



# Solving Water Issues While Saving Money

By Tom Cartwright

Softening overhaul cuts costs and simplifies operations for iconic restaurant

*Lord Fletcher's, an iconic restaurant located along the shores of Lake Minnetonka in Minnesota, was established in 1968.*

*Specializing in traditional dining and evening entertainment, it has become a favorite spot for both young and old. In summer months the bars and patio are lined with guests enjoying the pleasant atmosphere.*

Yet, like many restaurants in the western Twin Cities, water quality has been an ongoing issue. With incoming hardness levels averaging 22 grains and total dissolved solids (TDS) levels at 600 parts per million (ppm), it had been fighting the battle with its water since it opened. Because of its size and popularity, the restaurant had invested heavily in necessary appliances, including two water heaters, three ice machines, six soda stations, two dishwashers and two coffee stations.

Over the years it implemented a multitude of potential solutions to improve water quality, including water softening and sediment and carbon filtration coupled with sequestering filtration. While these remedies alleviated the hardness as long as the water softeners were working, and helped reduce damage to water-using appliances, the cost to maintain these systems had become prohibitive. The previous combination of water treatment equipment included two 7-cu-ft water softeners to soften the hot water and 26 individual filters to protect the ice machines and beverage stations.

The restaurant had been replacing each of these filters every year at an average cost of \$60 per filter. These filters were rated for three months on average, meaning that 75% of the time the water-using appliances were not properly protected. The resulting TDS from the water softeners through the hot water lines was averaging more than 700 ppm, causing excessive salt build-up in water heaters and dishwashers. Another issue was spotty

dishes—particularly wine glasses. Employees spent an average of two hours per day wiping down glassware.

## An Overhaul

After an extensive survey of the location, it was determined that the best solution would be to replace existing softeners and filtration with new softeners that were more efficient and required less maintenance, and to add one central reverse osmosis (RO) system to handle both softened hot water and cold water feeding the water-using appliances. Because of the size of the restaurant, running the individual lines to each appliance took two days, but once all the lines were run, the actual new equipment installation took only one additional day.

The resulting equipment consisted of two high-efficiency 7-cu-ft water softeners; one 2,100-gal-per-day RO system; two 300-gal storage tanks; and ozone treatment to maintain sanitization of the storage tanks.

Along with replacing the water softeners, every one of the filters was removed. The TDS dropped from 600 ppm to 70 ppm. Within 24 hours of installation, the restaurant began to notice significant improvements, including crystal clear ice cubes; lighter, crisper tasting tea; nearly spotless glassware; sweeter tasting sodas; and better overall dishwasher results.

## Substantial Savings

Along with dramatic aesthetic improvements, the restaurant began to notice a substantial cost savings. Its chemical company adjusted the

chemical usage for the dishwashers. Its syrup supplier adjusted ratios so that less syrup was used per beverage; previously, more syrup had been used to overcome high TDS levels.

Overall, the actual savings came out to more than \$8,100 per year. This included:

- Eliminating 26 filters, saving \$1,560;
- Water heater energy savings of \$1,440;
- Reducing syrup usage, saving \$1,200;
- Reducing dishwasher rinse aid, saving \$2,400;
- Cleaning chemical reduction, saving \$600; and
- Reducing service calls for filters, saving \$900.

These savings do not account for the reduction in labor as a result of no longer having to wipe down the glassware. The net monthly cost to Lord Fletcher's for this equipment ended up being equivalent to what it paid for the rental and upkeep of the previous water softeners.

"Since we put in this new system we haven't had to do any maintenance on water-using equipment," said Peter Peryl, one of the owner-operators of Lord Fletcher's. "Before, we were constantly having service people out working on our ice cube makers, steamer, beverage stations and water softeners."

Thus, the resulting equipment was able to save the restaurant more than \$8,100 per year as well as provide the highest quality water in the area—a true win for all involved. *wqp*

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Lord Fletcher's installed more efficient softeners and a central RO system.