

The Building Of Shattuck Inn Golf Course

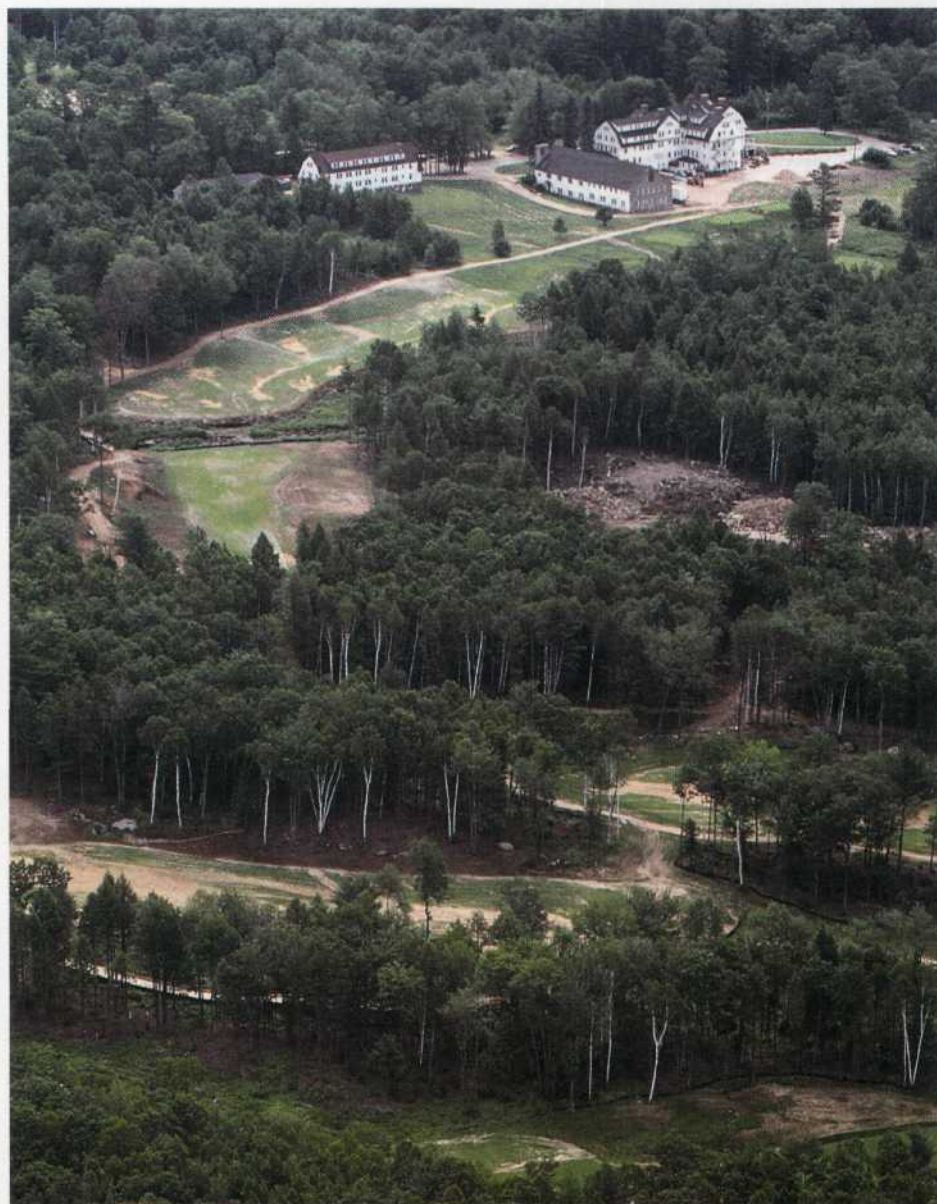
As the great Scottish golf course architect Donald Ross said nearly 80 years ago, "The Lord made golf holes. Golf architects merely discover them."

Brian Silva, a golf course architect in the firm of Cornish & Silva, is an unabashed fan of Ross. He recently discovered 18 of the Lord's golf holes in the mountains of southwestern New Hampshire. Shattuck Inn Golf Course, which opens this spring, is the first phase of a 400-acre residential community in the rugged New England countryside.

Situated amidst granite ledges, brooks, and wetland meadows below Mount Monadnock in Jaffrey, NH, Shattuck Inn was a popular year-round destination resort dating back to the Civil War. Wealthy businessmen from Boston and other New England cities would take their families by train to the inn for weeks of hiking, playing croquet, fishing, or reading in the fresh mountain air. Cows from nearby dairy farms grazed in the meadows and drank from the bubbling brooks. The low-pressure lifestyle of the resort was just hours from most major cities.

Unfortunately, this type of retreat faded after World War II as motels and more transient guests became common. Some resorts survived by appealing to skiers in the winter. Shattuck Inn was not one of them.

The memory of summers in the mountains of New Hampshire lingered in the minds of those fortunate enough to have experienced them. Richard Bryant, an attorney and successful developer of light industrial and office parks in Washington,



Shattuck Inn sits above its new golf course in Jaffrey, NH.

***“The Lord made
golf holes. Golf
architects merely
discover them.”***



More than 33 bridges span 3,000 lineal feet of wetlands, beaver ponds, and brooks.

DC, spent many summers as a child at his parents' summer house on 100 acres next to the inn property. The fabulous natural beauty of the area made an indelible impression on Bryant. Eventually he decided to take a personal interest in the old inn and the land around it.

In 1952, the Shattuck family sold the inn to the Catholic Church to serve as a seminary. Twenty years later the inn was again for sale. When Bryant heard this, he contacted the seminary to confirm the boundary between his parents' parcel and the inn's. Instead he ended up buying the 120-room inn and the 180 acres around it.

After a lease to a group operating the inn as a Christian conference center expired, Bryant began to explore the possibility of operating the inn with hiking, tennis, and swimming as its only amenities. He was informed by experts in the hospitality industry that the building was too large and too remote for success without a major amenity. That's when the idea of a residential community surrounding a golf course was born.

His experience as a developer taught him that there was one particular type of attraction that could restore the area's popularity: golf. People will drive a few hours to enjoy golf in a beautiful location. Even if they don't play, they like to live or relax in golf communities. The drawing power of the game, as well as the New England countryside, are well established.

However, a land planning firm discovered that the existing 280-acre site was not large enough to contain both homes and a golf course. Bryant purchased a neighboring 120-acre farm to gain additional space.

The only way such a development could fly in New Hampshire was by extreme consideration of environmental preservation. Bryant and his managing partner in the Shattuck Inn project, Ed Pittman, had to calm the fears of local residents, satisfy all environmental issues, and demonstrate a true concern for the unique characteristics of the area.

Pittman had spent much of his career working for the Bureau of Land Management, preparing and evaluating environmental impact reports. He had come to know and value the area while developing bicycle routes for American Youth Hostels. The former park planner understood how to take an undeveloped area and make it accessible to the public without harm.

One reason Cornish and Silva were selected to design the golf course was their combined experience in environmentally sensitive projects. Silva had pioneered various types of environmental impact monitoring during the design of The Captains Golf Course on Cape Cod. He'd learned the complexities of obtaining permits for golf courses. Cornish had gained a great amount of trust and respect as the leading architect of golf courses in New England. An important feature of Cornish and Silva's practice is that both men were agronomists before they were golf course architects.

Cornish, a Canadian by birth, taught agronomy at the University of Massachusetts in Amherst alongside Dr. Lawrence Dickinson, a pioneer in turfgrass education. In 1952, he entered private practice as a golf course architect.

Silva, a Massachusetts native, taught at the University of Massachusetts 20 years after Cornish with Dr. Joe Troll. After completing degrees in turf management and landscape architecture, Silva became an instructor at Lake City Community College, Lake City, FL. In 1981, he became the northeastern regional agronomist for the United States Golf Association Green Section. Cornish invited Silva to join his practice in 1983.

"It's funny," said Silva. "All I ever wanted to be was a golf course architect. My father was a feature shaper [bulldozer operator] for golf courses. I marveled at the way he could take raw land and a set of plans and turn them into golf holes. He'd let me study the plans and try my own luck pushing dirt into shapes. When I was nine years old, I met Geoffrey on a course while watching my dad work. From then on he counseled me on how to become a golf course architect.

"I was pretty exasperated when I graduated and couldn't find a job with a design firm. But as things worked out, I wouldn't change a single thing. I got to see nearly every great golf course in the Northeast and Southeast. I learned more teaching and working with superintendents than I would have if I'd gone straight into practice."

The Captains, Brian's first project, was selected by Golf Digest as the Best New Public Course of 1985. In the next six years, he designed many more courses, including the new West Course at Firestone Country Club in Akron, OH, and remodeled or

continued on page 18

Shattuck Inn

continued from page 17

added to 32 other golf courses from Missouri to Maine. But the Shattuck Inn Golf Course is the one he looks upon with greatest wonder.

It was snowing heavily when he first walked the site with Pittman in December of 1986. "The ground was covered with snow and it continued to snow heavily during our four-hour walk," Silva recalls. "It was rocky, wet, and thick with trees, pretty severe topography for a golf course. We had to navigate around brooks, large wetlands, and steep ledges. I just hoped that Ed knew how to find our way back to the inn without a compass."

Silva and Pittman found it impossible to view any clearing larger than 50 feet. They could see however, that the greatest potential for 18 corridors for golf holes were those areas wrapped around ledge outcroppings, beaver ponds, and streams.

Over millions of years, soil and material eroding from the slopes lined the base of the valleys. Dairy farmers had cleared part of the forest for grazing their cattle. Over a century, maples, white pine, birch, beech, and oak reclaimed the meadows. The wetlands were actually a recent development caused by beavers building dams in the brooks. The only remaining workable land surrounded the wetlands in between the rock ledges.

Silva's job was to find corridors for golf holes in the maze of rock, streams, and wetlands. He had to make the area accessible for recreation without disrupting its spectacular nature. All the time he had to consider problems with construction and permitting.

"The course had to be set into the land to moderate construction costs and reduce



The golf course opened up spectacular views of Mount Monadnock and created new wildlife habitat.

permit difficulty," Silva states. "The ultimate goal for the golf course was playability within the parameters of reasonable cost and obtaining permits."

The site required a great deal of back and forth between Jaffrey and Silva's office in Uxbridge, MA. "We did seven different preliminary layouts," he remarks. "Ed [Pittman] had the hard job, negotiating with the permitting authorities. He worked literally seven days a week for two years to work out compromises. He fed us their requirements and we came back with three more layouts." After choosing one of them, Silva still didn't want to go to final drawings.

"Brian wanted part of the fairways cleared so he could get accurate readings on the terrain in relation to the wetlands and ledges," Pittman explains. "The Soil Conservation people wanted all clearing done in the winter when the ground was frozen so we wouldn't disturb the subsoil. The Corps of Engineers insisted that we build silt fences to protect the wetlands from eroding soil during spring rains."

Pittman got the go-ahead to clear two-

thirds of the fairways from several local and state agencies. Starting in November 1987, tree removal began, opening up entirely new vistas of the dramatic mountains. The trees were fed through a whole-tree chipper and sold to a wood energy plant. By December, more than seven miles of silt fence and 11,000 bales of straw were in place. Jackhammers were needed to bury the fence in the frozen soil.

In the early 1800s, the area had been cleared and sectioned off with rock walls by farmers to create pastures for their dairy cows. Pittman wanted to save as many of the walls as possible. The combination of rock walls and ledges further complicated design.

Now able to see all the site's features clearly, Silva went to work on the plan that would be presented to the Wetlands Commission and the Corps of Engineers. A soil scientist and wetland biologist were also hired for their advice on the layout.

During the few months it took the group to produce a revised plan, the guidelines used by the commission and the Corps changed. Now a greater portion of the site was considered wetlands and could not be filled in during construction. Silva went back to the drawing board for yet another revision, changing half the holes to meet the new rules. By February 1988, Pittman had all local approvals. The final approval from the U.S. Corps of Engineers didn't come for another year. More than 20 different permits were required just for the golf course.

"There are holes where you must hit over wetlands to reach the fairway and again to reach the green," adds Pittman. "More than 33 bridges totaling 3,000 linear feet were required to preserve the wetlands and satisfy the Corps."

As the ground froze in the fall of 1988,



The fairways were capped with six inches of sand to improve drainage and speed establishment of the bentgrass.

Golf Course Builder Vinnie Bartlett and his Fallbrook Landscaping crew moved onto the site to clear the remaining trees in the fairways and to begin the process of blasting out the areas for greens and tees. "Each hole has four or five small tees," explains Silva. "We wanted to keep blasting to a minimum and lay the course into the existing terrain as much as possible. The multiple tees also make the course playable for a wide range of golfers. Still, some of the carries bother me. But you have to draw the line somewhere when you're faced with permitting."

One of the most difficult hurdles to clear in the rocky terrain was the installation of the irrigation lines. Pittman wanted the course to be a year-round source of recreation by using its trails and cart paths for cross-country skiing in the winter. This meant water had to be available for snowmaking equipment. White Turf Inc. of Barre, MA, was assigned the challenge of installing the multipurpose irrigation system.

A five-acre brook-fed pond was built as an irrigation reservoir. Water from the pond would be pumped throughout the course for both golf and snowmaking by a variable-frequency-drive Best Equipment pump station. Since the system had to be active year-round, ductile iron mains had to be buried five feet deep in the rocky soil. That required large equipment and a great deal of dynamite.

Silva knew the importance of having the golf course superintendent on site early in the construction process. The construction of The Captains was still fresh in his mind. He had been fortunate to have two skilled superintendents on hand in Cape Cod - Sherwood Moore and his assistant, David Robinson. The two were a team, having worked together at Winged Foot in Mamaroneck, NY, before taking on The Captains.

Robinson visited Pittman and Silva at Jaffrey on a crisp winter day in early 1989. "The site had just been cleared," Robinson remembers. "It was beautiful, but I knew growing grass there was going to be a challenge. The Captains was all sand. This was all rock. Jaffrey also seemed like an ideal place for my family to live."

Robinson signed on in the spring of 1989 and went to work alongside the Fallbrook specialists on building the greens and tees, finishing the irrigation system, and constructing the bridges. Irrigation lines had to cross the brooks and wetlands by the bridges. "We strapped poly pipe

continued on page 22

Pene-Turf

soil treatment

Tough on Turf Problems

- Improves infiltration
- Improves percolation
- Softens hard soil
- Improves aeration
- Non-toxic - biodegradable
- Easy to apply

Call For More Information
1-800-348-2608

 **FOUR STAR SERVICES, INC.**

2275 North State Road One, P.O. Box 463,
Bluffton, Indiana 46714



Pene-Turf...

Good for the Earth!

Circle 237 on Postage Free Card

Natural Geotextiles for the Earth



Our fabrics are woven from natural fibers to cover a world of engineering and landscape applications.

ANTI-WASH® / GEOJUTE®

Erosion control/vegetation establishment. 100% natural jute fibers. Biodegradable after one to two years.

DEKOWE®

Coconut fiber engineering fabric. Woven from coir yarns, DEKOWE® is a tough, durable fabric used to construct geogrids and geocells as well as embankment stabilization. Biodegradable after four to ten years.

For information, please contact:

1-800-225-4099

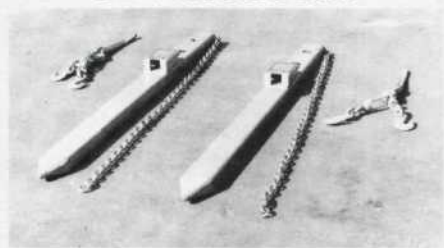
Distributor inquiries invited.

BELTON INDUSTRIES, INC.

8613 Roswell Rd. ■ Atlanta, GA 30350
1-404-587-0257 ■ FAX: 1-404-992-6361

Circle 236 on Postage Free Card

From Bucket Loader to Versatile Fork Lift in less Than 5 Minutes!



C.C. Bucket Forks can change a bucket-loader into a multi-purpose lifting vehicle. No drilling, welding or bolting.

**Easy-on, easy-off installation
-in less than 5 minutes.**

Made in the U.S.A. Canadian Patent No. 1,103,622
U.S. Patent No. 4,242,035



A NEW CONCEPT IN MATERIAL HANDLING!

CHECK THESE SPECIAL FEATURES!

- Easy storage—tines are separate and flat
- Transports easily—no awkward angles
- Easy to handle—each fork weighs only 50 pounds
- Universal—fits most popular brands of loader buckets
- Easy-on, easy-off installation—in less than 5 minutes!
- Ideal for farm use or at construction sites
- Handles most materials—load capacity is 3,000 pounds
- Full money back guarantee!

\$399.00

(delivered anywhere in U.S.)

Send your check
or money order to:

CC[®]
C.C. Bucket Forks, Inc.[®]
P.O. Box 3796, Orange, CA 92665

In Calif. call collect: Toll-free, except in Calif.
1-714-637-4645 1-800-854-3532

CA RES. ADD 6% SALES TAX

Copyright 1981 C.C. Bucket Forks, Inc.

Circle 241 on Postage Free Card

Shattuck Inn

continued from page 19

underneath the bridges," Robinson reveals. "The sections were fused together so they could expand and contract without problems. They will have to be drained in the winter. Snow for the ski trails will have to be trucked to some areas."

By the following winter he had established the Penncross greensand tees and battled to seed six fairways with a 50/50 mix of Penncross and Penneagle. "Even though we picked tons of rock out of the fairways, they grew back over the winter," Robinson jokes. "The thought of picking rock out of 18 fairways every year was scary. Furthermore, it took the soil weeks to dry out after a rain and our mowing equipment was always threatened by rocks."

Last spring, with just 12 months to go before opening, Silva, Pittman, and Robinson grew concerned about finishing the fairways. "Dave [Robinson] came up with the idea of putting a six- to eight-inch cap of sand on top of the existing rocky soil," Silva says with relief. "After all, The Captains worked out fine and it was 90-percent sand. Sand would also help us out with drainage."

The decision had to be made in time to truck the sand in before the end of winter. Fortunately, since the economy in New England was slow, Robinson was able to locate sand from a local pit at a good price. Without delay, 20,000 yards of sand was stockpiled on all 18 fairways. The crew returned in April to spread the sand after frost had left the ground.

As the ducks began to migrate through Jaffrey in May, Robinson was busy testing the irrigation system and seeding the fairways. "It was a wet spring and summer," he points out. "I think the sand cap gave us an edge. We seeded the roughs with a bluegrass/ryegrass mix about the same time. The bentgrass came along very quickly. That was a big help when three fairways were washed out after 5-1/2 inches of rain fell in 48 hours in August. The sand made repairs easier and protected the wetlands from silt."

The crew at Shattuck Inn spent the past summer and fall finishing the five miles of cart paths and roughly 71 bunkers. By September, the course was playable. The golf course's official opening is set for this spring.

The course will play to over 6,600 yards and be operated on a daily fee basis. "Those who have seen it have said they would pay just to take a cart ride around the 18,"

boasts Silva. "Mother Nature sure got the setting right!"

Robinson has begun to make the switch from a construction superintendent to grow-in and maintenance. "On one section of the 13th fairway, we planted seed treated with a growth enhancer," he remarks. "There is a noticeable difference in development in that section. I've also noticed a difference in thatch in areas with heavy shade. Next spring, as we lower the greens to 3/16-inch and the tees to 1/2-inch, we'll start using minors in our fertilizers. We'll cut the fairways at 5/8-inch and the roughs at 1-1/2 inch. It's nice not having to worry about Poa [annual bluegrass]."

The superintendent is always conscious of what he applies to the course. "We had test areas at The Captains which gave us an idea of the mobility of pesticides and fertilizers," Robinson remarks. "Basically, they don't migrate at all if you apply them correctly to dense turf. Still, I won't take any chances near the wetlands with a few materials. My biggest concern is preventing snow mold."

Robinson has been following a maintenance schedule similar to the one used at The Captains. "You have to stay on top of fertility, especially the first few years," he states. "By then, the bent creates its own organic matter in the sand. I think we would have needed more chemicals and had higher equipment maintenance costs if we'd stuck with the existing soil in the fairways. The sand cap was a judgement call that's already paying off."

Pittman describes the new course as fair but unforgiving. "The views of Mount Manadnock are spectacular," he boasts. "We removed perhaps a fourth of the trees on the property, but we opened up vistas that rival many in my experience with the Bureau of Land Management. In many respects, we have improved the area for wildlife. Foxes have built five dens in the fairway retaining walls. The diversity of other small mammals and birds has also increased."

Shattuck Inn Golf Course apparently has satisfied the environmental restrictions placed on golf course design and maintenance today. The team of Pittman, Silva, and Robinson succeeded largely because of their combined experience in environmental impact, agronomy, and the history of golf course architecture. "If you seek to find golf holes rather than simply manufacture them, your end result will be compatible with nature," Silva advises. "That's the way golf originated, and that's the way it should remain." ●