Course Consulting Service

ON-SITE VISIT REPORT

Cranberry Valley Golf Course
Harwich, MA

Visit Date: July 29, 2014

Present:
Mr. Shawn Fernandez, Superintendent
Mr. Clem Smith, Chairman. Harwich Golf Committee
Mr. Tom Johnson, Co-Vice Chairman, Harwich Golf Committee
Mr. John Crook, Harwich Golf Committee
Mr. Peter Wall, Capital Outlay Committee
Mr. Dennis Hoye, Director of Golf
Mr. Rob Donovan, Assistant Superintendent
Mr. Jim Skorulski, USGA

United States Golf Association
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USGA Green Section Mission: The USGA Green Section are leaders in developing and disseminating agronomically, environmentally, and economically sustainable management practices. We help golf facilities maintain better playing conditions for better golf through science-based and practical solutions.

It was my pleasure to make a half day Course Consulting Service visit to the Cranberry Valley Golf Course on July 29, 2014. The following report is offered as a summary of the major points discussed during the visit.

The golf course is in very good condition at the midway point of the summer. I commend Mr. Fernandez and his staff for their hard work in maintaining the facility and preparing it for the upcoming Massachusetts Public Links Championship. The players of that championship will be treated to quality playing conditions, especially if drier weather conditions continue through that event. We discussed some of the maintenance that is planned for the championship. We also reviewed the maintenance practices that are in place and work that has been completed since our visit last season. I was very pleased to see the tree removal work that has been accomplished. We looked at other areas of the golf course that will require similar work going forward. The sand bunkers also were in very good appearance and playing condition. Well done! We discussed a number of topics including the tree removal needs, soil management practices, fairway overseeding programs, the maintenance facility, cart paths, fertility practices and a number of other subjects. The discussions, recommendations and observations that occurred during our visit are presented in the following report.

GREENS

General Maintenance

Turf quality on the greens is good. The surfaces were uniform and very dense. The root system was also vigorous for the midway point of the summer season. The only recommendation that was provided was to lower the mowing height slightly for the championship. The lower height of cut will reduce some of the dense growth from the surface, which make the surfaces firmer and provide true roll. The other option we discussed was vertical mowing and topdressing the greens but that was not practical to complete prior to the event and is more difficult to accomplish with the very early tee times and full tee sheets. Lowering the height of cut on a temporary basis will accomplish about the same thing but will be easier to implement and should have no long lasting effects as long as the height of cut is brought back up following the event.

We did discuss the importance of sand topdressing in our visit last year. I reemphasize the need for this program. Strong consideration should be given to modifying the play schedule for two mornings per month to allow topdressing and chemical applications and other practices to be completed without play interference. This practice and all spraying should be done away from play. The topdressing program will improve the quality of the greens and help the turf going forward. The other option is to try to become more creative in implementing the topdressing amongst play. It might be possible to apply kiln dried sand through walk-behind rotary spreaders. Purchasing dry sand is a more expensive option but the dry sand can be applied quickly to the greens using the rotary spreaders and will also work into a dry surface faster to reduce impacts to play and mowing equipment.

The light topdressing has many functions outside of improving ball roll. The light sand applications will protect the plant crowns from mowing and other traffic. The topdressing will dilute the organic matter produced by the grass plants. This will help to keep the surfaces of the greens drier and should reduce disease pressure. It will also produce firmer surfaces which will provide more consistent ball roll throughout the day. This is an important program and one that I highly recommend.

It was good to hear that the moisture meters are being used to irrigate the greens more precisely. A number of about 22% or slightly higher has been determined to be the moisture level at which the greens can be maintained safely with the heavy play that occurs. Well done! The moisture meters more importantly will help point out the specific areas of the greens that require supplemental water so that the entire surfaces do not have to be irrigated with the sprinkler heads. This makes it possible to “setup” the greens for play and hopefully minimize some of the afternoon syringing work that will be required. You may find that moisture level will become lower especially if the greens can be topdressed more frequently and a deeper more extensive root system can be developed. Keeping the surfaces as dry as possible will also keep them more firm and condition the plants to require less water and to generally be healthier.

The aeration programs are having significant impact on quality of the greens. Aeration is never a popular program with golfers as it does disrupt the surfaces. However, it is critical as it is the primary means to modify the root zone with sand. This allows the plants to develop a deeper root system and helps maintain good drainage in the greens. Core aeration should be done in both the spring and late summer seasons on the golf course to help offset the heavy traffic that occurs.

The core aeration will be completed in October this season to minimize the impacts on the play. The main concern with core aeration at the later October date is the longer time that will be required for surface recovery. The likelihood of annual bluegrass becoming established in the greens is higher at the later date. The cooler conditions will not be favorable for overseeding more desirable bentgrass into the greens. Completing core aeration in late August to early September would be more favorable in this regard. The bottom line is that it is more important to complete core aeration whether it is done in late summer or fall. The earlier dates would be more beneficial but again, it is more important that the practice be done even if it requires a later date.

Trees

The tree removal work completed around No. 17 green is already improving turf conditions by allowing more sun to reach the turf there. We reexamined this site and used the Sun Surveyor App. to check sun patterns in the summer and fall seasons. It was apparent from the evaluation that additional tree work is required along the back and back right side of the green to allow sunlight to reach the green earlier in the morning. I agree with Mr. Donovan in that the entire row of trees surrounding the back and left side of the green can be removed to enhance the growing environment there.

The dense planting of trees along the back of No. 5 green should be cut back and thinned to improve air circulation and sun exposure to the green site and surrounding holes.

Trees should be removed from the back left side of No. 12 green up to No. 13 tee to improve air circulation over the green site. The air movement is needed to cool the environment but also to dry the surfaces so disease pressure will be reduced. Similar tree work was discussed for the back of No. 14 green in hopes of improving air circulation there. The work to gain air circulation at this site would be fairly extensive and requires that trees along the back and back left side (southwest) be cut back by at least 20 yds. Trees should be removed from the back right and right side of No. 15 green to improve sun exposure in the morning hours there. We discussed cutting back the trees on the 16th green to improve air circulation there.

TEES

General Maintenance

The tee boxes were holding-up very well at the time of this visit. A number of tees are quite large and some of those tees are not fully utilized. This is especially true with most of the back tee boxes and some of the larger front tee boxes. The lack of traffic leads to vigorous growth and larger accumulation of thatch. The tees are being core aerated in the spring and fall seasons. The larger tees with more thatch would benefit from additional core aeration at some point in the season. Consideration can also begin in modifying the fertility programs (lower N rates) on those lesser used tees to reduce turf vigor and lessen the accumulation of thatch in those tees. The additional core aeration alone might be satisfactory.

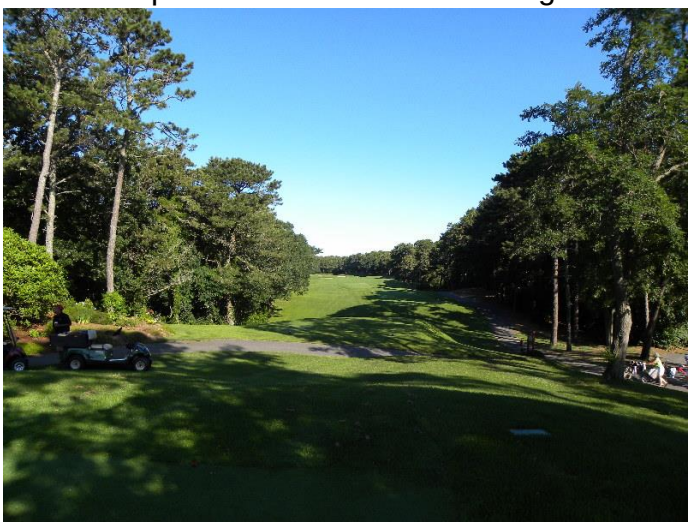
Trees

Additional tree removal work was discussed for the right side of the 3rd tee. That work would make the right side of the tees more playable and also expose the bunker complex that creates the dogleg in the fairway. This will create more of a risk/reward

shot from the tee. Eventually, the tee complex might be shifted further left to provide a good angle to the hole and also help prevent errant shots from going left.

Extensive tree work is planned for the 13th tee complex. That will involve removing the majority of trees growing on the inside of the cart path on the right of the hole. This will make it possible to shift the tees further right where they will be less apt to be hit from errant shots off of the10th hole. The tree removal will also improve the growing environments for the turf.

Additional tree work is required for the tee box that is shared on the 10th and 14th holes. The trees that have been removed have improved the growing environment but more work is required on both the left and right sides of the tee to increase sun exposure to both tee complexes. Completing the tree work will also make it possible to better utilize the existing tee for the short Par 5 14th hole. We discussed options to expand this tee to further improve the angle to the 14th hole and to provide different distances. Developing a double tee for both holes would certainly make the 14th hole longer and more challenging. Trees need to be removed from the left and right sides of the 14th fairway to make the tee fully useable.



Finally, we discussed removing trees along the right side of No. 17 tee to improve air circulation there. The tree work will also make more of the tee useable for play. Trees growing along the approach to the green (right and left side) should be cut back to expose the greenside bunker complex and to make full use of the tee.

FAIRWAYS

Thatch Management

The core aeration program is benefitting the fairways. However, we did check several fairways and found the root system to vary in depth and vigor. I was surprised not to see a more consistent root system with the cultivation practices that are in place. The limited rooting in some areas may be the result of the dense top growth we observed. The turf is using much of its energy to produce the top growth at the expense of root growth. We discussed several maintenance practices that can be considered in hopes of developing a stronger more deeply rooted turf in the fairways. The deeper rooted turf will require less water while holding up longer in drier weather conditions.

- Reduce the nitrogen (N) applications to the fairways over the course of the summer season. I realize that you have a very busy golf course so the reduction in fertility has to be done slowly and carefully. We discussed reducing the .75 lbs. N application in spring to .5 lbs. per 1,000 sq. ft. The natural organic fertilizer would then be utilized to supply 1 lb. of N per 1,000 sq. ft. for the summer season. The late summer N application would then depend on the condition of the turf at that point. An application of .5 lbs. N per 1,000 sq. ft. may be warranted then. This would apply approximately 2 lbs. of granular N per 1,000 sq. ft. annually. The remaining N would be applied with soluble fertilizers. Reducing the N should reduce some of the dense shoot growth and allow the plants to channel more energy to the root system.
- Continue the aggressive core aeration program. The hollow tine core aeration in the late summer and in the spring seasons is extremely beneficial. Solid tine core aeration in the summer season should also be beneficial.
- Maintain steady regulation of fairway turf through the season. The use of Cutless or Trimmit in season or Primo (summer season) should prevent unwanted growth flushes that can pull energy from the roots in hotter weather.

Perennial Ryegrass

Perennial ryegrass is the grass of choice at this time for the heavily used fairways. We discussed several programs to quicken the conversion to the perennial ryegrass and to reduce annual bluegrass that remains in the fairways. Annual bluegrass is a weaker turf species and is more vulnerable to drought stress and other diseases. The first program would involve the use of the herbicide Prograss (ethofumesate). The Prograss (Aventis Co.) will prevent annual bluegrass from germinating in the fairways in the fall season. Perennial ryegrass has good tolerance to the herbicide. The herbicide would be applied initially as a trial over a fairway area at rates of 3-4 oz. per 1,000 sq. ft. in mid-September or 1-2 weeks after ryegrass seedlings emerge. A second application would be made 21 days later. The results of the trial will help determine if the program is applicable for the rest of the fairway acreage. The use of this product offers the best opportunity to replace annual bluegrass with perennial ryegrass.

Once the ryegrass becomes dominant then a switch to the growth regulator Cutless or Trimmit can be considered to regulate the fairway turf throughout the season. Both products will provide dependable growth regulation and will help to suppress annual bluegrass.

ADDITIONAL COMMENTS

Tree Program

It was exciting to hear that a good amount of money will again be invested in tree removal work in the off season. Many golf courses that undertake larger tree programs like this will partition the golf course and plan on extensive tree removal over specific holes (the size of which is based on the money that is available). The work is done in a

controlled fashion in stages. In this way, enough money is available to complete site work and cleanup following the removals.

We discussed the tree removal work in many past visits and specific recommendations for the fairway areas and other parts of the golf course can be found there. In general, all of the tree stands across the golf course will have some work done. The work will involve removing weaker declining pitch pine trees, reestablishing sightlines, thinning tree stands to make sure there is adequate air circulation and removing trees to improve sun exposure for important turf areas. The tree work was discussed for areas between the 14th, 16th and 17th holes, as well as areas adjacent to the 14th and 15th holes and most areas of the golf course. Tree removal work was discussed for the 5th hole and that involves the trees already mentioned behind the green to the 6th and 10th holes and cutting back and thinning the treed areas around the fairway.

Another important aspect of the work is the cleanup and the site reclamation work following the removals. Mr. Fernandez has been successful in transitioning the woodland areas to grasslands by mowing the areas regularly which over time favors the grasses. Selective applications of broadleaf weed herbicides will also be required to eliminate some of the more difficult weeds that are not affected by mowing. Again, patience is required to complete the extensive work and then to reestablish these areas into fescue. The tree removal program is a significant investment in the golf course but will pay off in many ways including improved growing conditions for the turf, greater vistas across the golf course and reestablishing site lines that were part of the golf course's original design.

We also discussed some of the maintenance involved with maintaining the woodland or Savannah areas. I was surprised to learn that these areas are being cut on a regular schedule at primary rough height. This should not be necessary as the fescue in most of these areas will remain thin and very playable at a higher height of cut. Mowing the turf within the trees is also very labor intensive due to the large amount of trees that remain. We did discuss thinning more of these stands further. That work would target trees that are 4-6 inches or smaller in diameter. Mowing would continue to be done but much less frequently and perhaps even annually. Some areas that are more poorly drained may require more frequent mowing but this would significantly reduce the labor involved with that program. That labor would be better utilized at other areas of the golf course!

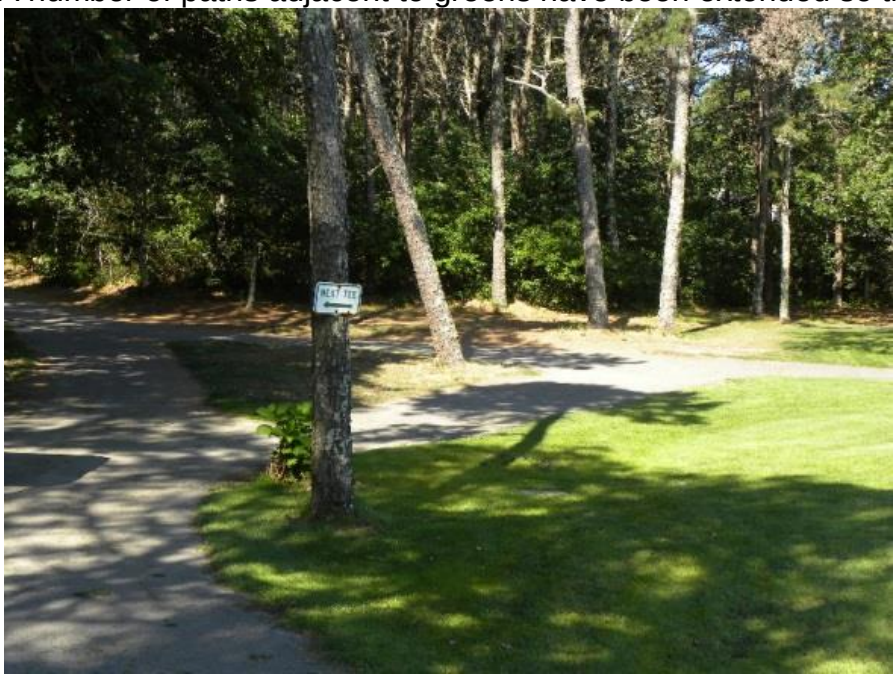
Maintenance Facility

There is a need to upgrade the maintenance facility. I was given a plan for the new cart barn, which would include a new maintenance complex. The current maintenance facility is too small for the operations. The existing complex would continue to be utilized for storage and even for some equipment repair work if necessary. However, the employee facilities and additional equipment storage are required. Ideally, the building would be located further from the pond. I agree with the plan to relocate the equipment wash area away from the maintenance complex and the pond. This is important and will reduce concerns with rinsate water from the operation reaching the nearby pond. A golf

course maintenance facility should be sized at around 12,000 sq. ft. to properly house the operations and equipment storage needed in modern operations. A new maintenance facility should be part of any capital investment program for the golf course.

Cart Paths

I was very impressed with the work that is being done to improve the cart path system. A number of paths adjacent to greens have been extended so that golf cart traffic has wider access to the paths. This allows the traffic to be controlled and spread over a wider area and has also pulled play away from the green complexes. Similar work was discussed for the 12th hole which is pictured. We discussed replacing the existing path network there which is unsightly, moving the path further from the green complex and extending it further up the hill.



Sinkholes

The sinkholes continue to be an issue across the golf course. Mr. Fernandez indicated that there are probably 50 holes that are impacting not only play on the course but maintenance. Not all of the holes are in areas that are of great importance. It would be a good idea to prioritize the sinkholes that are in high play areas or are so severe they are now difficult to maintain with mowing equipment. Those areas would be filled first. The remaining holes could then be addressed over time as money becomes available. The program to eliminate the sinkholes is a good one and should be included in any of the capital projects going forward.

CONCLUSION

This concludes my summary of the topics discussed during my visit to the Cranberry Valley Golf Course, and I hope this report proves useful. Best of luck for a successful season and please feel free to call at any time throughout the year if I can be of additional assistance.

The Green Section appreciates your support of CCS and we encourage visiting the website http://www.usga.org/Content.aspx?id=26223 to access regional updates that detail our observations across the region and provide a snapshot of the types of problems and conditions we are seeing in our travels.

Sincerely,

James E. Skorulski, Senior Agronomist
Green Section, Northeast Region

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Reprints:

Closing for Maintenance
http://turf.lib.msu.edu/2000s/2001/010121.pdf

Practice Makes Sustainable
http://gsr.lib.msu.edu/article/kuypers-practice-12-14-12.pdf