

# USGA GREEN SECTION TURF ADVISORY SERVICE REPORT

## BLACK MOUNTAIN RESORT BLACK MOUNTAIN, NORTH CAROLINA



United States Golf Association  
Southeast Region Green Section  
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### **Present during the visit performed on March 7, 2011:**

Mr. John Shaw, Golf Course Superintendent  
Ms. Marcy O'Neil, Town Manager  
Mr. Patrick O'Brien, USGA Green Section

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**Statement of Purpose:** The purpose of the USGA Green Section is to assist subscribing courses in matters of agronomic management. All recommendations are offered free of bias, since the USGA has no connections or obligations to any manufacturer, supplier, or contractor. Additionally, since 'quick fixes' seldom result in permanent improvement, some of the recommendations in this report may not be easy to implement and it could take more than a single season to produce the desired results.

## **Opening Statement**

On behalf of the USGA Green Section, it was a pleasure to visit again at the Black Mountain Resort. The visit consisted of an afternoon half-day tour of the golf course. I appreciate all the hospitality provided to me by the staff at Black Mountain.

The golf course is at a crossroad at this time due to the economy and the lack of capital investments. Attracting new golfers to the facility is difficult in these times and especially since no capital improvements have been made to the golf course in over 10 years. Couple this with the unique summer weather conditions last year that caused more turf loss than normal with the extreme high temperatures.

Black Mountain is not alone regarding turf loss issues that happened last year. Practically every golf course with bentgrass putting greens experienced turfgrass loss and many courses had to close for an extended time to recover. Even golf courses in the western Carolina Mountains experienced major turfgrass loss not only at putting greens, but also at tees, fairways, and roughs. Record breaking heat last summer saw temperatures above 90 degrees for almost 40 days, and the heat started in early June and persisted into late August. Located at an elevation of 2,000 feet, Asheville usually experiences summers in which temperatures never reach 90 degrees. This heat was quite unwelcome when trying to manage bentgrass greens and perennial ryegrass fairways all with high populations of *Poa annua* that don't have high heat tolerance.

The extreme summer heat and its impact on golf courses was widely reported in the media, including special webcasts and updates by the USGA staff, as well as an article in the Wall Street Journal. The maintenance staff, despite heroic efforts over the past few years, has done the best possible job considering the lack of investment in the course, a modest operational budget, small staff size, limited equipment, and the extreme summer weather conditions.

I will strive to prioritize new goals for the golf course that I foresee as critical that will hopefully help to get the golf course on the right track again. The original 9 hole layout is a classic design done by the famous Scottish architect Donald Ross and it has tremendous potential. However, without the investment of capital funds for over a decade the course playability and presentation is not nearly what it could be at this time. My recommendations will help to improve the course presentation and playability but the ideas will not all be easy to implement and it may take time to fully get all these ideas into action.

I will prioritize my recommendations in this report into both short and long term goals and the city leadership and golfers should realize that turning around the course will take time, but gradually improvement will happen with this plan, although some short term ideas will make a more immediate impact to hopefully attract more play for this season. The existing staff under the leadership of Mr. Shaw are fully capable of

implementing the ideas in this report and I trust that the staff will have the confidence of the key political leaders and golfers that they are striving to make this course the best possible for the town of Black Mountain.

## **Time Line for Recommendations**

I will divide the recommendations in this report into Key Immediate Goals and Long Term Goals. The Key Immediate Goals should be done as soon as economically feasible. Long Term Goals ideally should also be put on a time line as soon as possible, but I realize that due to budget restrictions this may not happen quite as fast as needed.

## **Key Immediate Goals**

### ***Irrigation System***

#### **Observations**

The irrigation system is so old and antiquated that the control system and sprinkler models have all been discontinued by Toro. The sprinkler design is also poor with only single row coverage in the fairways and poor sprinkler location and water coverage at most green and tee sites. Also, no supplemental irrigation is available for green surrounds, technology that normally exists at most other courses with newer irrigation systems. The turf around the greens especially suffers without this technology. New Toro 850 sprinklers at green sites was a big improvement recently as these sprinklers are the new industry standard.

#### **Recommendations**

1. Hire Mr. Bob Scott (770-929-0884), an independent irrigation consultant, to review and analyze the existing irrigation system and to make recommendations to upgrade to better technology. His consulting fee would be approximately \$1,500 and I'd advise having him visit as soon as possible.
2. The VT-2 control system is outdated and the only VT-2 technology that I have observed at a golf course over the past decade and I visit over 150 courses annually. No other course that I visit has this outdated technology. Your staff can't even get parts to fix the controllers when failures happen. Mr. Scott needs to see these old controllers and make recommendations for a new control system. From my perspective, it seems an economical upgrade is possible immediately to the Osmac technology. Although this control technology is not the latest, an older Osmac may be available for minimal funds from the Country Club of Asheville that upgraded recently to newer

controllers. Mr. Scott may also know of some older Osmac controllers available too from the Atlanta area. A new Osmac control system could also be another option. Upgrading the controllers is essential this spring so your staff will have fewer worries about the irrigation system this season. Your superintendent needs more precise control of the irrigation system as a first step to get the course on the right track again. It is the #1 priority to upgrade the irrigation controllers and to follow the advice of Mr. Scott on the best option to upgrade the irrigation controllers.

## **Putting Greens**

### **Observations**

The putting greens are an excellent mixture of 75 to 80% Penncross and 20 to 25% *Poa annua*. Most every green site has excellent density but a few weak areas persist from last summer's heat at #4, #9, and #16. The #4 green has serious tree root encroachment issues, and the #16 green site is just terrible for growing any turf due to shade and poor air movement. It is one of the worst locations for a green that I have ever observed but hopefully we can help this site somewhat, but I am most worried long term about the #16 green and everyone needs to understand this is not an easy site to grow healthy turf.



**The #16 green due to shade and poor air movement makes it especially challenging to grow healthy turf at this site.**

### **Recommendations**

1. Take down the three trees on the right side of the #4 green site. The tree roots are causing decline of the turf on the right side of this green. These trees are dying anyway and a safety hazard.
2. Buy new 50 inch Turf Breeze fans for the #8 and #16 green sites to improve the air movement. Contact Mr. Andy Redd (803-641-6663) at Turf Breeze to help with the



**Disease impacts the health of the three trees causing root encroachment issues at the #4 green.**

- placement and installation of these fans.
3. Sod the weak areas of the #4, #9, and #16 greens as soon as possible. Bentgrass sod is available now from Turf Mountain Sod. This project will restore full turf coverage to all green sites.
  4. Start topdressing the greens with the GA-45 sand every 7 to 14 days this spring to enhance surface smoothness. These sand applications will make a big improvement in putting quality.
  5. Mow the greens daily and double mow 2 to 3 times weekly to enhance speed and smoothness. This will make an immediate impact on putting quality.
  6. Purchase turf groomers for the triplex mowers. Use the groomers three to four times weekly – skip a few days after sanding the greens. The groomers will reduce grain and enhance putting quality.
  7. Apply the Anderson goose crab product around the perimeter area of each green site – except across any of the new sod. This will help to reduce summer annual weeds later this season.
  8. Apply Daconil once weekly every Friday at 2 ounces per 1,000 square feet for preventative disease treatment. It is economical and effective.
  9. Vent the greens with 1¼ inch tines once monthly this summer to improve turf health.



**New bentgrass sod at weak areas will make an immediate impact.**

### ***Special Comments: #16 Putting Green***

1. As you can see from the recommendations in the last section, I didn't advise reconstruction of this green site but rather sodding the weak areas and adding a 50 inch Turf Breeze fan. I feel the sod and the fan are far better and lower cost expenditures to help improve this green site immediately, rather than total reconstruction that would cost approximately \$50,000 alone for this project and take a significant amount of time before the green would be ready for play again. Mr. Shaw reported that usually this green site remains acceptable (it always has lower turf quality compared to other green sites) most every year, except when extreme summer heat happens like last year. I feel my recommendations will help to get this site ready for the upcoming summer season but I realize that the turf will always be weaker due to the limited sunlight. Trees are the biggest single issue causing the limited sunlight and air movement issues and since the trees are located off property nothing can be done to take care of this problem, unless the property owners provide

permission for a tree clearing project. If this site continues to fail, the best option may eventually be to rebuild and relocate this green forward of the existing site where better growing conditions happen.

## ***Green Slopes***

### **Observations**

The turf around the greens is fragile and weak and especially without any perimeter irrigation system to apply extra water to these areas. These areas take 4 to 5 times more water than the putting greens. We can't fix this right away due to cost issues, but we can do a few things to improve these important play areas.

### **Recommendations**

1. Experiment with a light-weight zero turn mower. This lighter weight machinery will help the turf health and cause less damage to the turf than the present mowing equipment.
2. Fertilize the green slopes once a month to promote new turfgrass growth at these areas starting as soon as possible.
3. Apply the Anderson goose crab product now to all green slopes to lessen summer annual weeds this year.
4. Consider sodding the green slope at #2 to tall fescue sod.



**New sod at the #2 green surround will make a big impact on the course presentation and show golfers what is possible.**

This will demonstrate to the golfers that resodding the green slopes about every 5 to 7 years will enhance these areas. Also, install perimeter irrigation heads around this site to show how irrigation water to these areas will make a big difference. If you do this project, don't apply the Anderson product to this site so the sod will establish properly. Purchase the tall fescue sod from Buy Sod (800-737-8873) in Tryon, NC. Buy one truckload (8000 square feet) and the cost is about \$2100 delivered. It comes without netting which is a big plus.

### **Maintenance Standards**

No written maintenance standards have ever been done at Black Mountain. I have emailed examples of this document to the staff and I would advise getting this into

place and approved as soon as possible so everyone is on the same page regarding the course expectations. These are needed in order to determine how many weekly total labor hours will be required to maintain the course based on the expectations in this report.

## **Staffing Requirements**

### **Observations**

Staff size is not adequate to manage the proposed new course standards if the goal is to enhance the presentation and playability of the golf course. A total of five full time employees without any seasonal help is simply not enough labor to meet these new standards.

### **Recommendations**

1. I would propose adding approximately five more seasonal workers to the staff this year starting in early April through the end of September. This is an estimate since I don't know the new maintenance standards yet either. The exact number will be known once the new maintenance standards have been written and approved. Mr. Shaw can figure out the weekly total labor hours required to carry out these new standards. Once this weekly labor hour total is known, it will be possible to determine the exact number of seasonal workers required. However, I would guess that I am fairly close to the number of seasonal workers needed from my past experiences at other courses and from what I observed of Black Mountain from my tour of the course.

## **Long Term Recommendations**

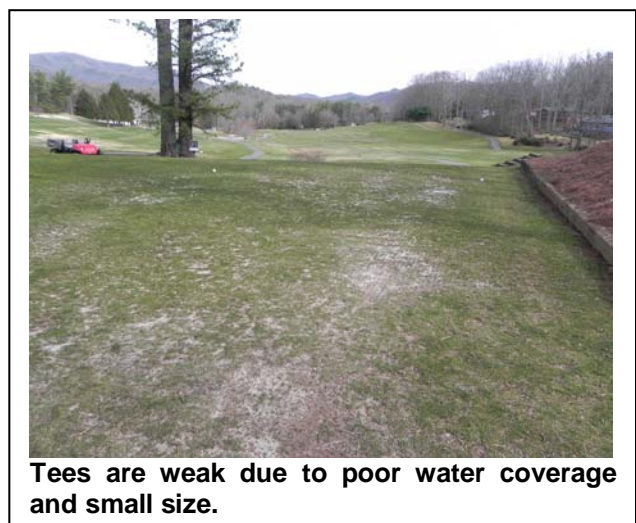
### **Tees**

#### **Observations**

Improvements to the tees are limited due to their small size and poor irrigation coverage. Everyone should realize the limitations to tee improvements.

#### **Recommendations**

1. Fertilize the tees monthly starting as soon as possible.
2. Don't apply any pre emerge



**Tees are weak due to poor water coverage and small size.**

- herbicide to the tees. It is better to just overseed the tees with perennial ryegrass monthly or as needed to keep seed germinating.
3. Apply Drive herbicide as needed for summer annual weed control.

## ***Fairways and Roughs***

### **Observations**

Improvements to fairways and roughs are also very limited with the poor irrigation coverage and the modest funds in the budget for chemicals, fertilizers, and pesticides.

### **Recommendations**

1. Burn in mower stripes with the mowing equipment this spring. These stripes especially if done diagonally will enhance the course presentation.
2. Apply Barricade pre emerge herbicide as soon as possible now to all fairway and rough areas to control summer annuals.
3. Fertilize the fairways monthly this spring, summer, and fall. Use low cost agricultural grade products to save money but slow release nitrogen forms would be better.

## ***Bunkers***

### **Observations**

Bunkers need edging to better define margins and also some new sand over the surface to improve presentation.

### **Recommendations**

1. Edge and redefine the margins around all bunkers this spring.
2. Add two to three inches of new bunker sand to all bunkers to improve presentation. This new sand won't last forever (60 to 90 days) but it will make an immediate impact.



**Edging bunkers and adding more bunker sand will enhance bunker quality right away.**

## ***Creeks***

### **Observations**

The creeks are a tremendous course feature but they slow down play due to the tall grass at these areas. Golfers prefer the creek banks with shorter vegetation.

Environmental issues caused the taller vegetation to prevent erosion and pesticide runoff to maintain high water quality.

### **Recommendations**

1. To please the golfers mow down the creek banks every 60 days or so this season to keep these areas more playable and to speed play.

### **Capital Funds**

#### **Observations**

No capital funds have been funded into the course in over a decade. The capital projects listed in the report for 2011 are not just a onetime expenditure. New capital funds will be needed annually for the next several years at Black Mountain and especially due to the inactivity without any capital funding to the course. This year's funding will be a good start but it needs to get approved annually.

#### **Recommendations**

1. A minimum of \$100,000 should be funded into the capital budget annually in the future to improve the irrigation system, bunkers, tees, etc. It is badly needed and necessary to see significant progress in the course presentation and playability.
2. Future capital projects will vary from year to year depending on priorities, but I can foresee expenditures to upgrade teeing areas, sod for green surrounds, adding new perimeter irrigation heads at green surrounds, and tree removal work as just a few examples. I can sure assist with the future capital expenditures during my trips to Black Mountain.

#### **Next USGA Visit**

I enjoyed this visit as I thought it was very productive. I look forward to visiting again on April 11<sup>th</sup> for the meeting with the city council.

#### **Conclusion**

Thank you for your support of the Turfgrass Advisory Service. Your support of the USGA Green Section also provides assistance for turfgrass research. This vital research results in superior turfgrasses, the implementation of better management practices, and the effects of these practices on the environment.

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Please do not hesitate to contact my office if there are any questions concerning this report, the research efforts of the USGA, or any matter regarding the maintenance of your course.

Sincerely,

Patrick M. O'Brien  
Southeast Director

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