

USGA Green Section Turf Advisory Service Visit



**Hillsview Golf Course
Pierre, South Dakota**

August 19, 2009

Present:

Mr. Dean Heymans, Superintendent
Mr. Fred E. "Derf" Soller, Jr., USGA



On behalf of the USGA Green Section, it was my pleasure to visit Hillsview Golf Course on August 19, 2009. This Turf Advisory Service (TAS) report provides an unbiased review of your golf course management operation. Awareness of the budget at your golf facility is a component for arriving at the recommendations and suggestions discussed during the visit and found in this report. Some main topics discussed during this TAS visit included putting green cultural practices, adding and leveling tee boxes, drainage for flat areas of some fairways, irrigation additions and pump station upgrade.

EXECUTIVE SUMMARY

This summary provides a brief description of the recommendations found within the main body of the report. The remainder of the report contains several visual observations and specific recommendations highlighted here.

Greens

- Core aeration and topdressing are still the cornerstone cultural practices for greens!
- Increase frequency of light topdressing if better sand can be located.

Tees

- Strip old sod, level and reseed with low-grow bluegrasses.
- Additional tees for Nos. 6 and 7 would be a beneficial upgrade.

Fairways

- Add drainage to Nos. 10 and 18 fairways to help establish turf.
- Flush salts more in problem areas with aeration and calcium applications.

Irrigation

- Irrigation additions are allowing turf in areas not seen before. Keep it up!
- Increasing pump station capacity would shorten watering window.

Cart Paths

- Hard surface paths around clubhouse, Nos. 1 and 10 tees and range area are appropriate.
- Concrete vs. asphalt considerations.

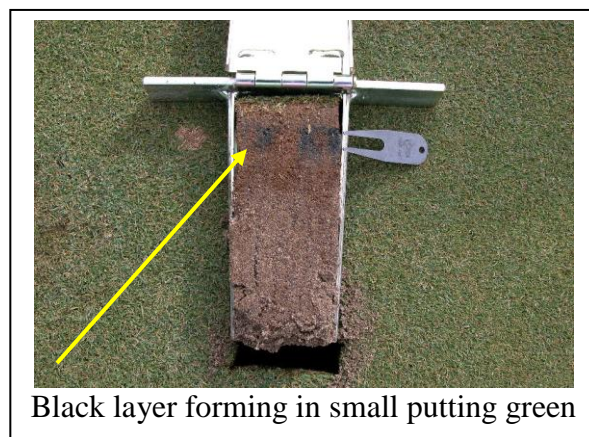
Miscellaneous Topics

- Trimming golf maintenance labor (staff) will decrease ability to keep up frequencies.
- Hard closing date in fall is not a hard decision.
- Lining pond on Nos. 4 and 8 will save money and wear and tear on pumps.
- Sweeper could help reduce labor time for aeration clean-up of greens, tees and fairways.

GREENS

The putting greens all exhibited excellent turf coverage on the day of the visit. A few ball marks were noticeable. Examination of soil profiles indicated good cultural practices in the past. With the amount of rounds that Hillsview Golf Course receives (33,000—35,000 annually), good cultural practices are absolutely necessary to maintain greens in acceptable putting condition. The *Penncross* variety bentgrass found in the greens is a good, aggressive species that allows for recovery when adequately maintained.

Core aeration and topdressing are still considered the cornerstone cultural practices. The photo to the right of the soil profile of the small putting green shows evidence of a black layer of organic matter. Core aeration will help break up this layer before it begins to compromise water infiltration and root zone gas and air exchange of this putting surface. It was recommended during the visit to consider core aerating this fall. Also, slightly increasing nitrogen fertility rates should be considered. This older variety bentgrass requires a bit more nitrogen fertilization than some of the newer varieties. A slight increase will allow for more rapid filling in and healing of ball marks.



In addition to core aeration, increasing the light and frequent topdressing program should be considered. Light and frequent topdressing applications are among the most important cultural practices for maintaining superior putting surfaces and safeguarding agronomic health. Light and frequent applications of sand help maintain smooth ball roll, and the sand applications also help dilute thatch density to prevent the development of layering in the upper soil profile and encourage natural decomposition by maintaining good soil structure. Sand applications protect turfgrass crown tissue and maintain a firm surface for optimal ball roll, playing quality and mowing quality. Tow-behind or utility vehicle mounted, rotary topdressing applicators have greatly facilitated this program. Models from TyCrop, Dakota, and Turfco are capable of distributing sand on a swath of 18 to 30' with very good uniformity. Commonly, rates of 1/3 cu. yd. per 5,000 sq. ft. are applied every 7—14 days throughout the growing season. The ultra-light and uniform distribution of sand with these machines usually eliminates the need to physically incorporate sand into the turfgrass



canopy via brushing or dragging. This obviously saves time and reduces abrasion injury to turfgrass plants. Consistent application of sand is paramount to success. Mr. Heymans mentioned the difficulty in procuring a good enough sand that has had larger gravel particle sizes removed. This will need to be resolved before any increase in topdressing frequency can be achieved.

TEES

In general, the tees displayed good turf coverage on the day of the visit. The large size of the majority of tee boxes allows for good rotation of teeing ground used for the many rounds played. Some of the tee boxes are, however, in need of leveling. Stripping the old sod, leveling, and reseeded with a new-generation, low-grow bluegrass was recommended. Some of these older tees contain a mixed variety of turfgrass species. This makes management somewhat difficult under different stresses during the year. Some of these extremely large tee boxes have old irrigation pipe lines running through the middle which have left visible trench unevenness, making use of these areas nearly impossible. Leveling of tees at Nos. 7, 11, 14 and 17 would add significant additional tee space and improve playability for all golfers. The ability to maintain these tees would also be a desirable improvement once leveled.

Adding additional tee boxes at holes Nos. 6 and 7 was also discussed. This would slightly increase the length on the holes and also help spread out wear. Hole No. 6 is one of the few holes on the course with limited tee space. Because of the design of this hole, irons are often used and therefore more divoting takes place than on the typical par-4 tee box. Increasing square footage on this tee would improve playing quality. There is plenty of area back around the tee to facilitate this without a great amount of work. A bit of length can also be added to provide some variability in club selection on this short, par-4.

FAIRWAYS

It was interesting to hear about and see how the lower portion of the golf course has been raised above flood plain levels. This has provided a dramatic improvement in fairway conditions, as compared to the adjacent areas that have not been raised. Congratulations to the club and maintenance crew on this huge improvement. This improvement is keeping water off of the fairway turf and is assisting Mr. Heymans in his efforts to flush salts from soils in the area. Electroconductivity (EC) readings taken during the visit indicated lower salt levels in the elevated fairways compared with the surrounding areas. This has allowed proper management of salts in the soil profile, which results in healthier turfgrass.

The upper fairways on the golf course have some drainage issues due to a lack of surface drainage. These flat fairways (Nos. 10 and 18, in particular), are subject to remaining wet after rain events and irrigation cycles. It is difficult to flush salts out of these fairways due to the inability to apply water and then have them drain. It was recommended to install herringbone drainage in problem areas in both of these fairways.

As shown in this photo, the low areas of the 10th fairway encompass a major portion of the landing zone from tee shots. Tying in a herringbone system to the drain node behind the Cushman vehicle in the photo will increase the ability to move water off of the surface and into the drainage network. This should dramatically help improve turf density here. Once drainage is installed, it is recommended to deep tine aerate these areas, apply gypsum, and flush salts.



The approach immediately in front of No. 18 green could also benefit from the installation of some herringbone drainage. This area collects surface water off of the putting green, as well as from the front part of the fairway. It is fortunate that drain inlets are already in the area, thus a trunk line to connect to and move water into an existing drain will not be too problematic.



Mr. Heymans mentioned that all fairways on the golf course are deep tine aerated every two years. It was recommended to consider deep tining the 10th and 18th fairways every year if permitted by the budget. This should help dry the upper profile of these very flat, level fairways and improve salt flushing procedures yearly.

IRRIGATION

It was evident during the visit where Mr. Heymans and his crew have added irrigation laterals in the rough areas. Turf could not be maintained in these areas prior to installation of irrigation. As golfers become accustomed to having turf in these areas, it will be critical to be able to continue irrigating them. This brings us to the discussion of a limiting factor – the ability to adequately irrigate into the future. Consideration should be given to increasing the capacity of the pump station. The old pumps currently in place limit Mr. Heymans's ability to water the golf course turf in a timely manner. With the existing pump station, there are not enough hours during the night to water the existing golf course under hot, humid conditions. With increases in irrigated area, (which has been well received by golfers) this shortcoming will be even greater. A consultation with a good irrigation and pump firm will enable the club to properly select an efficient variable speed drive pumping station. This will decrease the watering window and allow Mr. Heymans to provide water accurately, when and where it is needed. If hot, humid weather returns, the ability to water many of the newly irrigated rough areas may be compromised by the existing system. This will certainly translate to decreased playability of these areas.

The addition of an aeration system to oxygenate the ponds at the golf course was also discussed. There are many fountains and subsurface irrigation products on the market. While bubblers are barely noticeable by golfers, they can adequately turn over water stratification in ponds and increase oxygen levels to help decrease aquatic plant material. They can be run very economically off of 110 volt systems. This addition is recommended for any ponds that have a tendency to stagnate during the summer.

CART PATHS

It was exciting to see the plans for the clubhouse remodel. Consideration should be given to traffic management and drainage water movement around the facility. Certainly, one component will be the cart paths immediately adjacent to the clubhouse. It is recommended to consider a hard cart surface for the entire area around the clubhouse, neighboring restaurant, around tees at hole Nos. 1 and 10, green Nos. 9 and 18, and the driving range. High-traffic areas and parking areas should have wider paths. Concrete is by far the easiest surface to maintain over time. Edging of paths, the ability to curb where needed, and providing surface drainage as required can all be achieved with better ease with concrete vs. asphalt. Concrete will also wear longer than asphalt in the Pierre region.

MISCELLANEOUS TOPICS

Hillsview Golf Course is one of a few 18-hole golf courses throughout a wide region and is a very popular facility. Maintenance standards and certain expectations have been embraced by players. Attempting to trim maintenance costs due to a decrease in staffing numbers will certainly impact playability. Golf maintenance is all about frequencies. Staff cuts decrease the ability to conduct maintenance practices on a regular schedule. With current lower budgets being the norm and under much scrutiny by golf course management, labor is often the first thing to be reduced. Labor cuts will directly affect playing conditions on any golf course, and Hillsview Golf Course would not be any different.

Some equipment improvements can help with labor efficiency. One item that would be of tremendous advantage (particularly during times when the crew is small and aeration needs performed) would be a pull-behind sweeper. As shown in this photo, Toro is one company that offers such a unit. John Deere is another. It was recommended that Mr. Heymans arrange a demonstration of one of these vehicles during the core aeration process this fall. These sweepers are a huge help in picking up cores after aeration and can be used on greens, tees, and fairways.





It was interesting to hear that the club does not have hard closing date for the fall. Courses in the Northern part of the country typically close on a certain date to allow the maintenance staff to complete its winterization processes. It was recommended that the club discuss and select a closing date that is agreeable to all and will still allow the maintenance staff to put the golf course to bed before the onset of winter.

The pond at Nos. 4 and 8 does not hold water, and the installation of a liner was discussed. In order to maintain water in this feature, Mr. Heymans is required to run the irrigation pump station during the day for many hours just to keep up with loss of water due to seepage into the ground and some evapotranspiration. By lining and sealing this pond, money and wear and tear on the irrigation system will be saved.

Thank you for giving me the opportunity to provide this USGA Green Section Turf Advisory Service to your golf course this year. Discussing and viewing your golf course maintenance operation is a step toward providing the best golf course possible. Please feel free to contact me at any time throughout the year with further questions to take full advantage of the TAS program.

Please visit www.USGA.org/turf/index.html for regional updates from the Northwest and all the Green Section Regions. We look forward to being of service to you in the future as we continue to provide positive solutions to on a yearly basis for the benefit of your golf course and players.

Enjoy golf, and have a great season!

Respectfully submitted,

A handwritten signature in blue ink that reads "Dorf Soller".

Fred E. "Dorf" Soller, Jr.
Agronomist, Northwest Region
USGA Green Section

Distribution:

Mr. Dean Heymans, Superintendent
Mr. Tom Farnsworth, Director of Parks and Recreation,
Mr. John Knox, President, Golf Advisory Board
Mr. Wade Merry, South Dakota Golf Association

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