from Minnesota State, and some good high school kids.

Do you have a dog on your crew?

The dogs usually are weeded out after the first couple of weeks on the job.

Where will our industry be in 10 years?

We’ll be struggling with many of the same issues as today, but I think the urgency will be heightened. Water usage and conservation will be more crucial. Our struggle to man-handle nature in terms of pest control will become more futile as resistance increases, and new chemistries are more expensive to bring to market. The golf industry will struggle for numbers as people have more demands for their time. Superintendents will continue to pull in every which direction: use less, provide more; open earlier, roll faster, hold better. The opportunities will lie in the areas of cost control and efficiencies of programs. The astute superintendents will prosper, but still won’t garner the recognition and respect they deserve.

Where would you like to be in 10 years?

In the stands of a high school volleyball match, watching my daughters play.

What is your perspective of our state association and what would you change?

The MGCSA is a first-rate organization that has done a great job of bringing the state’s superintendents together. Like anything, you get out of something what you put in, so if anyone feels they are getting short-changed by the association, then they should get on a committee and get involved. The experience is worthwhile, believe me!

Name your foursome, who would you play with?

Robin Williams, Bill Clinton, and Jimmy Buffett. The golf swings may not be sterling, but the yarns and tales would be unforgettable.
Time flies when you are having fun! Hard to believe that another year has passed as we enter into January 2005. It seems like not too many years ago I was peering into the Crystal Ball by reading George Orwell's "1984" or watching "2001-A Space Odyssey." What will the future hold for all of us? Nobody can be certain but I spoke with many experts that have provided me a glimpse of the future.

In the year 2025 there will be a number or pressing issues that will impact all of society and more specifically golf. These items will include: Economy; environment; aging population; population growth; diversity, and energy.

Baby boomers are now 40-57 yrs. of age. In 2025 they will be 65-82 yrs. old and prime for retirement golf. However, finding a younger work force will be much more difficult.

Life expectancy will increase, creating more seniors than ever before. The population under 45 will decline between 2010 and 2025 as the trend is toward fewer children in most families.

Cash will be replaced by electronic currency by 2025. Cash flow will be as important as staying within budget. Electronic tracking of labor, parts, repairs, etc. will be commonplace. Superintendents will push more paper than ever with increased reporting required by the employer and the government.

Our operations will be impacted by increased government regulations, electricity costs, fuel/oil related costs, the cost of workmen's compensation, health insurance and liability insurance.

Golfers will have less expendable income. Many golf courses will struggle with competition and value for a limited number of golfers. Golfer expectations will increase. Golfers will want the best but will question the cost to provide it.

Golf facilities will need to develop strategic plans to compete in the marketplace. Golf courses will compete with other member services for budget dollars. These might include childcare, fitness centers, tennis, etc. Gender-neutral laws will be in full force, eliminating the concept of "spouses" at private clubs.

We will see more 9-hole and practice courses developed. Some people have the time to spend a few hours golfing or practicing but not the current 5-6 hours that we currently experience. Virtual golf will improve and be available nationwide. We will see the development of artificial surfaces for golf courses.

Water will be the most valuable resource on the planet. Golf will be impacted by the affordability, availability and quality of water. Irrigation systems will operate off of sensors and have the ability to adjust for wet spots and dry spots automatically. All irrigation signals will be wireless. Pump stations may run off of wind or solar power.

Pest control will be accomplished in ways never before thought of. I can envision monitoring pest populations with infrared and near infrared photos via satellite. Robotic sprayers would leave the docking bay in the maintenance building and spray at night. The system could be monitored at any remote computer. Precision spraying will allow superintendents to treat only the square footage or acreage necessary to eliminate certain pests vs. blanket spraying.

Equipment of the future will be powered with hydrogen cells, electric or solar power. Mowers will become robotic. Mowing equipment will carry scanners and allow diagnosis of turf areas for weeds, disease, drought, etc. and report back to a central computer...allowing the superintendent to make logical plans for the day, week and year.

Laser mowers will cut the grass uniformly using photons bounced between mirrors. Clippings are dried immediately. The laser rather than a cutting action minimizes sites of infection.

New grasses will be the standard. New Kentucky Bluegrasses with heat and drought tolerance will move into the transition zones. Bermudagrass that holds color, through the winter will be developed. While I am unsure about Roundup Resistant grasses...I do feel that Roundup Tolerant grasses will allow us to spray greens with Roundup at appropriate levels to eliminate poa annua and yet keep the environmental groups happy.

Government regulations will develop in the areas of fertility. Reporting requirements will be put in place regarding fertility needs and applications. Areas of concerns will be the fate of nitrogen, phosphorus and potassium.

I am sure that we could add to this list as time goes on. However, this might give you a picture of what the future holds. Many challenges lie ahead. The strong will survive.

I can't wait!
Design Review –
(Continued from Page 27)

- Avoid mowed steep slopes adjacent to bunkers and ponds
  - Design to limit active maintainable turf areas to 90 acres or less for the typical 18 hole course
  - Consider labor cost, material costs and the use of energy overtime
  - Use on-site materials and recycled materials when possible
  - Use low input turf grasses
As golf course architects I think we must look ahead and envision our golf designs 25, 50 and maybe even 100 years from now. If we have truly succeeded in achieving sustainable design, our courses will have survived essentially unchanged. I think also as golf course architects and golf course superintendents we have an obligation to the future players of the game to develop and maintain golf courses that will not be viewed upon as excessive, wasteful or damaging to the environment.

* * * *

(Editor’s Note: Part III of this 3-part series of articles from Garrett Gill will be printed in the March 2005 issue of Hole Notes and will focus on golf participation, management philosophies and legal issues.)

U of M Turfgrass Club
Appreciates Donations

The University of Minnesota Turfgrass Club would like to thank the following golf courses for their donations to our first Annual Golf Course Raffle: Boulder Pointe Golf Course, Elko; Chomonix Golf Course, Lino Lakes; Eagle Valley Golf Course, Woodbury; Ellsworth Country Club, Ellsworth, Wis.; Izaty's Golf and Yacht Club, Onamia; Les Bolstad, University of Minnesota Golf Course, St. Paul; North Branch Golf Course, Wyoming; Rolling Green Country Club, Hamel; Spring Hill Country Club, Wayzata, and Wild Ridge Golf Course, Eau Claire, Wis.

We sincerely thank these donators for making this a successful fundraiser. It wouldn't have been possible without your generous contributions. Fundraising will continue this spring. Anyone interested can contact us at 1970 Folwell Ave. Alderman Hall Room 305 St. Paul, MN 55108.

Our new website is up and running. Please check us out at www.turf.umn.edu/turfclub.html, or go to www.turf.umn.edu and click on the turf club link. We would like to thank Andrew Hollman and Dr. Eric Watkins for all of their work in setting up this site.

We would also like to send a special thanks to Paul Grogan (TPC of the Twin Cities), Mr. Barry Hines (Izaty's Golf and Yacht Club), and Mr. John Mackenzie, CGCS (North Oaks Golf Club).

Meeting Your Needs
With Quality Seeds for 2005

SEED RESEARCH BLENDS

MAGNUM GOLD - Perennial Rye Grass Blend
BLUE GRASS BLENDS - Coaches and Elite Landscape

TRADITION - Fescue Blends

Improve Your Course With the Following Varieties of Bentgrass:

Phone: 612-804-1692
Fax: 952-949-3889

Superior Turf Services, Inc.
LARRY THORNTON