



USGA® COURSE CONSULTING SERVICE

Site Visit Report

Franklin Country Club Franklin, Massachusetts

Visit Date: May 1, 2024

Present:

Michael Luccini, Superintendent

Nick Fino, Senior Assistant Superintendent

Paul Brand, Assistant Superintendent

Ben Sousa, Assistant Superintendent

Elliott Dowling, Regional Director, East Region, Green Section

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USGA GreenSection

Executive Summary

It was a pleasure to make my first ever visit to Franklin Country Club on May 1, 2024. We were able to tour almost all of the golf course, either on foot or via truck. Either way, there were a few themes that repeated themselves throughout the course that should be focused on in both the near and long-term future to improve aesthetics, plant health and the playing experience.

- **Putting Greens.** The putting greens are primarily a modified push-up style construction. Meaning, there is about 3 inches of modified soil up top from years of aeration and topdressing. Below that is frankly a mixture of native soils or sand, depending on the putting green.
- **Irrigation System.** The irrigation system is nearing the end of its life expectancy. At 20+ years old, you are going to see more “nuisance breaks” like swing joints, broken glue fittings and heads not functioning properly.
- **Bunkers.** The bunkers are like the putting greens: they are all built or renovated in different years, some different decades. This is going to cause them to look and play differently, beyond the normal differences in bunkers.

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Putting Greens

Observations

1. The maintenance team maintains an aggressive height of cut and mow/roll schedule. The putting greens are mowed at 0.085-inch. This is not unreasonable for (primarily) *Poa* greens, but it is certainly on the low end of what I normally see. Furthermore, the greens are generally mowed and rolled daily when the weather allows.
2. While it can be difficult to manage several different putting green construction types and rootzones, and manage the various ages of the greens, overall, I think Mr. Luccini and his team have done a great job. The profiles regardless of construction type or age look similar. That said, one thing that stood out to me was the distinct interface between modified profile in the top 3 inches and everything else below that.

Recommendations

1. I would be curious in organic matter percentages on the putting greens. Mr. Luccini said it is time for another ISTRC text. I agree. However, in conjunction with that I would like to come out with our own organic matter sampling equipment.
 - As you adapt the aeration and topdressing programs annually it is important to know what the current thatch percentages are. As an industry we have gotten very good with not only sampling and data collection, but also have various tools and methods to do just about anything you want on a golf course.
 - Tracking thatch percentages, and really tracking trends, will show you annual variation and allow for changes, if necessary, to the cultivation program to achieve your goals without unnecessary effort.
2. It is important that you break through the interface of modified soil in the top 3 inches and native soils below. Water infiltration slows at every textural difference in the soil profile. You have what is commonly referred to as a pan layer or shallow perched water table. Either way, water can move through the top 3 inches fairly efficiently, only to sit at the interface until there is enough head pressure to push it through.



Picture 1: Notice the difference between the sandy mix in the top 2.5 – 3 inches and the native soils below. It is important to break through this interface and move sand deeper into the profile.

3. That is a good segue to the deep cultivation topic. Currently, Mr. Luccini performs drill-and-fill aeration on alternating years. I got the impression that you are in the early stages of drill-and-fill aeration. I recommend continuing with drill-and-fill if not on an annual basis, maintain the every-other-year basis.

To take deep cultivation a step further, consider DryJect aeration. This is another procedure to infuse maximum amounts of sand into the profile. Unlike drill-and-fill, there is no removal with DryJect aeration. The machine uses hydraulic pressure to force large amounts of sands into the profile ballooning around the 4 to 6-inch depth. This is a good procedure to supplement drill-and-fill, deep tine aeration, or any form of regular core cultivation.

Lastly, I would like to see deep tine aeration performed several times per year. Meaning, two to three times a year is not unreasonable for golf course like yours, trying to achieve the firmest, fastest putting greens possible on a daily basis. Use a solid 1/2-inch diameter tine penetrating as deeply as possible. These tines can go 8 to 10 inches deep, depending on equipment used.



Picture 2: This is a perfect example of drill-and-fill aeration. Notice how wide and deep the sand column is, extending deep into the profile. Continue with this as much as possible.

4. **Mr. Luccini hinted that there have been some internal conversations regarding long-term improvements for the putting greens and which method is best; internal drainage or complete rebuild?**
 - First, there are obvious financial implications between the two procedures. Internal drainage, while not an inexpensive procedure, is certainly cheaper than completely rebuilding greens. The advantage of installing sand channel drainage is that the putting greens are not out of play for more than a few days during the process. Sand channel drainage does an excellent job extending the life expectancy of older greens without rebuilding them.
 - The advantage of rebuilding greens is that you get to select the rootzone mix that works best for you, make any sort of architectural changes you would like, and even reposition greens.

Obviously, rebuilding greens comes with a premium price tag and depending on how you stage construction (i.e., all greens at once, nine one year then nine the other, or any combination) the putting greens are going to be closed and out of play for several months, usually during the off-season.

- I do not like referring to consistency as it relates to golf course maintenance and playability simply because there are so many variables with golf course management that it is virtually impossible to be completely consistent from green to green (or bunker to bunker which we will get to later) because of microenvironments, elevation differences, orientation to the sun, health of the grass, etc. However, to move towards a more consistent putting surface day in and day out, it would be best to reconstruct all the greens with the same rootzone mix. While adding subsurface drainage will improve moisture management and moisture uniformity, the various construction types are still going to drain a little bit faster or slower than others, which inherently creates an inconsistent system.

5. **We did not spend much time discussing putting green speed. Frankly, because at your height of cut and the number of times the greens are mowed and/or rolled per week there is not much more I would recommend. I will reiterate that your height of cut and daily mowing and rolling is what I would expect to see on just about any very high-end golf course with a lot of resources and available labor.**

I feel the need to mention that if you continue to push for green speed by either lowering the height of cut or mowing and/or rolling more often, you are going to weaken the plants and eventually they are going to require more inputs to maintain sufficient plant health. This could be more time spent hand watering, more supplemental fertility, or other plant protectants to compensate for the increased stress. The bottom line is, while it is certainly possible to do more on any golf course to get speed, it does not mean that it is as simple as that. You are going to have to pay for that with resources to maintain plant health or you are going to pay for it long-term with unhealthy putting greens.

6. **We briefly discussed the wetting agent program which currently consists of Cascade applied monthly. I do not usually get involved with specific wetting agents because there are so many on the market and I have found that when superintendents find one or two that they really like, I recommend they stick with them.**

What I would recommend, however, is to apply wetting agents every 14 days rather than 21 to 30. Essentially cut your current rate in half and apply it more often. I find that this gives greater control of soil moisture because rather than applying a large rate and then waiting for it to gradually leave the system over the course of a month, you now apply a half rate more often. There is less moisture holding initially but because you are applying the product every two weeks, moisture consistency is better because you have eliminated the sharp peaks and valleys.

Irrigation System

Observations

1. **The irrigation system was installed in 2003. That makes the system 21 years old, which means it is nearing the end of its life expectancy. While I do not expect the system to completely blow out of the ground one day because it is 20+ years old, I would expect more breaks in swing joints, elbows, or other connections, especially glue fittings. Over**

the next several years, as you start to experience more and more breaks that is going to cost you more time in repair and also expense in labor and replacement parts.

Recommendations

1. **If you have not already, I would start the planning and budgeting process for a new irrigation system inside the next seven to 10 years. I cannot give you a definitive date on when you will need a new irrigation system. Again, I am confident that the system is not going to completely collapse one day, but those nuisance breaks are going to accumulate and become much larger problems towards the latter part of the next decade.**

Bunkers

Observations

1. **The bunkers were our principal focus during this visit. Mr. Luccini said that the bunkers have all been renovated in-house, but not all at the same time. Some bunkers are as new as a year or two and some have not been touched in 10 or more years.**
 - I will reiterate that discussing consistency, especially in sand bunkers, does not make a lot of sense. There are too many factors involved in bunker consistency, I do not know if there is a true way to achieve the exact same playing conditions in every bunker. This is especially true of bunkers with such a wide range in ages.

Recommendations

1. **The recommendations for bunker consistency are similar to putting greens. You have really two options as it relates to improving your bunkers.**
 - The first option is to continue to refresh sand and renovate bunkers as needed in-house. This means that bunkers will be renovated a few per year improving that individual bunker, but maintaining the gap in bunker age overall.
 - The next option is to renovate the bunkers all the same way at the same time. While this would maintain consistency in terms of construction type, sand and age, it still does not mean the bunkers are going to play consistently from hole to hole.
 - ◆ One reason why bunkers are inconsistent is some receive more overhead irrigation than others. One bunker receiving more water than another means that that sand will be comparatively wetter, which certainly influences playability and conditioning.
 - ◆ Another reason is orientation to the sun. A bunker facing south or east will dry out quicker than a bunker facing north or west. This example is common on golf courses and even common on one hole where greenside or fairway bunkers have different orientations.
 - ◆ Another reason why bunkers are inconsistent is overhanging trees or structures that shade some bunkers more than others. The bunker in the shade is going to hold moisture longer during than the one in full sun. Consequently, the two bunkers could play differently, perhaps very differently, even on the same putting green.

- I think it would be beneficial long-term to renovate the bunkers with new sand, a liner of your choosing, and to eliminate the age gap, but I want to reiterate that even with brand-new construction there are reasons why bunkers will be inconsistent.



Picture 3: The left photo shows new sand added over contaminated sand. This is a quick fix to a larger problem of contaminated sand. The right photo shows an exposed lip. Try to allow grass to cover that lip so that soil and other contaminants don't fall into the sand.

Summary

Thank you for inviting me to the golf course to conduct a CCS visit. Fortunately, the golf course was in good condition which afforded us the opportunity to discuss long-range infrastructure improvements rather than short-term agronomics. When I return to the golf course this fall to conduct the tree evaluation, we will take a much deeper dive into how trees affect plant health, maintenance, and playability.

In the meantime, if you have any questions about this report or just want to talk turfgrass management, please feel free to reach out at any time.

Respectfully submitted,

Elliott Dowling, Regional Director, East Region
USGA Green Section

Distribution:

Michael Luccini, Superintendent

USGA Green Section

Turfgrass and Environmental Research

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