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# An inspired solution

 creative award winner



# An inspired solution

At Resort at Glade Springs' Woodhaven Golf Course, Aspen Corp. paired the best possible solution to each challenge they faced.

by Rob Thomas

When designing and building a golf course, a shrinking budget, paired with increasing government hurdles, calls for an inspired solution.

Designed by Tom Clark of Ault, Clark & Associates and built by Aspen Corp., Resort at Glade Springs' Woodhaven Golf Course completes a troika of championship courses at the Daniels, W. Va. resort. Considering the vast majority of the golf-friendly terrain was used for the first two layouts and a mandate was in place to reserve the best remaining land for a residential development, the task was daunting.

Initially scheduled as a \$5 million project when the job opened up, approximately \$1.5 million was taken away for construction of a clubhouse, new swimming pool, tennis complex and cart storage. Now faced with a

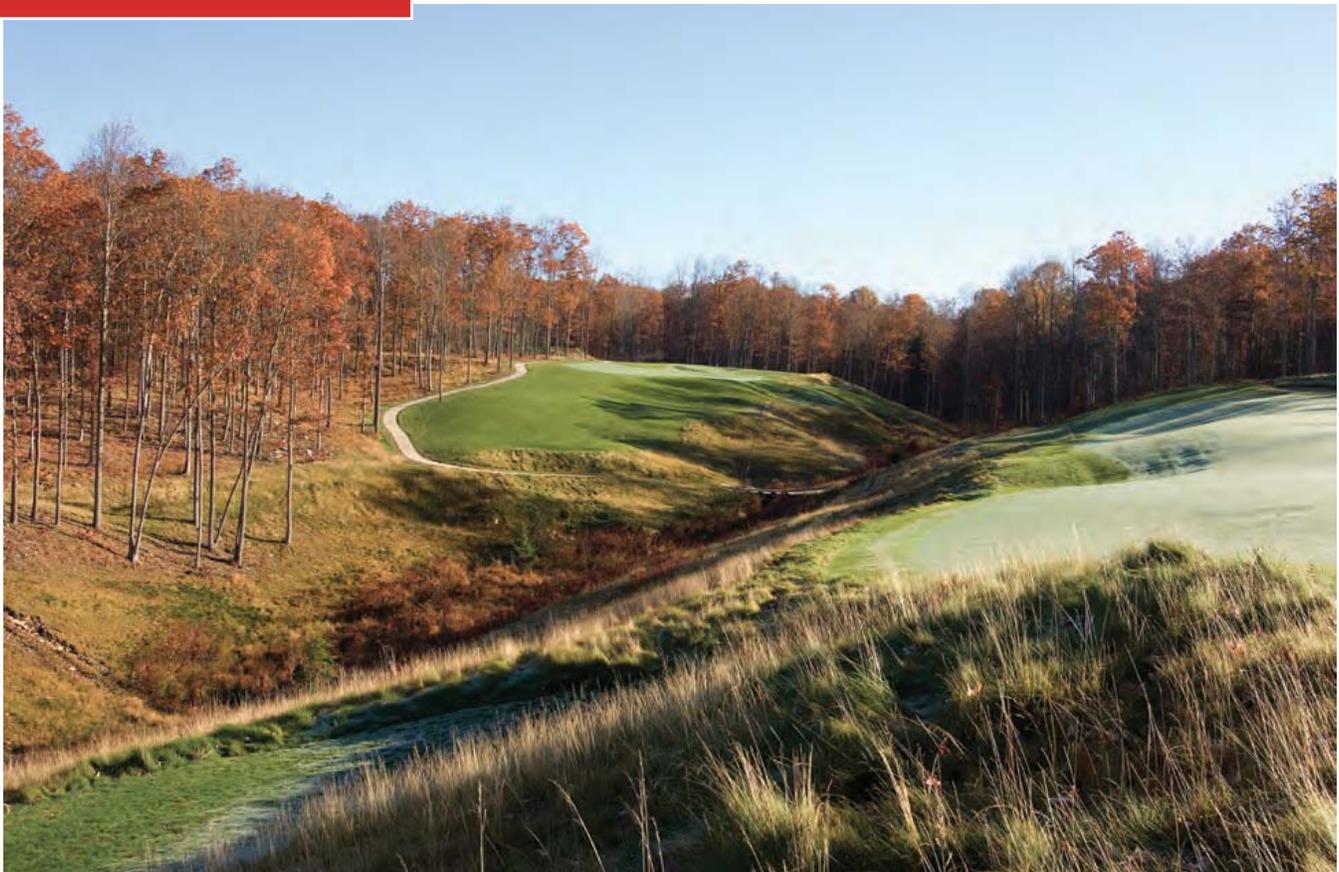
bare-bones budget, Clark and Aspen headed back to the drawing board to make considerable changes.

"It was conservative for this site to begin with so there may not be enough meat on that bone to cut," says Aspen's vice president Ronnie Adkins. "We had intense meetings and discussions with the developer and architect to put all minds together to find the best possible solutions to all the challenges.

"We constantly controlled each segment of the budget to make sure there were no surprises to any team member," he says. "It took lots of upfront communication."

A certified golf course superintendent and former grounds director at the resort, Adkins was very familiar with the developer – Cooper Land Development – and the area, as his office conveniently sits directly across the street from the main entrance. Following several weeks of negotiations and value engineering

Given the complexities of having 30 percent of its budget reduced, Aspen Corp. provided a spectacular finished product.



between the principals, the project was on, with a goal to build the best possible golf course with the available budget.

### Working with the new budget

Based on the team meetings, a blueprint was created to hit the new budget:

- Greens and tees were reduced in size by 10 percent;
- Cart paths were reduced from 8 to 12 feet wide to 5 feet wide;
- Anticipated blasting was reduced by 90 percent;
- The driving range was eliminated;
- A great deal of drainage was removed from the plan; and
- The irrigation plan was re-engineered to reduce cost by approximately 25 percent.

Additional adjustments, Clark says, included the use of native sand in the bunkers – as opposed to white sand – and building California greens instead of USGA.

As a result of the reduced blasting budget, rock outcroppings were featured as a design element in some areas where that was not the original intent. Also, there are several areas throughout the project where the fairways and features were built on top of bedrock to avoid drilling and blasting costs, which offers a great base, but resulted in the features having to fit the existing bedrock.

Flexterra was used extensively for one-third the cost of sod. Fortunately for Woodhaven, Glade Springs is in

## 2010 creative award winner

### WOODHAVEN GOLF COURSE, RESORT AT GLADE SPRINGS

**Location:** Daniels, W. Va. **Website:** www.gladesprings.com **Type of project:** New construction **Cost:** \$3 million **Construction started:** May 2007 **Construction ended:** September 2008 **Architectural firm:** Ault, Clark & Associates **Builder:** Aspen Corp. **Superintendent:** Rob Seiter

“grass-growing heaven,” Clark says.

“The Woodhaven project was the first time in our 28 years of building golf courses that we had a zero budget for sod, and in fact, used no sod on the entire project,” Adkins says. “This was part of the budget reduction at the beginning of the project. We suggested – and used very successfully – a combination of erosion control methods when seeding which included straw mulching, crimping, diversions, Flexterra and several other BMP methods.

“We had used other products similar to Flexterra on a smaller, less demanding, scale,” he adds. “We were able to use it around all the main features like greens, tees and fairways. By using our best-management practices for application, we had zero washouts and zero problems.”

Looking toward the end product, native grasses were used in areas where sod might ordinarily be planted. Bunkering also featured a more maintenance-friendly design. Lastly, 25 percent of the

bunkers would not have sand, instead becoming grass bunkers.

### New challenges

With the design tweaked and building plan ready to be implemented, another wrinkle appeared in the project – a lack of groundwater for irrigation.

Although some preliminary site drilling had been done, it didn’t take long for Aspen to determine there was probably not going to be enough water to supply irrigation. Even if water was available, the quality would not suffice, as it was likely to be extremely high in iron due to the close proximity of an old mine.

The solution was nearly two miles away – 70-acre Chatham Lake. The challenge was running a pipeline through what proved to be rock from one end to the next. Because a standard trencher would not work, Aspen brought in a 60,000-pound trencher, along with a ram excavator, to get through the rock. “The rock was harder than expected,” Adkins says. “It was the white sand rock without seams... and is very hard to work with.”

While the distance was manageable and the means taken care of through heavy machinery, the route was far from ordinary. The HDPE pipe – chosen because it was the most environmentally friendly material available – needed to carry 200 gallons per minute and travel off the cliffs of the Glade Creek Gorge, through the ravine, crossing under

## What the JUDGES said...

“What impressed me the most was as problems arose, they were solved by team work on a very challenging site.”

“Given the complexities of having 30 percent of their budget reduced, Aspen was able to provide a finished product that looks spectacular. Working as part of ‘the team’ and not just as the contractor allowed them to help produce cost savings without sacrificing quality. This type of teamwork is vital when a project faces road blocks and enables the contractor, architect and owner to all look good when the project is completed.”

“A golf course that looks like it has been there for a long time, which is a very difficult thing to do with the site conditions and the allocated budget. A strong working relationship between owner, designer and contractor has produced an outstanding golf course.”

Hole #5 during construction.



Glade Creek, through three existing golf courses, beneath as many as eight streets and even under a lake to stay off private property.

An automated radio control system was installed with a delay sensor and repeater to communicate between the lake level at Woodhaven and the source so the system only pumps as needed and turns off automatically.

As if the terrain, water and budget challenges weren't enough obstacles, the Indiana bat added to the laundry list of issues. The site was designated as a possible Indiana bat habitat, so trees

could only be cleared when the Indiana bat was not present.

There were two choices: set up bat screens to catch the Indiana bat if present, or simply do the work in a non-season for the bat. The decision was easy – clear in the off-season.

**More water issues**

The shrunken budget and lack of irrigation addressed, governmental issues popped up. "There were many wetland areas that had to be guarded and protected as well as having a large number of streams throughout the site

that were designated as Waters of the U.S. that had to be protected as well," says Adkins.

The corridors of the golf course could not be changed, so it was quite a challenge to reroute some of the holes within them to make the course playable. The areas that were supposed to be piped had to remain open, too. With this new information, the project suddenly became heavily permitted. An extensive stormwater erosion and protection plan was implemented and executed without a hitch, but Clark needed to design around the additional no-go areas.

"We had to push the envelope and go into unusable land," Clark says.

**Finished Product**

While the original design called for elements reminiscent of the Golden Age of golf course architecture, the budget cuts actually assisted in the "old school" look. Clark says the "throwback feel" was a "tip of the hat" to Charles Blair Macdonald, who designed the nearby Old White Course at The Greenbrier.

"We went from building something on a very difficult site and came up with something really great," Clark says of the project. "The end result is spectacular. That's what makes it all worthwhile."

The design of Woodhaven has a maintenance-friendly edge to it, too. Superintendent Rob Seiter says the grow-in was extremely challenging because of the rugged terrain and seeding the entire layout, but the day-to-day upkeep has become more routine than exists at the sister courses.

"In the beginning we were at the will and mercy of Mother Nature," Seiter says. "Now it's even easier than Stonehaven. We're dealing with two-thirds the acreage because of the native fescue areas."

In the end, overcoming severe budget cuts, difficult terrain and water issues can be summed up in one word, according to Adkins, "TEAM." ▲



Hole #10 during construction and after grow-in.

