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# Como golf course completes stormwater project to reduce pollution



**By Richard Humphreys**

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**Construction work is complete on a project at Como golf course in Saint Paul, Minnesota, to reduce pollution of Como Lake.**

The four-month project involved work on three holes at the club in the creation of a new stormwater basin to capture and clean 11 million gallons of runoff from surrounding roads, parking areas and paths, preventing an estimated 55 pounds of phosphorus from entering Como Lake each year.

Work was jointly funded by the city of Saint Paul and the Capitol Region Watershed District (CRWD), which was in 2016 awarded a grant through the Minnesota Board of Water and Soil Resources' Targeted Watershed Program (TWP), funded by the Clean Water, Land and Legacy Amendment.

Como golf course was originally designed in 1930 by Paul Coates as a nine-hole layout. Coates, a surveyor and engineer for Ramsey County, designed a number of courses in the area including Keller golf course, Stillwater Country Club and Eau Claire Golf & Country Club. Como was later expanded to 18 holes by Tom Vardon, golf professional at White Bear Yacht Club and brother to seven-time major championship winner Harry Vardon. In 1987, the course was renovated by Don Herfort and included new bunkering, modern sand-based greens and a new irrigation system.

Golf course architect Kevin Norby was hired by the city of Saint Paul to oversee the project and to ensure that issues like playability, turf quality and safety were considered.

According to Norby, one of the benefits for the golf course owner on this type of publicly funded project is that they provide the opportunity and funding to make significant changes or improvements to the golf course with little or no cost to the owner. This often includes tree removal, drainage improvements, new forward tees, new cart paths, irrigation and regrassing of fairways.

Over the years, the level of phosphorus – which comes from decaying organic matter like leaves, pet waste and grass clippings – has risen to three times higher than Minnesota standards, leading to many fish being killed.

The city of Saint Paul and CRWD identified two locations for stormwater treatment: the fairway of the seventh hole and the existing stormwater pond between the third and eleventh.

“The analysis done at Como Regional Park ensures that CRWD, the city of Saint Paul and its residents are getting the most water quality benefits for their money,” said Forrest Kelley, CRWD regulatory division manager. “It also helps to safeguard the recent investment in an alum treatment by reducing new phosphorous flowing into the lake.”

On the seventh hole, an existing storm sewer pipe near the green will capture runoff from 63 acres of land upstream from the golf course including the Como Zoo and surrounding neighbourhoods. Runoff water will fill a new stormwater basin with any excess water flowing into a series of six-foot diameter perforated pipes buried below the fairway. The perforations in the pipe will allow the water to soak into the ground.

The water is cleaned as it moves through the soil profile, removing pollutants that would have ended up in Como Lake. Native plants in the basin will soak up water, provide pollinator habitat and enhance the beauty of the area.

Prior to the project, the seventh hole was relatively flat and had poor surface drainage and turf issues. Excess soil from the excavation of the pond and the installation of the perforated pipes will be used to raise the seventh fairway. According to Norby, who has assisted the club with the project, the recontoured fairway will allow the club to improve surface drainage and create a more interesting and natural looking fairway. Other work has included irrigation, turf, cart path paving and a forward tee.

Between holes three and eleven, water from 150 acres of land within the cities of Saint Paul, Roseville and Falcon Heights drains into an existing stormwater pond. A new iron-enhanced sand filter was constructed along the eastern edge of the pond to remove dissolved phosphorus, a pollutant in the water that fuels algae growth. Iron filings mixed into the sand create a bond with phosphorus, removing it from the water before it enters Como Lake.

A smart control system has also been installed at the pond's overflow outlet to help regulate the level of the pond and to optimise the effects of the iron-enhanced sand filter.

Construction work was completed in November 2020 and the course is expected to open for play in spring 2021.

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