

FEATURE ARTICLE I

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Design for a "Rough" Economy

"Depression is the inability to construct a future." *Rollo May*

Whether you call it a recession or depression, difficult economic times are certainly upon us. Anyone who has not felt a tightening budget or a request to make a cut-back is in a unique situation.

The game of golf felt this downturn well before the recession was official. The reasons for this decline have been clearly documented over the past nine years. Heck, articles have been published in the *Wall Street Journal* that depict the game on the verge of extinction!

Indeed, golf rounds have dropped 5.7% since 2000, and golf participation has decreased by 1.5% in the past five years. We have been presented with many negative statistics. I will not discuss those numbers further in this article. Instead, I will present ideas from a design perspective that can help accomplish more with less.

MASTER PLAN

Before making any changes that can affect the playability, functionality, or aesthetics of the course, it is absolutely necessary to develop a comprehensive Master Plan that addresses both the physical and operational aspects of the facility. A mission statement is established, along with goals and objectives that focus on the facility's long-term benefits.

Working with the facility's golf committees and staff members, a plan should be developed by third party professionals such as arborists, irrigation consultants, golf course architects and/or agronomists. This will eliminate the possibility of members or golfers misconstruing change as personal preference. The plan should then be circulated among the members or small breakout committees. Next, feedback should be provided to the consultants. The plan is then developed, adopted by the Club, and implemented according to established priorities.

DRAINAGE AND CIRCULATION

Heavy rains this spring have shown us that drainage and cart path circulation can have a direct reflection on our revenue. Many courses experience standing water and have no ability to circulate golf carts after rain events. In Chicago we have approximately 210 potentially playable days of golf. In 2008, weather limited the number of days to approximately 181. This means we had precipitation during the hours of play for 29 of our 210 potential days. The 29 days of course closure increase greatly if the precipitation is not removed from the course through drainage or if there is no way to circulate carts during moist ground conditions. It may be an inconvenience for golfers to be restricted to cart paths only, but at least they have the opportunity to pay a green fee and damage to the golf course is minimized.

Drainage pipe is relatively inexpensive to install and can normally be installed by staff. The full efficiency of existing drainage can be maintained by flushing out debris, keeping inlets open, and removing roots that have penetrated pipes. Adequate drainage, especially in bentgrass areas and on golf course features, can yield greater savings than any other design element discussed here.

Remember that the two most important things in any golf course operation remain: 1) getting water off of the course, and 2) getting water on the course.

IRRIGATION

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that will optimize current irrigation systems by measuring and calculating the correct water requirements. This is done with information gathered by small electrodes distributed throughout the golf course, forming a sensor network. These nodes allow for the sprinklers to be activated and deactivated efficiently with consequent water savings estimated at between 20 and 30% of current requirements. This translates to cost savings and a Greener approach to irrigating.

FAIRWAYS

Generally, the most costly element to maintain on a golf course is the premium playing surface of bentgrass (approximately \$1,200.00 per acre, per year). Most courses include this turf on tees, greens, and fairways. This can total 30-40 acres on an 18-hole course. The reduction of the size of these areas and their replacement with bluegrass or fescue can yield significant savings in chemical applications and mowing time.

Bentgrass can be eliminated from the start of fairways within a short distance of the teeing grounds. It should not be the intent to create long forced carries from the tees, but it certainly is not required that the fairway run adjacent to or immediately up to the front of the tees. Areas between landing zones can also be reduced by narrowing or even eliminating the bentgrass. Playability is foremost, and only "educated" reductions should be considered.

Altering the mowing patterns of fairways can result in a very quick and immediate cost savings. The following excerpt from an online blog clearly demonstrates this.

"Prior to 2007 the fairways at Northland were striped with 9 holes being mowed each day for an average of 6 days a week. After calculating man hours, and fuel usage the cost to mow fairways for one season was roughly \$30,000.

Beginning in 2007 the fairways were mowed in a light and dark pattern, all 18 holes being mowed 2 days a week. After once again calculating man hours, fuel usage, then adding the cost of turf growth regulators, which allow us to mow only two days a week; the total cost per season is roughly \$12,000.

A difference of \$18,000 is a pretty nice number from something as simple as changing mowing patterns. It is because of these types of savings that we have been able to

increase our seasonal labor and other areas of the budget, which allow us to make changes, such as walk-mowing and topdressing of approaches, and hand rake bunkers."

*~Chris Tritabaugh
Duluth, Minnesota*

TEES

The teeing areas have a significant impact on perceptions of the course, because they are the very first thing a golfer experiences on each golf hole. Pleasant shapes, level surfaces, and a good stand of turf will suffice for most golfers.

Many courses have multiple teeing locations to provide yardage elasticity. Each tee is located independently on a separate box. Combining tee boxes into larger pods at the yardage locations that are most often played can save time and money. This limits the idle travel time of the mowers from one box to another. Proper sizing is essential to allow for divot recuperation and teeing variation.

Square tees can provide a "classic" look while maximizing area for tee markers, but they can be very expensive to maintain because of walk mowing. The same look and feel of the tee can be preserved with straight edges and rounded corners. This permits a riding mower to be utilized to maintain the tops. The corners need a minimum radius of 8' to avoid tire marks on the surface.

Adequate spacing between tees and adjacent features, such as cart paths, should also be considered. The distance of the gentle slope between the two features should be in increments that equal the cut of the mowing unit that will be used to maintain the area.



Striping the fairways takes time and fuel. This can be reduced by mowing using the ring-around-the-rosie pattern.



Proper tees sizing and growing conditions help to reduce inputs and create better playing surfaces.

BUNKERS

Whether your course has five sand traps or 105, these design elements can be "hazardous" to maintain. The response of most superintendents when asked which element of a golf course is most difficult to maintain is usually the sand traps. When building or reconstructing these hazards, two determinations need to be made before tearing up turf. The first is what style fits your course's character. Second, can that style be maintained within your budget.

Regardless of the style, construct the bunker using USGA
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function properly, it deters golfers and costs the course money. A heavily used bunker costs just as much to maintain as a rarely used bunker. Converting some of the less "important" bunkers to grass hollows can ease the budget while preserving design integrity.

With any bunker that is going to have flashed sand, be sure to take advantage of the advanced technology in erosion control. The cost of installing erosion control fabrics such as Sandtrapper II or SandMat is very quickly recouped.

"The bunker fabric installation in our bunkers has saved us 80-90% of the time it used to take us to replace sand on the faces after a rain storm."

~Dan Dinelli CGCS,
North Shore Country Club

Grassed faced bunkers should use growth regulators and drip irrigation to reduce maintenance while preserving healthy turf. The steeper the face is graded, the more time and money it will take to maintain it. Draping push mowers over the top edge of a bunker with ropes is not a way to reduce costs! Consider grass-



High flashed sand faced bunkers are nice to look at, but ding the labor line every time downpours hit.



Bunker fabrics help to reduce labor and reduce sand contamination.

ing these faces with a combination of bluegrass and fine fescue seed blend as the fescue will survive under stress and provides great aesthetic value.

Also, be cognizant of the position of these hazards adjacent to other golf course features such as putting greens. The mower width that is used to maintain the rough grass should be the minimum distance between the hazard and the feature. Otherwise, the mower will ride on the putting surface, creating additional stress.

VEGETATION

Turf cannot be healthy without proper sunlight and air movement (i.e., budget expenditure). Golfers cannot enjoy themselves (i.e., spend money) on a golf course if their game resembles pinball instead of golf. Evaluate the vegetation on your site and determine if a tree or shrub is a burden to your budget. If so, remove it and plant another one somewhere well off the fairway.

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NATURALIZED AREAS

Areas of the golf course that are considered out of play can be converted from maintained bluegrass/poa/fescue into naturalized areas. These areas are typically adjacent to tee complexes and well separated from fairways and greens. They will not be maintenance free, but they will cost far less than normal rough due to the reduction in mowing time. Weed eradication and supplemental planting will continue to be needed. These areas also reduce water requirements and enhance wildlife habitat.

In conclusion, when reducing maintenance costs you



Native areas are not maintenance free, but can reduce some inputs such as water and fertilizer.

cannot sacrifice the integrity of your course or the enjoyment of the revenue generating golfer. The key to success with any of these changes is to follow your well-developed Master Plan and bring cohesiveness to the golfer and the golf course. Cohesiveness is what will allow us all to get through these difficult times.

"He who does not economize, will have to agonize."

~Confucius

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TGIF SEARCHABLE TOPIC



Want to know more about this subject?

Keyword: *golf course design, money*

Number of Entries: 12

Highlighted Articles:

- *Old problems, new challenges: Nuisance problems have emerged as major management issues on golf courses*
- *Mastering the moment: A comprehensive master plan can help ensure the vitality of your facility now and in the future*
- *Dollars and sense: Making it in a tough economy: In these hard times, superintendents have to be extra creative*



A solid design can help to reduce inputs while keeping the key playing surfaces your number one priority.