



Of floods and freezes...

Consider this:

► One million cubic meters of material were layered over the Nicklaus North Golf Course in Whistler, B.C., to bring it up to the flood elevation required by law.

► Fairways were raised six feet to ensure proper drainage to meet specifications for the 100-year flood (that is, a flood of a severity not seen but maybe once in 100 years).

► Greens and tees were raised 10 feet to meet the standards for the 200-year deluge.

► A finishing layer of sand, six inches thick, was brought in to ensure proper drainage and better rooting in the substructure.

The turf requires more fertilizer and water, but these considerations made it possible to seed the course in August of 1994 and begin play exactly one year later.

Moving water

To deal with drainage problems, 20 miles of sub-surface drainage and a fully-automated irrigation system supply 1000 gallons per minute through 900 irrigation heads.

The design called for smooth-wall pipe rather than perforated pipe to increase water flow. Total cost for the upgrade: \$24,000.

Three lakes surrounding the course are interconnected with a 1.5 percent grade. Using



Darren Burns plays two rounds a week at Nicklaus North: one to take notes, and another round for fun.

18-inch perforated pipe helps minimize erosion, percolating out unwanted sediment. Superintendent Darren Burns adds that the bunkers were designed with a minimum 1% slope to ensure drainage. USGA-specified sand from nearby Harrison Lake fills the bunkers.

"The drainage issue has been solved as best we could," says Burns. "With all the grating, catch basins and pipes, we keep the water moving. Even on this new course we have no standing water."

Water from Green

Lake is free, but its temperature is between 34 and 52 degrees. Early in the spring, with soil temperatures near freezing, Burns must ration irrigation to prevent freeze burn on greens and tees. The staff's only recourse is to use water sparingly, and wait for warm weather. Two greens are in constant shade and require hand watering with warmed water.

Integration

A Vegetation and Habitat Management Plan integrates the course design with existing terrain, using topographical maps made

Be sure that your greens care does not further aggravate heat-stress conditions.

from aerial photos. Seven thousand trees—firs, cedar, spruce, pine, mountain ash and hemlock—were replanted, and 12- to 24-inch fescue were replaced as habitat for small mammals.

About 30,000 shrubs and aquatic plants were planted, and 120 bird, wood duck and bat boxes were placed around the course.

An Audubon Sanctuary certificate is another of Burns' goals.

As a golfer, Burns is able to view the course from a player's perspective and that of a superintendent. He plays one round a week to take notes, and another round for fun.

Just ask

Burns is a talker. He'll answer questions from golfers, and he knows how to communicate with his staff.

Burns holds weekly meetings with his 24-man crew. They discuss positives and negatives to course maintenance. Burns relays what looks good and how it got that way.

He doesn't expect his crews to be as driven as he, but says, "I want the crew to think of the consequences when they are working. They need to evaluate their work and promote our product." □