

Thomas Vorio

GOLF COURSE SUPERINTENDENT

Oak Hills Park Brings Great Value to West Norwalk beyond the Game of Golf:

The Oak Hills Park Golf Course is situated on 144 acres of land in West Norwalk. Only 77 acres is actual playable golf course. The remaining 67 acres is comprised of a variety of natural open space landscapes. In 2009, we began to transition the golf course into a sustainable growth golf course based on a model developed by The Natural Audubon Society that focused on environmental planning, wildlife and habitat management, water conservation, water quality management and finally outreach and education.

We first began by using soil moisture technology to monitor our irrigation needs and started to transition towards drought tolerant grasses. By doing so we were able to cut our water consumption by 50%. As the weaker grasses die out we replace them with drought tolerant varieties that require less water and lower our irrigation needs. We also implemented the use of buffer strips around our water bodies to prevent contaminants from entering our ponds. After just 3 seasons, we have noticed a drastic improvement in the water quality of our ponds and the buffers strips also act as an ecosystem for valuable wildlife at the Park. Recently, with the help of the Norwalk Conservation Office, we were able to secure a grant through section 319 of the Clean Water Act to focus on improving water quality, remediating wetlands, and improving our buffer strips around our ponds.

This season our main focus in our non-golf areas was the ornamental gardens at Oak Hills. Working with local landscape designer Cindy Shumate (who volunteered her time and services), we were able to divide ornamental grasses, move clustered perennials, and create several new gardens at zero cost. This project was so well received in a great display of community support; The Oak Hills Women's Golf Association has volunteered countless hours to help us maintain these new beautiful landscapes.

In summation by maintaining the golf course utilizing sustainable practices, we were able to improve the condition of the golf course by leaps and bounds, improve these non-golf area open spaces, inspire volunteerism, and become an environmental steward to the West Norwalk community. If you would like more information about these projects I invite you to visit my website at www.thomasvorio.com.

Oak Hills' Green Golf Initiative

Program Goal: Transition Oak Hills Park Golf Course into a sustainable growth golf course

"Sustainability is about ensuring profitable businesses while making decisions that are in the long-term interest of the environment and communities. The focus is on the continual improvement by professionally managing and conserving resources and inputs, and reducing waste while providing playing conditions that satisfy golfers of today and tomorrow."

-Environmental Institute for Golf

This program will strike an equal balance of profit, playability, and environmental awareness. The following areas will be addressed when the program has been implemented:

Environmental Planning

Wildlife and Habitat Management

Chemical Use Reduction and Safety

Water Conservation

Water Quality Management

Outreach and Education

Water Conservation

The Water Diversion process has taught us some valuable lessons about the way in which we manage our water at Oak Hills Park. We can no longer maintain the golf course in the manner that we had in the past. With the new hybrid irrigation system, it was critical to employ a water conservation program. This program focuses on maximizing our irrigation efficiency as well as examining the practices that we use to irrigate the golf course. Some examples include soil moisture probes, hand watering hot spots, the use of wetting agents, and monitoring daily water use as well as weather conditions (evapo-transpiration, temperature, humidity, wind).

Evaluation of our Water Conservation Program:

Total water used for irrigation (May – August)

2007 (Dry Year)	12,456,727
2009 (Last Year)	4,345,885
2010	5,809,544

Total city water purchased (May – August)

2007	4,000,000
2009	677,065
2010	2,300,000

Pumphouse energy expenses (May – August)

2007	\$9671.29
2009	\$9618.71
2010	\$5701.16

How do we improve our water conservation program?

The next step is to conduct a site specific best management plan for water conservation. This plan will examine site conditions, researching the efficiency of our outdated sprinkler nozzles, and looking for ways to improve our watering practices. We will continue the aggressive inter-seeding of bentgrass and fescue into our fairways. These grasses are more drought tolerant than the existing rye grass and poa annua that currently comprise our fairway turf stand. These drought tolerant plants combined with enhanced nutrition, aeration, and wetting agents will allow us to maximize our conservation while providing competitive playing conditions.

“Tall Grasses”

When we speak of tall grasses there are two primary areas that we are concerned with. These areas have different goals as well as management practices. These two areas are *native grasses* (areas of naturalization) and *buffer strips* (filter strips). Native grasses are areas that have been allowed to naturalize. They are typically out of play areas. Examples of these areas are the hill in front of 5, the left of 2 tee, the left of 6 fairway, behind the first green...etc. Buffer strips are the areas immediately surrounding any water body on the golf course. Examples of these would be, the pond at the proshop, the pond at 2, the pond at 3, the irrigation pond, the pond on 14 & 15, the stream on 16 & 17, and the stream on 18.

Naturalized Areas

Although the general perception, that these areas are unmaintained and out of play, they offer significant environmental benefits as well as financial and labor savings. Some of the environmental benefits include habitats for organisms and wildlife along with nature travel corridors. The financial savings include reduced labor in maintaining these areas. This reduces wear and tear on equipment and allows the maintenance staff to focus on the “critical areas”. Examples would include edging bunkers, weeding bunkers, filling tee divots, edging Belgium block, and for the first time having the time to fill fairway divots.

Buffer Strips

When talking about water conservation, water quality is just as important as water consumption. The most effective way of ensuring water quality, is the implementation of buffer strips along all water bodies.

Environmental Benefits: These areas are designated as no mow and no spray areas. They filter out any nutrients and chemicals that may enter the water body. These nutrients include any applications that are made to the highly maintained turf areas, grass clippings, and also the fecal matter from our large Canadian geese population. These nutrients lead to algal blooms and duck meal, deteriorating the water quality in our pond and streams. Also these buffer strips reduce soil erosion along the shoreline of these areas. The tall grass around the water also provides a natural wildlife habitat. They provide a sustainable food source for aquatic organisms, and at the same time deterring nuisance pests such as Canadian geese.

Financial and Labor Savings: Just like the native grasses, the buffer strips offer significant financial and labor savings. They reduce the need for time consuming trim work around the pond and streams. They also extend the life of the maintenance equipment allowing the staff to focus on more critical areas as listed above.

Goals for Improving the Aesthetics and Effectiveness of These Areas:

These areas are a work in progress. Some of the ways to improve these areas include:

- Over-seeding these areas with native grass seed. This process is done when the grass goes dormant usually around mid November. The grasses are mowed down and the clippings are collected and removed off site to a composting site. Then these areas can be sliced seeded with these native grass seeds.
- Another way to improve these areas is to plant perennial wetland plants like shrubs and ornamental grasses in out of play areas.
- Conducting routine site assessments to determine areas that may need to be lightly trimmed and other thin areas that will require additional seeding and attention

Outreach and Education

“Being good enough, is not good enough – give customers a reason to be faithful”

-Graham Roberts-Phelps

It is critical during this economically challenging period, that our customers feel that they are receiving good **value** for the money they spend to play Oak Hills. Value can be defined as perceived benefits compared with perceived costs. When the benefits are not clearly visible, it is our responsibility to educate and communicate these benefits to our customers. Some of the ways that we can communicate this to our customers:

- Poster board outside of administrative office
- Brochure with take home facts that will be available to all customers
- Press release through email blast as well as an article to local newspapers
- Communicating our program to City of Norwalk staff
- Information packets presented to Men and Women’s golf associations