



Contact:

**Carlo Cavallaro**  
Director, Business Development

Carlo.Cavallaro@exeloncorp.com  
630-669-3068

[exelonaquify.com](http://exelonaquify.com)

# Buffalo Grove, Illinois Curbs Unauthorized Use of Hydrants

## OVERVIEW

The Village of Buffalo Grove, a suburb of Chicago, began working with Aquify in 2019 with goals to understand their system in greater detail and identify when and where water loss occurs.

## CHALLENGE

Municipalities nationwide are facing budget and regulatory pressure to reduce non-revenue water (NRW). Some of that is finding and fixing leaks that are undetectable without sensing technology. But another part of the equation is to find unauthorized usage.



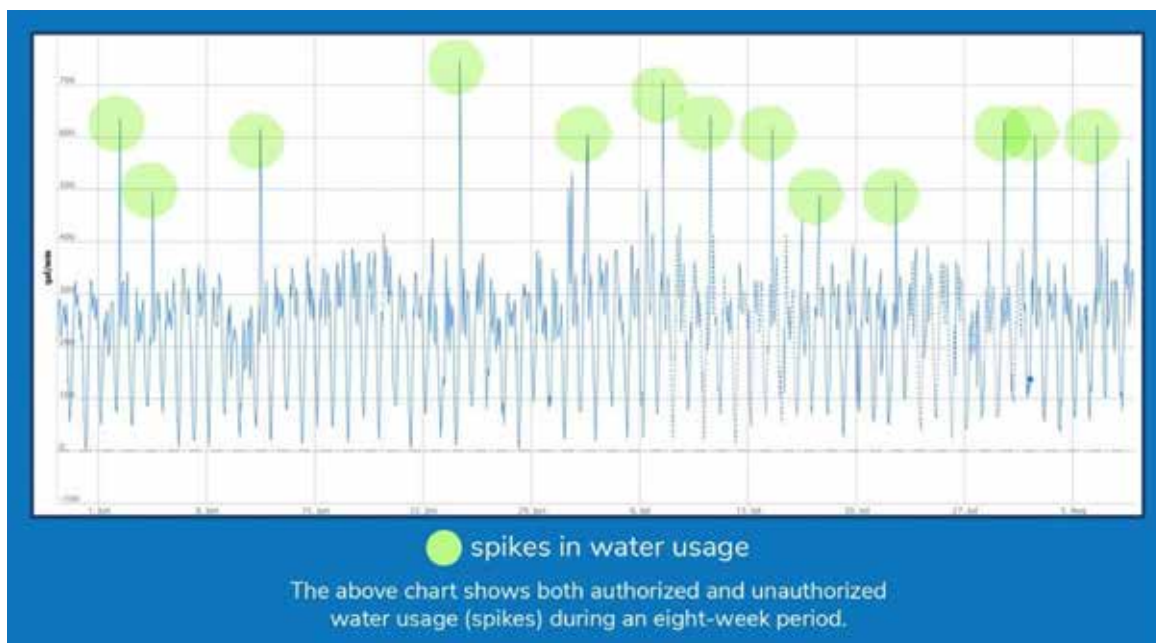
## SOLUTION

As a part of the Aquify solution, Buffalo Grove divided their distribution network into four District Metered Areas (DMAs) by installing 10 bidirectional flow boundary meters. Aquify also provides the Village with 24/7 monitoring with a staff of operations engineers and system analytics via a cloud-based machine-learning platform.

Over a two-month period, the Aquify team observed frequent and consistent increases in water use of about 300 gallons per minute (gpm) for 45 minutes to one-hour time intervals. The flow was identified through one of Aquify's meters and flagged as unexpected usage by the Aquify system.

## SOLUTION (continued)

When the Aquify team alerted the Village about the unusual pattern, Buffalo Grove initially thought that the surge was due to a new concrete plant pulling water from an adjacent hydrant. After further analysis of the data, the team determined that the spikes in the volume of water appeared too high for that type of application.



The Village dispatched staff to watch the area near the sensor during the anticipated time of use based on the historical pattern. They discovered an asphalt contractor working in the area was utilizing water from a hydrant to control dust during construction. The asphalt contractor did not have a meter attached to the hydrant or a permit to authorize usage.

## RESULT

The amount used totaled to a loss of approximately \$6,700 as over one million gallons of water were consumed without authorization. Without quick action by Aquify and the Village, the contractor would likely have continued to take water while completing this project and future projects, potentially causing the Village to lose a substantial amount of revenue.

Perhaps, more importantly, the Village was able to reinforce proper hydrant use practices and demonstrate its ability to hold third-parties accountable for compliance, including actions that protect Buffalo Grove's water mains from damage-inflicting pressure impulses (water hammer). Buffalo Grove confronted the contractor, who admitted to using the water without authorization. The Village is requiring the contractor to use a meter for future use of water from the hydrants.