

USGA COURSE CONSULTING SERVICE

Site Visit Report

Berkley Hills Golf Course
Johnstown, Pennsylvania

Visit Date: September 24, 2026

Present:
Art Martynuska, City Manager – City of Johnstown
Carm Truscello, Public Works Director – City of Johnstown
Tony Penna, Public Recreation Manager – City of Johnstown
Sam Barber, City Council Member – City of Johnstown
Geno Kleinosky - Resident
Zach Nicoludis, Regional Director, USGA Green Section

Zach Nicoludis | Regional Director | 412.215.6488 | znicoludis@usga.org

USGA GreenSection

Executive Summary

It was a pleasure to conduct a Course Consulting Service visit to Berkley Hills Golf Course for the first time. It is clear that the golf course is an asset to the community, considering that between 20,000 and 25,000 rounds of golf are played each year. To balance turf health and playability, adjustments will need to be made to the agronomic program moving forward. While touring the golf course, our discussions focused on the following topics.

- **Cultural Management Program.** For the past several years, minimal cultural management practices have been performed on the putting greens, fairways, and tees. Samples collected from the putting greens revealed that organic matter levels are elevated, and it cannot be overstated how important it is to perform core aeration in the spring and fall. Additionally, lightly topdressing the putting greens throughout the season will help dilute organic matter as it is deposited through the turf's growth processes. Samples collected from the fairways and tees revealed that organic matter levels are slightly elevated, and performing core aeration at least once a year is recommended.

- **Plant Protectant, Weed Control, and Fertility Programs.** Currently, a contractor is used to apply preventive disease-control products to the putting greens and tees. We discussed obtaining the contractor's program so it can be reviewed and recommendations can be offered to help prevent disease outbreaks.

  When it comes to weed control, a one-and-done application is made to the fairways and tees. This product includes a slow-release fertilizer, insect control, and a preemergent herbicide. We observed the encroachment of numerous broadleaf weeds on the fairways and tees, and spring will provide an opportunity to apply a postemergent control product to suppress these weeds. Regarding fertility on the putting greens, it was reported that minimal fertilizer is applied other than foliar applications made with fungicides. Visually, the putting greens appear deficient in nitrogen, and increasing nitrogen inputs moving forward will be necessary.

- **Trees.** Throughout the golf course, there are numerous stumps that have not been ground after tree removal. There are also several trees that were damaged during storms, as well as others showing signs of decline. These should be priorities for removal this offseason.

  We also reviewed how trees impact turf health at certain putting greens, such as Nos. 1, 4, and 5. Increasing the amount of direct sunlight that reaches these playing surfaces is important for turf health.

- **Equipment and Infrastructure.** With the City of Johnstown taking over management of the golf course, a new equipment fleet will need to be acquired. It is great to hear that stakeholders have already started the process of establishing a lease to acquire the necessary equipment. The agronomic team's needs should be assessed annually to determine whether new equipment should be acquired and when existing equipment should be replaced. We also reviewed the value of exploring autonomous mowers for the rough, which could help the team keep pace with mowing while reallocating labor resources to other areas of the golf course.

  Nearly all the irrigation system dates to the golf course's original construction in 1972. Generally, an irrigation system has a life cycle of 20 to 25 years. It was also reported that many sprinklers at the tees are not operating because parts were removed to repair sprinklers at the putting greens. In the short term, replacing the necessary sprinkler parts is

recommended. From a long-term perspective, beginning the planning process for a new irrigation system is recommended.

- **Putting Greens, Tees, Fairways, and Bunkers.** With the city taking over the golf course, it will be important to develop a daily maintenance program focused primarily on the putting greens, tees, fairways, and bunkers. As the agronomic team is assembled, I would be happy to discuss scheduling mowing and other daily maintenance practices.

  Some turf thinning was observed on the putting greens, and it will be important to repair these areas before winter. Additionally, algae were observed on the putting greens, and applying a plant protectant to suppress the algae is recommended.

The following report details the observations and recommendations that were made as we toured the golf course.

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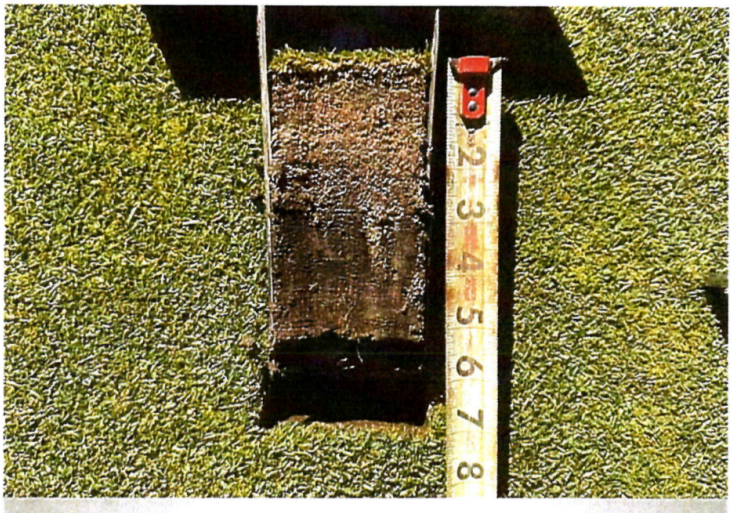
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Cultural Management Program

Observations and Recommendations

1. **Putting Greens**



Performing core aeration twice a year will help reduce organic matter levels in the top portion of the root zone.

- It was reported by those in attendance that minimal cultural management practices have been performed on the putting greens over the past several years. Samples collected from multiple putting greens confirmed that organic matter levels are elevated, and more aggressive cultural management practices must be performed to reduce organic matter levels.
- Performing core aeration using ½ inch or a ⅝-inch hollow tine in the spring and fall is recommended. After aeration, the cores should be removed, and sand topdressing should be applied to fill all the aeration holes. Additionally, lightly topdressing throughout the summer on a three week schedule will help dilute organic matter as it is deposited by the turf going through its growth processes. Targeting a topdressing rate of 100 to 150 pounds of sand per 1,000 square feet is recommended for light topdressing throughout the season.
- In addition to traditional core aeration, performing solid deep-tine aeration at least once a year, in either the spring or fall, is recommended. This type of aeration has an operating depth of 8 to 10 in., and the channels created by this process help move water into the root zone and encourage deeper rooting. Since the agronomic team does not have access to a deep-tine aerator, a contractor will need to perform this process.

2. **Fairways and Tees**

- Minimal aeration has been performed on the fairways and tees in the recent past. Samples collected from the fairways and tees revealed that organic matter levels are slightly elevated, and reintroducing core aeration at least once a year on the fairways and tees is recommended.
- We discussed purchasing a TORO® ProCore® 1298 tractor-mounted turf aerator as one option, which would make it possible to aerate all the fairways and tees. Another option would be a tow-behind aerator. If this option is selected, aeration will need to be performed multiple times because this equipment creates greater spacing between aeration holes. After core aeration, the surfaces should be dragged with a tine harrow or Keystone mat to break

up the cores and reintroduce soil into the mat layer. This helps dilute organic matter and stimulate microbial activity.

Plant Protectant, Weed Control, and Fertility Programs

Observations and Recommendations

1. **Plant Protectant Program**

   - In the past, a contractor has been used to apply plant protectants to prevent disease on the putting greens and tees. During our visit, we discussed the plan to use the same contractor moving forward. Overall, we did not observe any concerns with disease outbreaks on the day of our visit, which indicates that the contractor has a well-designed program in place. I would be happy to review the program and provide recommendations for fine-tuning the products applied throughout the year.

   - One adjustment we reviewed was expanding the plant protectant program to include the collars to help prevent disease outbreaks in these areas.

2. **Weed Control**

   - In the spring every year, a one-and-done product is applied for preemergent control, fertilizer, and insect control on the fairways and tees. This is a sound program to have in place, and continuing with it is recommended.

   - One adjustment to the weed-control program that we reviewed is making a postemergent broadleaf weed-control application in the late spring to target clover. A broad-spectrum product often used on fairways, tees, and rough is SpeedZone, and working with the contractor to make this application next spring is recommended. Testing this product first is recommended to observe how the turf responds.



Making an application of a broad spectrum herbicide for broadleaf weed control will suppress weeds in the fairways, tees, and rough. It is likely that multiple applications will need to be made.

   - Another option for expanding the weed-control program is a late fall and/or early spring application of the herbicide Defendor® to the rough. This will help suppress broadleaf weeds and provide additional control of nuisance weeds such as dandelion. The timing of this application would depend on snowmelt and when the golf course can be accessed with a sprayer. For any herbicide applications, always be sure to follow the label.

3. **Fertility Program**

- Based on the overall turf health we observed on the fairways and tees, there is no need to make any major adjustments to the fertility program beyond the one-and-done application that is made in the spring.
- Visual inspection of the putting greens indicated that insufficient nitrogen is low. With a mixed stand, adjusting the program to slightly increase the total amount of nitrogen applied each year is recommended. Once we receive the contractor's spray program, I would be happy to discuss where adjustments can be made. The Green Section Record article, Managing Putting Greens that are a Mix *Poa annua* and Creeping Bentgrass, is a good resource for developing an agronomic program for the putting greens.

Trees

Observations and Recommendations

1. **Priorities**

- Over the past several years, a large number of trees have been removed from the golf course, but the stumps have not been ground. This winter will provide an opportune time to grind the stumps, which will improve the overall presentation of the course.
- It was discussed that the City of Johnstown has a stump grinder. Making this piece of equipment available to the golf course would make it possible for all the stumps to be ground. After the wood chips are cleaned up, fill material will need to be added so these areas can be leveled and seeded.
- Several trees were damaged during a storm this summer, and a large number of trees are showing signs of decline. Removing these trees should be a top priority this off-season because this will have a positive impact on course presentation.
- The three locust trees behind No. 1 putting green, the evergreen trees located to the left of No. 4 putting green, and the tree line along the right side of No. 5 putting green restrict direct sunlight from reaching these playing surfaces. Direct sunlight is critical for driving photosynthesis, which allows the turf to produce carbohydrates for energy.
- Removing the three locust trees behind No. 1, the evergreen trees located to the left of No. 4, and pushing the



Removing the trees from behind No. 1 putting green will allow more direct sunlight to reach this playing surface, especially the back half of the putting green.

tree line back along the right side of No. 5 are recommended to benefit turf health. Additionally, roots from the locust trees behind No. 1 are growing into the putting green cavity and outcompeting the turf for water and nutrients, which has negatively affected turf health. This further confirms the need to remove these trees.

2. **Tree Management**

- Once the priorities that were outlined above are addressed, developing a tree management plan for the golf course is recommended.
- There are many situations where trees are too close to fairways or are planted too close to one another. Pushing the tree line back in areas where trees are within 50 ft. of a fairway or tee is recommended. In areas where trees are planted too close together, strategic removal is necessary, so the remaining trees are properly spaced.
- Strategic removals will create gaps in the tree population, allowing back-planting so replacement trees have time to mature as older trees on the golf course reach the end of their life cycle.

Equipment and Infrastructure

Observations and Recommendations

1. **Equipment**

- With the City of Johnstown taking over management of the golf course, an entire equipment fleet will need to be acquired. It is great to hear that stakeholders have already received bids from multiple equipment distributors and have begun the process of acquiring the equipment necessary to keep pace with maintenance. Top priorities should be a putting green triplex, fairway mower, rough mower, putting green top dresser, mechanical bunker rake, and utility vehicles. Small equipment and tools, such as blowers, fertilizer spreaders, string trimmers, shovels, and rakes, will also be needed.
- I would be happy to discuss equipment needs further as a decision is reached around which distributor will be used.
- The needs of the agronomic team will need to be assessed every year to determine where additional equipment is needed.
- From a future-planning perspective, we discussed how autonomous mowers could be an option for the rough and potentially the fairways. Considering that the rough covers the most acreage on the golf course, it would be a good starting point for this type of mower. It would be worth contacting representatives from Kress and Husqvarna to obtain pricing and recommendations for the specific units that would be most cost-effective for Berkley Hills Golf Course.

2. **Irrigation System**

- It was reported by those in attendance that the tee irrigation system is not fully functional because internal components were removed from tee sprinklers and used to repair putting green sprinklers. It is understandable why this decision was made, but an investment is necessary to replace the internal components in the tee sprinklers where they are currently missing.

- From a long-term perspective, the irrigation system needs to be replaced because all the current infrastructure is from when the system was installed during the construction of the golf course in 1972. Generally, an irrigation system has a life cycle between 20 and 25 years, and it can be anticipated that significant issues will be routinely experienced with the irrigation system.
- A top priority going into winter should be properly winterizing the irrigation system, so sprinklers and pipes are not damaged when subfreezing temperatures occur. Winterizing the irrigation system typically includes draining the pipes or using a compressor to force all the water out of the system so it does not freeze, expand, and crack the pipes during colder temperatures.

Putting Greens, Tees, Fairways, Rough and Bunkers

Observations and Recommendations

1. **Putting Greens**

- Some small areas of turf decline occurred on a few putting greens, and repairing these areas should be a top priority for this fall. The cup cutter spinning technique can be used to repair small areas of turf decline and plugs from the edge of putting greens can be used to repair larger areas. From a long-term perspective, it would be ideal if the agronomic team had a nursery green that is established from aeration cores, because this would make it possible for sod to be generated on site should repairs be necessary.
- It was reviewed that the putting greens are typically mowed at a height of 0.140 in. This is a suitable mowing height, and continuing to target it is recommended. With a new triplex being acquired, the mowing height may need to be adjusted slightly because bench settings are not always identical across mowing units from different manufacturers.
- It appears that the putting greens have shrunk over time, and it would be possible for the putting greens to be expanded by converting portions of collars to putting green height. This would require gradually lowering the mowing height while, at the same time, performing aeration and top dressing. This is the type of golf course improvement project that could be performed a few years after other priorities are addressed on the golf course.
- It appears that some algae outbreaks have occurred on the putting green surfaces, an issue we encountered during course consulting service visits throughout late summer. The plant protectants chlorothalonil with zinc and mancozeb are excellent options for suppressing algae encroachment. Ideally, one of these plant protectants would be applied to all the putting greens to suppress algae. Reducing organic matter levels will also help limit future algae outbreaks because elevated organic matter retains excess moisture just below the surface, which can promote algae development.
- From a moisture management perspective, investing in moisture meter is recommended. This will make it possible to quantify moisture levels and make more informed decisions when it comes to irrigating the golf course.

2. **Fairways and Tees**

- For the fairways and tees, targeting a mowing height of ⅝-in. is recommended. Currently, the fairways are being mowed at a height of ¾-in., but this is due to limitations of the current equipment fleet. When mowing resumes in the spring of 2027, gradually lowering the mowing height is recommended to achieve the desired playing conditions. Based on our discussions, planning to mow the fairways three times a week during the peak season is recommended.

- Should prolonged dry stretches be experienced during the summer, it will be necessary to evaluate whether the mowing frequency needs to be reduced. As the turf experiences moisture stress and goes dormant, it does not need to be mowed as frequently as when it has adequate moisture. The USGA Green Section Record article, "A Superintendent's Guide to Surviving Summer," is a good resource for navigating the challenges of summer.

- One topic we reviewed regarding the tees is that several holes have multiple tee decks at different elevations. We discussed how creating one large tee deck would increase teeing space and improve operational efficiency. This topic would be worth discussing with a golf course architect to obtain an opinion on how this type of tee design would fit the golf course.

3. **Bunkers**

- Minimal maintenance has been performed on the bunkers, resulting in weed encroachment and sand contamination. A short-term improvement we discussed would be to remove all the sand from the bunkers, evaluate the drainage and replace it if necessary, and then install new sand. A renovation of all the bunkers would require the expertise of a golf course architect to evaluate their placement and shape. In addition to the improvements mentioned above, renovating the bunkers would include reshaping the faces and installing new sod.



Investing in the bunkers will improve course presentation and playability.

4. **Rough**

- The primary focus of maintaining the rough next year will need to be keeping up with mowing and weed control. Acquiring a new rough mower will provide the agronomic team with the necessary equipment to keep up with rough mowing and, as mentioned before, investigating autonomous mowers will help with future planning around implementing this technology.

- Making an early spring application of Defendor and applying a broad spectrum herbicide for post emergent broadleaf weed control later in the spring will help with suppressing weeds that have encroached in the rough. After these applications are made, conditions should be evaluated to determine if follow up applications are necessary later in the season.

Summary

The City of Johnstown has an excellent opportunity to invest in an asset that is clearly valued by the community, based on the number of rounds played each year. It is encouraging that the golf course did not experience any major turf-loss issues this year. By adjusting the agronomic program, it will be possible to improve turf health, playability, and the overall presentation of the course.

It is great to hear that stakeholders are committed to investing in the golf course, especially in equipment acquisition. I would be happy to schedule calls to discuss the agronomic program moving forward as the agronomic team takes shape.

Thank you for your time and support of the USGA Green Section. I look forward to working with your facility in the future. If there are any questions regarding this report's contents, please feel free to contact me at znicoludis@usga.org or on my cell phone at (412) 215-6488.

Respectfully submitted,

Zach Nicoludis, Regional Director
USGA Green Section

Distribution:
Carm Truscello, Public Works Director

USGA Green Section

Turfgrass and Environmental Research

The USGA Green Section appreciates your support of the Course Consulting Service. First started in 1953, the Course Consulting Service provides unbiased assessments of golf facilities to optimize resources and reduce the consumption of critical resources. The proceeds from the Course Consulting Service directly support the USGA's annual $2 million investment in turfgrass and environmental research, which provides an estimated $2 billion annual benefit to the U.S. golf industry. In 2025, our research team released the USGA Water Conservation Playbook to detail strategies for golf courses to optimize water usage. Follow the QR Code to contact us for more information.

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The USGA Green Section is proud to offer tools and solutions for golf courses. Innovative products, including DEACON, GS3, and the new CDX moisture meter, provide solutions to optimize the golf experience through data-driven communication and resource management.



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