Course Consulting Service

ON-SITE VISIT REPORT

Hamilton Golf & Country Club Ltd.
Ancaster, Ontario, Canada

Visit Date: June 25, 2014

Present: Mr. Rhod Trainor, CGCS, Superintendent
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Board and Committee Members
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USGA Green Section Mission: The USGA Green Section are leaders in developing and disseminating agronomically, environmentally, and economically sustainable management practices. We help golf facilities maintain better playing conditions for better golf through science-based and practical solutions.

It was my pleasure to make a full day Course Consulting Service visit to Hamilton Golf & Country Club Ltd. on Wednesday, June 25, 2014. The following report is offered as a summary of the major points discussed during the visit.

This was my first visit to Hamilton Golf & Country Club and I appreciate the opportunity to work with you. The primary purpose of the visit was to assess the putting greens. Catastrophic winter injury on the putting greens prompted the visit, and as you well know, many courses throughout upstate New York, New England, the upper Midwest, and southern Canada have been similarly afflicted. Hundreds, perhaps thousands, of courses experienced winter injury and the effect of the damage was compounded by the extremely poor growing weather this spring. Thus, golf calendars have been disrupted and a tremendous amount of revenue has been lost as a result of the extensive winter damage.

There are a variety of factors that affect a course's susceptibility to winter injury, and some courses came through virtually unscathed. Unfortunately, Hamilton was among those that was most drastically affected and the reasons are simple: the greens were predominantly annual bluegrass which is an extremely susceptible species; the majority of the greens are located in very poor growing environments as they receive insufficient sunlight and air circulation; a number of the greens slope to the north and/or have mounding behind them that helps trap snow and channels water onto the greens as it melts; many have reasonable surface drainage, but it is often in one direction which delays the melting process; many are soil-based construction and have insufficient internal drainage.

The shaded, pocketed environments also produce higher summer temperatures and increased disease pressure. These problems are more significant because the turf is less vigorous and has shallower, weaker root systems.

In short, many of the greens at Hamilton have all of the characteristics required to have winter damage and summer problems on a regular basis, and based on Mr. Trainor's description, some winter injury is experienced almost every year. It was just much worse this year as a result of the extreme weather conditions. It is also telling that *Pythium*, a heat and moisture related disease, also has been a frequent problem during hot humid weather during the summer. For all of these reasons, the best description of the greens at Hamilton is that they are extremely unreliable.

It is important to note that plenty of new and improved bentgrasses were established in the greens as a result of the recent damage. However, the growing environments the greens occupy simply will not support the new bentgrass. Furthermore, the internal drainage and lack of usable cupping area add further challenges to growing bentgrass on the greens as they currently exist. Thus, major changes are needed if you wish to improve putting green turf performance.

TREE MANAGEMENT

Hamilton Golf & Country Club is a terrific old course with wonderful heritage and tremendous architectural pedigree. Harry Colt is widely recognized as one of the old masters, and the land that Hamilton occupies is ideally suited to golf because of its tremendous topography. Unfortunately, the golf course has become grossly overplanted with trees, and this is to the detriment of virtually every aspect of the golf course as well as the trees themselves. Some golfers will undoubtedly argue that "it is the trees that make the course", but nothing could be further from the truth. It is the topography, the routing, and the green and bunker complexes that "make it the golf course". The trees hide the courses' best features and make it impossible to grow healthy, reliable, and good playing turf. Trees also limit playability options because the course has become so narrow. The truth is, the course occupies a large piece of land and the features are very large. However, the course has a very small, closed in, claustrophobic feel to it.

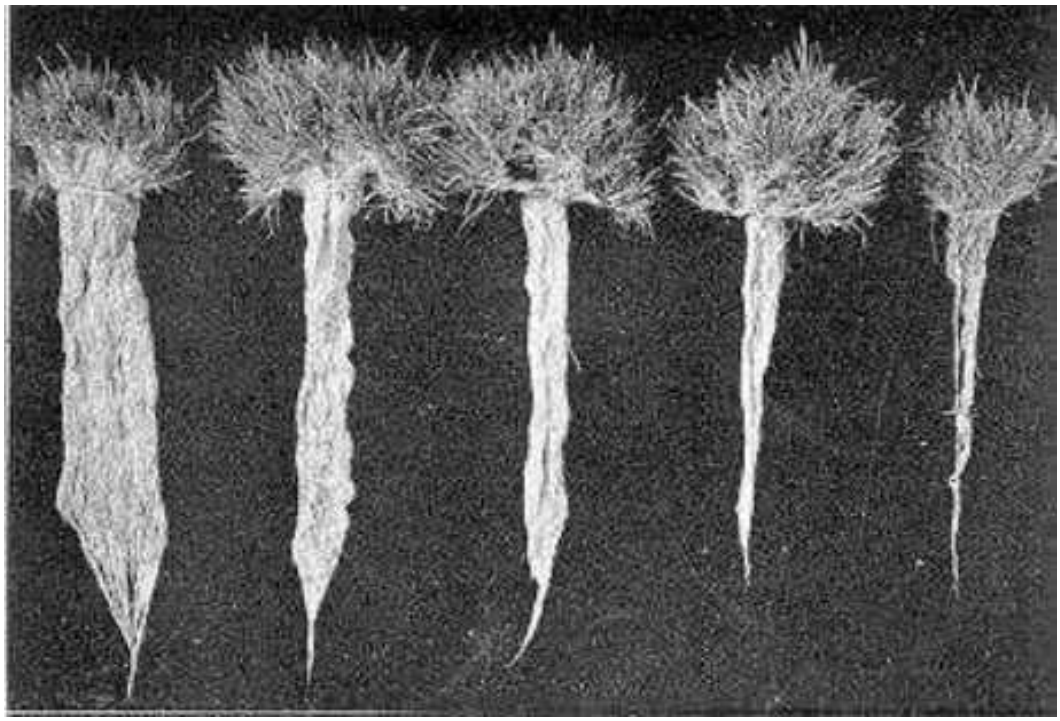
Some golfers also will argue that removing trees "will make the course too easy", but this also is patently false. Hamilton Golf & Country Club is not the first course to become overplanted with trees, and as a result hundreds of courses have implemented tree management programs. When properly implemented, the invariable result is healthier turf, better playability and vastly improved aesthetics. Handicaps do not go down, but players are given more options and wider corridors of play, and this makes for much more thoughtful and strategic play.

Also note that the growth rate of trees on golf courses is roughly double that of trees in the wild. This is due to the water and fertilizer that is applied to the turf. Trees compete for it very effectively. Trees also compete with one another, and trees that are planted too closely are unable to reach their full genetic potential. They end up with stunted, deformed growth habits and are unattractive and ultimately perform poorly. Courses that focus more on quality as opposed to quantity with respect to trees have better turf and better trees.

Therefore, extensive tree work is needed to improve growing environments to an acceptable degree, to restore the original lines of play, to open up interior views that have been lost over the years, and to improve tree health and quality. The course is currently nothing like Mr. Colt would have intended. The following Colt quote clearly states his feeling regarding tree plantings on golf courses: "Trees are fluky and unfair hazards".

<u>Growing Environments</u>

The growing environment turf occupies has a bigger impact on its performance that anything else, bar none. It affects what grasses can be grown and it has enormous influence on stress and disease pressure. The following picture from a 1933 issue of the Green Section Bulletin tells an important story:



Cultures of velvet bent grown under five different conditions of light. Reading from left to right, (1) Fully exposed to sun all day; (2) Fully exposed to sun forenoon only; (3) Fully exposed to sun afternoon only; (4) Speckled sun all day; and (5) Shade all day.

Insufficient morning light translates to shallower rooted, weaker turf that will be more susceptible to wear, stress, and disease problems.

Annual bluegrass is susceptible to winter injury as well as many different turfgrass diseases. However, it has 2 advantages over creeping bentgrass: annual bluegrass is a more efficient user of light, so it is better adapted to shaded environments; and, annual bluegrass handles wear better than creeping bentgrass does. Thus, shady, pocketed, high-wear environments are much better suited to growing annual bluegrass than creeping bentgrass and this describes almost every putting green at Hamilton Golf & Country Club.

There are thousands of different biotypes of annual bluegrass. Some actually have desirable characteristics, but all annual bluegrass is equally susceptible to winter injury. Annual bluegrass also is susceptible to numerous turfgrass diseases. If annual bluegrass populations can be kept alive long enough, natural selection actually works to gradually select for stronger AB biotypes. These have finer texture, produce fewer seedheads, and are more tolerant of stress and disease. However, periodic turf loss wipes the slate clean and the process of natural selection must start all over. The first annual bluegrass biotypes to invade following turf loss generally are the worst. These are the fastest germinators, quickest establishers, and the heaviest seed producers. These types are the least tolerant of stress and disease. Thus, once turf loss has occurred to annual bluegrass greens, they are prone to more problems for the next few years.

However, even the best AB biotypes require a tremendous amount of time, labor, and inputs (water, fertilizer, pest and disease control products, etc.) AB can provide a terrific playing surface, but it is difficult and expensive to maintain, and it is inherently unreliable. This is why many say that "….when annual bluegrass is good, it is great! But, when it is bad, it is dead or producing those annoying seedheads."

Thus, I recommend making a strong commitment to growing bentgrass on the greens. Doing so will improve the playability and reliability of the turf. Performing tree work around the greens to increase light penetration and air circulation is the first step. Bentgrass cannot be grown successfully on the greens now, and a sampling of specific recommendations regarding trees will be detailed later in the report.

Tree Health

Although the focus of these tree recommendations is to increase light penetration for the putting green turf, there are many unhealthy, declining, structurally unsound, and inappropriate trees on the property. Weeding out these will help relieve competition for and will highlight the better quality remaining trees.

Norway maples, now classified as an "invasive species" are a good example of trees that are not appropriate for fine turf areas. They have invasive roots and dense canopies, so it is impossible to grow healthy turf underneath them.

These Norway maples are on the right side of No. 5 West to the right of the fairway bunkers.

There are a few terrific old trees at Hamilton that are surrounded by lesser trees. Therefore, some removals would be recommended to expose, highlight, and relieve competition for the better trees.

Most golfers will not even notice this old oak. Removing the smaller trees and brush will expose it.

AGRONOMIC RECOMMENDATIONS

Clearly, the first step towards improving the performance and reliability of putting green turf is to address the growing environment issue. However, a number of other steps are needed to solve the other problems that plague the greens. Even with the growing environment improvement work already described, the greens will be unable to support a monostand of creeping bentgrass. Poor surface and internal drainage and lack of usable cupping area also are major problems.

Unquestionably, the best long term solution is to rebuild all of the greens to USGA Putting Green Construction Guidelines and establish them with an improved variety of creeping bentgrass. This is the most expensive option, but properly done, it would solve all of the agronomic as well as architectural problems. The USGA method of construction is the most thoroughly researched method of putting green construction and is widely acknowledged as the best. Properly built and maintained USGA greens do not have “an expiration date”. They have an indefinite lifespan; hence they are the longest term and best solution.

Short of reconstruction, there are a number of agronomic programs that could be implemented to improve their performance. These would include deep soil modification and installation of internal drainage systems. This would improve drainage on the soil-based greens, but keep in mind that even the best drained soils do not drain when they are frozen. This highlights the need for better surface drainage, and this cannot be easily addressed without reconstruction.

Cultivation and Topdressing

If the decision is made not to rebuild, I recommend the following:

- Continue to aerate the greens conventionally 2 times annually and topdress frequently throughout the year. This is an essential program regardless of whether or not the greens are rebuilt.
- The current program is to use 3/8 inch solid tines twice annually, and I recommend a slight change. Using solid tines for one of the annual aeration treatments is acceptable, but I recommend using hollow tines for the second. Doing so will help with soil modification and organic matter management.

The soil profiles are very consistent and there is not apparent layering. Organic matter levels also seem to be in line, so the current cultivation program has worked well.

- Double-drill and fill the soil-based greens every year for at least 5-7 years, and then switch to a program of double-drilling every other or perhaps every 3rd year. The goal here is to improve internal drainage moving water deeper into the soil more rapidly.
- The drilling and filling treatment can be performed in the fall or spring, but it should be done right before the greens are conventionally aerated. Combining the two treatments will condense the window of disruption. This requires a tremendous amount of labor, and it is expensive. However, it should have a very positive impact on internal drainage.
- The frequent light topdressing program looks to be matching the growth rate of the turf very well, and I do not recommend any changes.
- Given all of the new bentgrass that has been established in the greens, more verticutting will likely be needed in the future, particularly when the recommended tree work is performed. With the current growing environments, the bentgrass populations will be weak and unsustainable, but once the tree work is accomplished, the bentgrass will become much more aggressive. When that occurs, multiple light verticutting treatments in the spring and early summer months will be required.
- Many older courses have installed internal drainage systems in greens in the last 20 years, and the process has been thoroughly refined. It works extremely well, and contractors can generally install a drainage system in a green in 2 days and the greens are quite playable afterwards. It is considerably less expensive than reconstruction, and it results in a significant improvement in drainage. However, old soil-based greens that are drilled and filled and have internal drainage systems still will not drain nearly as well as a properly built and maintained USGA green. Furthermore, it does not solve the architectural issue of insufficient cupping area.

  Note: drilling and filling and installing internal drainage systems will reduce the potential for winter injury. Drainage improves Mr. Trainor's ability to keep the turf dry in the fall to aid in the hardening process. Furthermore, when mid-winter melts are experienced, the soils will drain more rapidly ***assuming they are not frozen.*** Given the extreme nature of last winter's weather, the drilling and filling and internal drainage systems would not have prevented loss of annual bluegrass. Under less extreme conditions, particularly when the soils are not frozen, it could help significantly.

  The only real way to guarantee that winter injury is not experienced is reconstruction to USGA specs followed by establishment with creeping bentgrass and combined with architectural changes to create more cupping area and better surface drainage (in multiple directions).

<u>Fertility and Growth Regulation</u>

As we discussed, Primo applications should commence immediately as this will tighten up the turf, encourage lateral growth, and improve wear tolerance. Rates of 6-8 oz. of

product per acre per week would be appropriate at this juncture. Continue to apply a small amount of nitrogen (0.07-0.15 lbs. A.N. per 1,000 sq. ft.) with each application.

Grass Populations

T-1 was seeded into the greens repeatedly this spring, and populations are very high on all the greens we examined. The remaining greens were to be opened the weekend following my visit, even though the turf still is thin in many areas. Cutting heights will have to be kept elevated this year to avoid putting too much stress on the weak new bentgrass in order to ensure its survival.

I also recommend continuing to overseed the greens with improved bentgrass varieties at every opportunity. Plugging is another great way to get improved bentgrasses established in the greens, and a number of courses are making this a regular part of their management program. Dedicating so many hours per week, per month, per year etc. can make a big difference in the long run. 3 inch plugging devices make the job quick and virtually non-disruptive. The smaller plugs are just about invisible to golfers.

TREE RECOMMENDATIONS

We quickly examined many of the putting green growing environments, and despite all of the work that has been accomplished over the years, they still are extremely poor. Thus, a tremendous amount of tree work will be needed to improve them to an acceptable degree. The greens obviously are the highest priority, but tree work also is needed for the tees and fairways. Unquestionably, the best long term solution for the tree issue at Hamilton is to institute a comprehensive management program. This starts with a thorough review of all of the trees. The tree review process is described in detail in the article entitled, Man's Friend or Golf's Enemy?. I have helped many other courses through the process and would be happy to work with you as well.

In answer to the question posed regarding ornamental plantings, in many areas, they do not have a significant impact on shade or air circulation. However, I believe they are not appropriate in a natural landscape, and I recommend they be confined to the clubhouse grounds. The reasons are simple: ornamental plantings add significantly to maintenance costs, and siphon money away from programs that can provide tangible benefit in terms of turfgrass health, playability and reliability. Furthermore, ornamental plantings look artificial in and clutter up a natural landscape.

Keep in mind also that over planting is a common problem with older courses. Most courses of Hamilton’s vintage have or have had the same problem. Fortunately, many have taken steps to solve it, and following are a few better known courses in the Northeast and Mid-Atlantic Regions that have implemented comprehensive tree management programs:

- Alpine CC
- Apawamis GC
- Arcola CC
- Baltusrol GC
- Beacon Hall GC
- Bedens Brook Club
- Bethpage State Park
- Bonnie Briar GC
- Brookville CC
- Burlington GCC
- CC of Buffalo
- CC of Rochester
- Cherry Hill GC
- Crag Burn GC
- Cutten Club
- Echo Lake GC
- Engineers CC
- Essex Fells CC
- Forest Hill Field Club
- Gowanda CC
- Green Brook CC
- Hackensack GC
- Harkers Hollow GC
- Hempstead GC
- Hopewell Valley GC
- Knickerbocker CC
- Little Mill CC
- Locust Hill CC
- London Hunt GC
- Mad River CC
- Manasquan River GC
- Maple Downs GCC
- Merion GC
- Metedeconk Nat'l GC
- Monroe GC
- Montammy GC
- Mountain Ridge CC
- National Golf Links
- North Jersey CC
- Oak Hill CC
- Oakmont CC
- Old Westbury GCC
- Pine Valley GC
- Plainfield CC
- Preakness Hills CC
- Quaker Ridge GC
- Ridgewood CC
- Riverton CC
- Rock Spring Club
- Rockland CC
- Round Hill Club
- Shackamaxon CC
- Shinnecock Hills GC
- Siwanoy CC
- Sleepy Hollow CC
- Somerset Hills CC
- Southward Ho CC
- Spook Rock GC
- Spring Brook CC
- Summit GC
- Sunningdale CC
- Tam O Shanter Club
- Tavistock CC
- Upper Montclair CC
- Westchester CC
- Whippoorwill GC
- Winged Foot GC
- Wykagyl CC

Given the magnitude of the work required, logging companies would be needed if the work is to be done in a reasonable period of time. This also is the most economical approach as well.

Following are my observations and recommendations following our very quick review of the tree plantings around greens:

Practice Putting Green

The two locust trees adjacent to the practice green should be eliminated. They shade the green and have invasive root systems that compete with the turf for moisture and nutrients.

Turf quality is poor under these trees, and this is an important first impression golfers have of Hamilton Golf and Country Club.

No. 1 South

This green slopes to the north and surface drainage is all to the front. The green receives no morning light at any time of year. The larch trees to the left block morning light during longer day length days, and the Norway spruce behind them compound the problem. The large clump of spruce to the back left block morning light during short day length days. The tall trees 60 yards to the back right of the green block early afternoon light during the shortest day length days, and the spruce clump to the right front of the green blocks afternoon light during longer day length days. This environment needs drastic work:

- Remove of all the larch trees on the hill to the left of the green as well as the clump of spruce behind them.
- The large clump of spruce to the back left also should be eliminated along with the small ornamental trees in that area. These small trees clutter up the areas

and block air flow. As many of the tall trees to the back right of the green as possible should be eliminated to increase early afternoon light penetration during shorter day length days. This would help reduce the potential for winter injury.
- The large clump of spruce to the right also should be eliminated.

The visual effect on this green of doing this work would be striking. Golfer's eyes would be drawn more to the land form that makes it such a uniquely beautiful hole rather than to the trees that hide the terrific topography.

- There are 5 excellent quality red oaks on the left side of No. 1 South, but this is a very large scale tree and they are too close together. If trees are needed in this area I recommend a maximum of 1 or 2 trees. In their current arrangement they will be competing with one another and ruining each other's form within another 5-10 years or so. Removing some of the oaks also will open up a terrific interior view of the course which has been lost.
- Closer to the tee, the 2 clumps of old, declining, and structurally unsound willow trees both should be eliminated. This is a messy, soft-wooded, and invasive-rooted species that should not be planted in fine turf areas.

No. 3 South

Extensive tree work is needed for No. 3 South green. The green is in a pocket of poor air circulation. Trees to the back left of the green block morning light during the longest day length days. The oaks to the back right block morning light during the shortest day length days. Thus, clearing should start in the back left all the way up to the top of the hill and extend 40 yards to the right of the green. Unfortunately, even the large old oak to the right front of the green is causing an issue. This blocks early afternoon light during shorter day length days and also contributes to the potential for winter injury.

Some of the other large ash and oaks and maples far to the right of the green also should be eliminated for their impact on short day winter light in the early afternoon.

Although the white pines to the left of the green do not contribute to shading issues, the tree line here is too close to the green and it contributes to poor air flow. This is another green setting that is very claustrophobic, so pushing the tree line back to the left and left front of the green is recommended to highlight the topography and improve air flow.

No. 4 South

No. 4 South green receives no morning light at any time during the year and also slopes to the north. Furthermore, much of the surrounding topography to the left and behind the green drains onto it. This green is a prime candidate for winter injury.

Starting with the pines directly to the left of the front of the green, clearing should extend all the way around the green. Pines to the left and back left block morning light penetration during longer day length days. The larch block morning light as well, and the

blue spruce to the back right of the green block early afternoon light to the rear of the green during the shortest day length days.

No. 5 South

No. 5 South is located in a marginal growing environment, and several trees to the right front of the green should be eliminated. These include the locust, multi-trunk cherry, and white pine. Unfortunately, a beech and 2 good quality oaks were planted to the left of the green. They are not causing afternoon light issues now, but they will cause major issues if they reach maturity in this location. All 3 of these should be eliminated as a form of preventive maintenance.

No. 8 South

The red oak to the back left of the green blocks early afternoon light during mid and shorter day length days, and this would be a major contributor to winter injury. It also is simply too close to the green and it is a fraction of its eventual mature size. It should be eliminated along with the copper beech to the right of the green. This blocks afternoon light during mid and longer day length days to the green, and blocks morning light to No. 9 tee all year. The beech should be eliminated also because it is too large a tree for too small an area.

No. 9 South Tee

The spruce to the left of the tee block afternoon light to the tee and afternoon light to No. 8 green. These also block morning light to No. 1 South green and all should be eliminated.

No. 1 East

This green receives no morning light as a result of the trees behind and to the back right of the green. Trees on the far side of No. 7 South tee also block morning light to the green. The red Norway maples to the right front along with the Colorado blue spruce to the right front are having a major impact on the front part of the green as well as the approach. Thus, all the trees behind the green, starting with the ash and the spruce on the far side of the cart path, including the oaks and cherry to the back right should be eliminated to maximize morning light penetration all year. Additionally, the spruce to the left front of the green block early afternoon light during mid and shorter day length days, and these also should be eliminated.

Once the trees are removed, this green would become a great candidate for installing a tightly mown area around it.

No. 2 East

The large clump of trees to the left of the green (pines, maples, spruce, etc.) all should be eliminated because they block morning light at all times of year. Additional tree work is needed to the back left and behind the green. Trees in this area block late morning light and early afternoon light during shorter day length days. Unfortunately, the large oak to the back right of the green is just too close to the green and also blocks a tremendous amount of afternoon light. The other small trees to the back right (spruce, crabapple and weeping birch) block air flow and all should be eliminated. The willows to the right front block some afternoon light but the bigger issue is their messy and invasive rooted nature. These are a poor tree for fine turf areas.

No. 4 East

No. 4 East is another green in a pocket that slopes north and has extensive shading in the east and in the west. Clearing to the left of the green should start adjacent to the front edge of the green and extend to the back left and behind the green (on the left side of No. 5 tee) to increase morning light penetration at all times of year. Additional clearing is needed on the right side of the hole and especially to the right side of the green. Pushing the tree line back here by 30+ yards would show off the terrific topography, increase afternoon light, and it will help with air flow. The idea is to push back the whole corner to the right of the green by 30-40 yards.

No. 5 East Green

No. 5 East green is an extremely pocketed green. It receives no morning light at any time during the year as a result of the pine forest to the left. Extensive clearing is needed starting 40 yards or so to the left front of the green and extending all the way behind the green. The forest needs to be pushed back as far as possible (at least 30-40 yards or more). Keep in mind that clearing to the left and back left is especially important because this has an especially significant impact on the incidence of winter injury. Unfortunately, the spruce behind and to the right of the green block all afternoon light.

Ultimately, the best solution for hole Nos. 4 and 5 is to push the tree line well back on No. 4 on the right-hand side. No. 5 has a very claustrophobic feel, and air flow is adversely affected by all the trees. Incidentally, the magnolia to the back of the green is just too close to the green, and it, along with the shrubs and the crabapples behind the green, all should be eliminated as well. This will help with air flow.

No. 6 East Green

No. 6 green does not receive any morning light during the year due to the trees on the right. It does not receive any afternoon light due to the trees on the left. Starting in the back right, clearing should extend forward approximately 40-50 yards (up to the irrigation controller) to maximize morning light penetration. This will serve the dual

purpose of opening up a terrific view of the irrigation pond and allow for much better air circulation. The ornamental and lankier plantings to the back right also should be eliminated.

On the left, clearing should start 40 yards to the front of the green with the tall pines and extend all the way to the back left of the green to maximize afternoon light penetration all year.

If you wish, 3-4 of the old white pines farther back on the right-hand side and 3-4 more on the left-hand side (in the naturalized area) could remain. They will block some sunlight but their impact should not be severe; and, the visual effect of keeping old, gnarled white pines would be terrific. The view from No. 6 green will be spectacular when this work is done.

No. 7 East

No. 7 East green receives very poor morning light penetration. The 2 Norway maples to the left of the green should be eliminated, and unfortunately, the other sugar maples and red Norway maple to the back left also should be eliminated. The multi-stemmed maple to the left front of No. 7 green also should be eliminated because of its structure which is extremely poor.

No. 9 East

The 3 Norway maples to the left front of the green are in poor condition and these are an inappropriate species for a fine turf area. They also block morning light to the green during the longest day length days. These 3 should be eliminated. More importantly, the spruce behind the green block midday light penetration during the winter, and this greatly increases the potential for winter injury on this green. The spruce all should be eliminated.

No. 3 West

This is a good example of a hole that has grown in, and Mr. Trainor indicated that it has already been widened through tree work. More work is needed both to improve turfgrass quality in the roughs and on the fairway, and also to improve tree quality. Starting in the left rough adjacent to the start of the fairway, the large red Norway maple should be eliminated and the weak red maple behind it as well. Further up in the rough, several weaker trees should be removed including the old, declining cherry and the Norway maple. Some of the declining pines also should be eliminated, but further up, 150 yards from the green, there is a terrific old white oak in the edge of the wood line. This is a good quality tree and would be worth exposing.

The copper beech to the back left of the green blocks light to the left portion of the green during longer day length days, and removal should start with this tree. All the pines behind the green on the slope, along with the 2 larger oaks, also should be

eliminated. These are all blocking morning light at various times of the year. Additionally, the tall, damaged trees to the right of No. 4 tee also are blocking morning light to No. 3 West green during mid and shorter day length days. These would be major contributors to winter injury.

> **Note**: the hill behind No. 3 West green works against the green in terms of light, so the trees on top of it magnify the problem significantly. This should be a high priority in terms of tree work.

No. 4 West

The sugar maple to the left of the green hangs over the edge and contributes to weak turf in this area. It should be eliminated because it is simply too close to play. The crabapples to the back left of the green all should be eliminated because of their impact on air flow. Their removal also would open up a terrific view. However, the pines behind the green are critical. These block morning light to the green all year long. The pines directly behind the green should be pushed back as far as possible (approximately 75 yards). These pines are also blocking morning light to No. 5 East green.

Even the weak pines to the back right of the green are important to remove because they block morning light during the shortest day length days. These would have a bigger impact on turf performance in the fall and winter. The spruce tree and the 2 poor quality sassafras to the right of the green also should be eliminated.

No. 5 West Green

This is a great example of an “infinity green” as the putting surface disappears into to the distant horizon. This is a green that should have absolutely no backdrop whatsoever because the defense is its contours and the lack of depth perception.

This is a green that should have no backdrop! The approach shot would be much more intimidating without the trees, and the view from the green may be the best on the property. Restoring it should be a priority!

Thus, all the weak, declining and structurally unsound birch to the left of the green should be eliminated, as they block morning light to No. 3 South green. Unfortunately, the spruce to the back right of No. 5 also need to be removed because of their impact on No. 1 South green. Eliminating these will open up an even better view of the surrounding holes and the clubhouse, and it will further accentuate the unique topography of the 5th green. Similar comments could be made regarding all of the trees and brush to the back left of No. 5 green. This material all blocks morning light during shorter day length days to No. 1 South green and is a contributing factor to winter injury. Removing this will have an enormously positive visual impact on No. 5.

Additionally, trees to the front left of No. 5 West green should be eliminated to open up a view of No. 6, and to improve air flow to both areas. These are covering up some terrific topography.

No. 6 West

No. 6 West is a very attractive hole, but it is extremely claustrophobic. The tree line should be pushed back on both sides of the hole to expose the topography.

Extensive tree work is needed for the green as it receives no morning light at any time during the year, and afternoon light also is severely compromised. Most of the trees in

the large mound 50 yards to the left front of the green should be eliminated, but you could keep 2 or 3 of the misshapen old white pines. They would allow a reasonable amount of morning light to come through during longer day length days, and isolating and highlighting them would create a terrific effect. However, the Norway maples and other pines and cherry trees to the left front of the green all should be eliminated because of their impact on morning light during mid and shorter day length days. The small tri-colored beech, the buckeye and the Norway maple to the left of the green all should be eliminated. These will block morning light during the shortest day length days, and this will promote more winter injury. The twisted pine to the back left is just a poor quality tree that should be eliminated. Unfortunately, the 2 beech and ash directly behind the green also should be eliminated. They block midday light penetration during all but the longest days, and they also block morning light to No. 3 West green.

Lastly, trees to the right and back right of the green should be eliminated. Clearing should continue all the way down to No. 3 West fairway to increase afternoon light penetration and to open up both areas for air flow. The visual effect on No. 6 would be remarkable.

The copper beech behind the green also is unsound. The following picture tells the story.

No. 8 West

There are 2 large silver maples on No. 3 West tee that are old, unsound and in decline. This is a very undesirable tree for fine turf areas because they are fast growing, soft-wooded and have very invasive root systems. These trees shade several greens and tees, including No. 8 West, No. 2 West and No. 2 South. Combined with the 2 basswoods to the left of No. 2 West, all should be removed. Basswoods fall into the same category as being a highly undesirable tree for a fine turf area.

No. 9 West

The spruce trees to the back right of the green block morning light during mid and shorter day length days and because there are so many in such a small area, all are misshapen and stunted. These will all have to be removed. They also affect No. 1 South forward tee.

CONCLUSION

This concludes my summary of the topics discussed during my visit to Hamilton Golf & Country Club Ltd. and I hope this report proves useful. Best of luck for a successful season and please feel free to call at any time throughout the year if I can be of additional assistance.

The Green Section appreciates your support of CCS and we encourage visiting the website http://www.usga.org/Content.aspx?id=26223 to access regional updates that detail our observations across the region and provide a snapshot of the types of problems and conditions we are seeing in our travels.

Sincerely,

David A. Oatis, Director
Green Section, Northeast Region

DAO:dlo

cc: Mr. Rhod Trainor, CGCS, Superintendent

Reprints:

Man's Friend or Golf's Enemy?
http://turf.lib.msu.edu/2000s/2000/000701.pdf

Say no to "Backdrops"
http://turf.lib.msu.edu/2000s/2000/000724.pdf

Against the Grain
No Link Available

The Hidden Cost of Trees
http://gsr.lib.msu.edu/2010s/2010/100504.pdf

Harvesting a Valuable Resource
http://turf.lib.msu.edu/2000s/2007/070504.pdf