



# Gulf Coast Sun Beams

By CHARLES BRASINGTON JR.  
Golf Superintendent  
Tiger Point Golf & Country Club

## Golf Course Construction Techniques

The nineteen-eighties promise a great surge in the economic recovery here in the United States. With this surge, we will be seeing two things happening. The first is the consumer will have more leisure money to spend which will give us new golfers introduced to the game and more play out of the people who are already enjoying the game. Secondly, money will be a better investment to developers who will be building new golf facilities to accommodate all of this new play.

Since many of you will be needed to fill these new positions as construction superintendents or project managers, I felt it would be proper to pass on some of my experiences as construction superintendent that might make your job a little easier. It would literally take a book to discuss all that is involved in golf course construction. I will only scratch the surface on the main areas involved and some situations we encountered, realizing each development will have its own unique problems.

The name of the development at which I am employed is Tiger Point Golf & Country Club, located just east of Pensacola, Florida. It is a 36 hole project, primarily designed with intentions of hosting major professional golf tournaments. It is co-owned, co-designed, and co-operated by Professional Golfer, Jerry Pate. Helping Jerry with the architectural technicalities was one of today's premier architects, Ron Garl of Links Design, Inc.

The first thing to realize when taking on a new course is that it requires a lot of very long hours and very hard work. You will be responsible to incorporate the architect's ideas; and relaying them to the various construction companies, sub-contractors, to your employees and employers; coordination is imperative. According to John McKenzie, a veteran of multi-course facilities including Disney, PGA National, and now Golden Ocala, "Coordination of outside activities from the beginning is the most important objective of the project manager. Planning the installation of roads, storm drainage, water and sewer drainages, telephone cables and electric lines before final grading on the course to avoid duplication of work is a must." Keeping tabs on outside contractors is only the beginning. On one end of the course, you will have land being cleared and holes being shaped; and on the other end, you will have irrigation being installed and grass being sprigged or sodded.

You may now be beginning to feel that you are required to be in more than one place at a time. Communication becomes a very important aspect of your job and lack of it can cost your company tens of thousands of dollars and you a job.

Communication was difficult at times with Jerry out on a tour, other owners involved, and Ron not always being able to be in town. To make things easier, we would write

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up memos and distribute to each of the owners, the construction crew, the superintendents and the architects, so everyone knew where they stood and what was expected from each party involved. Just as important as the communication with outside parties, was the communication within our own maintenance crew. We purchased four two-way hand radios with 5 mile effectiveness and gave one to the project manager, Jack Cunningham, the two superintendents and the mechanic in the shop. This stopped all the wasted time running around looking for each other, and are still in heavy use now, even under general maintenance. I strongly recommend them for any facility over 18 holes.

Not only is communication important, but so is proper soil distributions and preparations, drainage, irrigation installation, plus having the proper equipment and tools on hand. Each must be complete before the course is ready to be planted.

Soil distribution is a key factor in the manageability of the course from the first few months of the planting and growing stages. You should stay on top of the construction crews and make sure they are giving you an 80% to 20% sand to organic ratio, that is well mixed. As soon as possible, you should take soil samples of every green, fairway and tee; checking PH, nutrient levels, percolation rates, and for salts if on or near the coast. The sooner you get these results, the better so you can make any adjustments before the grass is planted. Other considerations of your soils before planting, are fumigating greens, final floating of the course, and applying pre-plant fertilizers. Be sure the construction company's work satisfies all of your needs for maintenance purposes later. We had an instance out here where the ridges on the greens were obviously too sharp to keep a greens mower from scalping and were told it would settle and not create any problems. Well, here we are 4 months after grand opening interruption play leveling the severity of these ridges. Like I said before, make sure all of your needs are satisfied before grass is planted and the construction crews are gone.

Although most of the land in Florida constitutes high levels of sand, it still needs a good drainage system installed. We installed 4" corrugated pipe with a filter cloth sock in every green on the course. What we would do is go out after a good rain and mark any settled water in the lower areas and come back when it was dry to install the tiles. It is very important to keep an eye on the crews doing the installation, making sure they are back-filling the trenches with pure sand. If you back fill with the same soil you took out, the water will never have a chance to reach the tile and you would have wasted a lot of money. Six inch corrugated pipe with the filter sock was installed in wetter areas out in the fairways to relieve wetness. Whether on greens, roughs, tees or fairways, if you have installed drain tile, make sure the beginning has an end cap securely in place and the end comes up out of the ground to give the water a place to run off to.

Washouts can be a big problem on any new course until some kind of vegetative growth is established. One of the tricks we used to stop washouts was to cut old plywood

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into strips just a couple of inches less than the depth of the rut and a couple of feet wider than the rut. We would then plant the wood securely into each bank and a few inches below the surface and then back fill the soil. If the wood did not stop the washouts completely, in which most cases it did, it slowed the water down enough to where we would not have to completely fill in persistent washouts. In several instances, we had sheet water running across fairways and washing-out Pine Valley lips. After fixing numerous times, we came back in and added catch basins in front of each wash-out that had always recurred and hooked them into the 4" drain tile with fantastic results.

As all of you know, grass will not live without water, so having a competent irrigation system is imperative. I recommend you find a mature, trustworthy individual, hire him or her, and have them work right alongside the irrigation installation crew. You will be keeping this person on permanently after the installation crews are gone and you want to give them some things to look out for. We had our man draw his own version of the as-builts as they did each hole, that way we were not taking someone's word who is going to be gone soon and we are stuck trying to find pipe or wire later that is nowhere near the area indicated on paper. We did not have much of a problem with our particular crews, but in many cases I have heard of crews "getting around the corner" and running all wires the same color, poorly connecting pipes, and installing pipes only a few inches under the ground. There are many tricks they can use to hurry up their job and increase their profits, but with one of your men working right along with them, it greatly reduces your chances of getting "taken for a ride". Besides having your own employee out on the job site, it is really important to run your system for at least two weeks prior to planting to iron out all of the kinks. We had a lot of trash in our lines that took a while to work out and a few defective valves that needed replacing. If we would have planted grass as soon as the system was hooked up, we would have wasted a lot of money by losing the sprig and it is strongly recommended that you follow the same procedure.

Now that the course is final graded, greens are fumigated, all drain tiles are in place and the irrigation system is operating effectively, it is time to plant the grass. After spending millions of dollars, the owners are always in a big hurry to plant the course, grow it in and start generating some income, such was the case here at Tiger Point. Before sowing the first sprig, I would convince the owners to plant the driving range and a large nursery green first.

What happens is when you plant 150 plus acres of sprigs, you are inevitably going to have some areas that will not survive and you will need a place to cut-up sod or plugs to transplant. With the driving range and nursery green planted first, it will be established before the rest of the course and will be a perfect place to cut out sod without disturbing the condition of the course. Be sure that the grassing company is a reputable one like Southern Turf Nurseries and the grass is weed-free.

Whether planting 328 or Tiftdwarf, I would plant it at least 5 feet outside of your expected collar area so that it will be many years down the road before the 419 encroaches onto the greens. If the slopes are steep at all, along lakes or bunker faces, go ahead and spend the extra money to sod these areas. The sprigs would be slower to establish and would end up washing away on steeper banks, so go ahead and sod.

After planting, it is a must that someone be on hand 24 hours a day checking for blowouts, heads stuck on, off or not turning, until the grass is established. Depending on the time of year, weather and grow-in dead lines, the course should be fertilized every 5 to 10 days, each course will have its own special set of circumstances. We did not plant until July here and ended up having to really push it with Ammonium Nitrate weekly, having only 2 months of decent growing weather left. Because of the short length of the growing season, we only completed 80 to 95% coverage and were forced to overseed wall-to-wall with a quality perennial at 350/lbs./A. As it turned out, it was the best thing we ever could have done because we were the only course in Northwest Florida that had grass all winter and they were coming from all over just to play a course that was not brown.

Once the sprigs take root, growth is fairly rapid and as far as I am concerned, should be mowed as much as 4 days a week as long as you are not pulling it out of the ground. Mowing will smooth out all of the rough spots and keep the grass growing out instead of growing up. Do not use a new mower with new reels; if you do, you will see 5 years wear in 4 months of operation and waste a good piece of machinery. What I would do and did, is negotiate with the companies you will be buying your equipment from and tell them you will buy from them only if they give you a loaner greens mower and pull behind gang mower for free to grow in the course, otherwise you will do business elsewhere. Other pieces of equipment that are necessities to grow in a course are: a roller for fairways and one for greens, a dump truck and front-end loader (still our most used piece of equipment) with back-hoe, a few good tractors and trailers, and a heavy duty spreader that can easily be loaded from bulk trailers. Each course will need other special sets of equipment and can be ordered as needed.

Yes, building a golf course requires a lot of hard work, long hours, and steady concentration. As long as you remain organized, communicate effectively, keep a close eye on all the sub-contractors, you too will be an integral part of one of the finest golf complexes in the state of Florida. Just remember, the hard work lasts for a couple of years; the rewards last a lifetime!■

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