Rebuilding Greens To Improve Playability And Address Water Issues

Islington Golf Club **Toronto, Ontario**
Ian McQueen, superintendent

Issue

Islington Golf Club, like many older courses, had the challenge of trying to meet golfer expectations for modern playing conditions on putting greens that were over 90 years old. The putting greens were built from native soils, had poor surface drainage, limited internal drainage, and were predominantly *Poa annua*. The combination of poor drainage and high amounts of *Poa annua* made it difficult to keep the turf healthy during the summer and to avoid winter injury, which can be severe in southern Ontario. Another challenge confronting the course is high sodium content in the irrigation water. This led to turf stress during dry weather because salts could not be adequately flushed through the soil due to poor drainage.

In 2013, the 11th putting green at Islington was rebuilt following USGA construction guidelines and seeded with creeping bentgrass. During the winter of 2014, significant ice damage occurred on all of the putting greens except the 11th. Club officials realized that with 17 of 18 putting greens severely damaged by winter injury, 2014 was going to be a tough year no matter what was done to repair the damage.

Action

After a course tour to examine the damage, club officials saw that the renovations made to the 11th putting green offered a long-term solution to the problem. The 11th putting green survived the harsh winter and had exceptional playing conditions during the previous season. Club officials had a thorough meeting and came to the conclusion that, given the severity of damage, it would be the best time to rebuild all of the putting greens to USGA guidelines and establish creeping bentgrass surfaces.

Rebuilding the putting greens would correct the major deficiencies of the old putting greens. Surface drainage issues could be eliminated, internal drainage would be greatly improved by following USGA construction guidelines, and *Poa annua* would be replaced with a modern variety of creeping bentgrass. These improvements would dramatically reduce the risk of summer decline and winter injury. New putting greens with improved internal drainage would also allow for periodic flushing of the root zones, helping to manage the issues that come from irrigating with water high in sodium.

Rebuilding the putting greens at Islington Golf Club corrected several agronomic challenges and helped overcome water quality issues.

A membership meeting was conducted on May 16 and the rebuilding project was approved on May 26. A golf course construction contractor was hired and work began immediately to rebuild the putting greens according to USGA construction guidelines. The first putting green was seeded June 16 and the last putting green August 1. The membership was playing on the new putting greens by late April of the following year.

Results

The putting green rebuilding project has been a tremendous success at Islington Golf Club. The members are now enjoying exceptional playing conditions throughout the entire season. The putting greens are much more resilient because they are less susceptible to winter injury, disease and environmental stress. These agronomic benefits have translated into significant cost savings and improved environmental sustainability. Additional benefits include:

1. The new putting greens require less water because creeping bentgrass is a more drought-tolerant species than *Poa annua*.
2. Islington Golf Club now purchases approximately 50 percent less water from the city of Toronto because improved drainage means the putting greens can be flushed regularly. This allows the club to use more of the high-sodium irrigation water that previously caused turf stress, rather than purchasing potable water from the city. Purchasing less water from the city has translated into savings of over $50,000 annually.
3. The new putting greens require fewer plant protectant applications because creeping bentgrass is more disease resistant than *Poa annua*. Superintendent Ian McQueen plans to continue reducing the chemical load as the putting greens mature.

Rebuilding the putting greens has made the club more sustainable for years to come. The improved putting greens set the club apart from others in the area and the membership has a new sense of excitement because of the superior playing conditions. The success of this project has inspired many other facilities in Ontario to begin planning for a putting green rebuilding project in the future.

This project came with plenty of challenges, even with proper planning and good construction techniques. Establishing the turf and grooming it into a putting surface was one of the

project's most challenging aspects, especially because the weather can have a huge impact on the maturation process. The membership at Islington Golf Club was patient during the grow-in process and received regular communication and progress reports. Installing quality temporary greens was also very helpful because it provided members an opportunity to play while the new putting greens were established. After a year, some turf on the new greens was weak and puffy. This situation is not uncommon given the immaturity of the turf. With a few maintenance adjustments the turf has responded well and the performance of the putting greens should continue to improve as they mature.