

## 2019 ACEC of Maine Engineering Excellence Awards

**Woodard & Curran** has earned an Honor Award for Unique Solutions for a Small Community. The firm earned this recognition for its work with the Presque Isle Utilities District to plan, design, and oversee construction of upgrades to the Reach Road Water Treatment Facility. As the Facility, located in Presque Isle, Maine, struggled to reliably produce clean drinking water, onsite wells were tested and determined to be under the influence of surface water originating from the nearby Aroostook River. Surface water influence meant the new groundwater facility, from a regulatory standpoint, would be treated the same as a surface water treatment plant. The District obtained a filtration waiver and installed UV disinfection, but existing systems couldn't keep up with the widely fluctuating water quality conditions. The river's influence was greater than the District originally expected, and degradation of water quality at high river elevation repeatedly pushed existing UV reactors outside of their validated range. The degradation in raw water quality associated with high water events in the Aroostook River, and the corresponding impacts on the effectiveness of the UV disinfection system, had decreased the reliability and dependability of the existing treatment strategy.



The District called in Woodard & Curran for an innovative solution to an unusual problem, and the firm performed an in-depth treatment option evaluation. To address extreme swings in treatment needs, Woodard & Curran recommended a combination of existing technologies to provide variable treatment - replacing existing UV reactors validated to a more suitable range and the installation of a third-generation ozone generator for pretreatment. The ozone system was selected as the best lifecycle cost choice to manage the UVT of incoming water, remaining effective throughout a broad water quality range. The plant upgrades designed by Woodard & Curran and adopted by the Presque Isle Utilities District maximized both monetary and community value. The combination UV/Ozone system is an effective, low-life-cycle cost option that exceeds regulatory requirements and allows the District maximum control over operational expenses and in turn, user rates.

The success of this plant has broad implications beyond the City and its residents. Presque Isle is a service center for many surrounding communities and rural families. A reliable, adequate water supply allows Presque Isle to maintain existing businesses, attract new businesses, and meet the needs of those who reside there, and those who travel to the City for goods and services.

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