

## Tree Removal Improves Turfgrass Health, Performance, and Playing Quality

**St. Thomas Golf and Country Club**  
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### The Problem

The turf at St. Thomas Golf and Country Club performed poorly for a number of years. The problem was caused by the extensive shade and lack of air circulation around many of the greens, tees and fairways. A tree planting plan was initiated at St. Thomas in the 1960s and 1970s and as the trees matured, the growing environments gradually deteriorated. The poor growing environments resulted in weaker turf, increased disease pressure and higher populations of *Poa annua*. St. Thomas also had a very small, closed-in, claustrophobic feel, and the extensive tree and brush plantings created a host of playability problems. The problems were so extensive that the solution required a multi-faceted approach.

### The Solution

Extensive tree and brush removal was needed along with repeated deep soil modification treatments to improve internal drainage. The first step after identifying the fundamental problem was to analyze individual growing environments and identify where tree and brush removal was needed. USGA agronomist David Oatis conducted the first tree evaluation visit in fall 2012. Large-scale tree removal was initiated in winter 2012 and has continued every winter since. Tree work can be expensive, and the topography at St. Thomas is severe, making it more challenging and expensive. Fortunately, a great deal of the tree-removal cost has been offset by selling the lumber.

### The Results

There have been many noticeable improvements in turf health and playability. Disease activity has been much less prevalent and wear problems have become much less common. Irrigation, especially syringing, has been dramatically reduced. True water use reductions are difficult to identify as weather and annual precipitation amounts vary. However, recorded flowmeter readings since project inception are indicating a steady downward trend; 2012 – 13,079,000 U.S. gallons; 2013 – 9,902,000 U.S. gallons; 2014 – 8,171,000 U.S. gallons.

Improved air circulation also has reduced soil and canopy temperatures by as much as 11 degrees Celsius during hot, humid weather. Fall playability has improved and staff hours for leaf removal have been greatly reduced. In addition, the duration of frost delays has significantly decreased.

In spring 2014 and spring 2015, extensive winter injury was experienced at many area courses. The greens at St. Thomas where tree work had been accomplished experienced 80 percent or higher survival rates. Unfortunately, in 2014, the remaining heavily shaded greens experienced significant turf loss.

The tree work has created an open feel to the course. The increased air flow throughout the course makes it more comfortable for golfers to play on warm, humid days. Playability has been dramatically improved, and the unique topography and architectural features at St. Thomas are no longer masked by trees and brush – remarkably improving aesthetics. The end result is that golfer enjoyment has been tremendously improved.

One of the biggest hurdles in performing tree work, particularly of the magnitude required at St. Thomas, was gaining golfer acceptance. A golfer-education program was initially accomplished by circulating educational articles. Furthermore, Wade Beaudoin, golf course superintendent, was available to field questions from golfers. Once the initial phase of tree removals was accomplished, the program sold itself with the obvious improvements in turfgrass health and playability.

Currently, the biggest challenge is physically accomplishing the tree work because of the large scale or required work. The second major challenge is budgeting. Much of the project cost has been offset by selling the lumber from tree removals, but the work, cleanup and reseeding afterward is labor-intensive.



*The sixth hole at St. Thomas has unique and very memorable topography, but it was masked by the tree plantings*



*Once the trees were removed, turfgrass health improved, and the architecture and topography of the hole was highlighted*