



2019 AWARDS FOR ENGINEERING EXCELLENCE

Lieutenant Governor's Award for Engineering Excellence New Solutions for Safe Drinking Water in Remote Communities



Consultant

WSP Canada Group Ltd.

Owner/Client

Tl'azt'en Nation

Category

Soft Engineering

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WSP partnered with RES'EAU-WaterNET, a collaborative research and development network, to develop a simplified treatment system appropriate to the needs of small and remote communities for the removal of natural organic material from drinking water. Our research found that if the typical ion exchange operation was altered to permit natural biological organisms to grow on the media, the biological element could uptake the organics, reducing the amount of chemical waste produced, reducing hazardous chemicals, reducing power consumption and a with a reduction in the amount of operator time required to run the system. By utilizing this technology, WSP designed a full-scale pilot plant, resulting in the lifting of a 14-year boil water advisory in a community of the Tl'azt'en Nation.

The boil water advisory was the outcome of issues commonly experienced in small and remote communities. To overcome these issues, the project team delivered the project using a community centric approach, known as the Community Circle™, through which the end users, the residents and the operations staff, were approached first to offer input in development of a method to treat their water. Regular site visits were made to the community to discuss their desires for the system and ways to prevent recurrence of past issues.

Because of this research and development initiative and the Community Circle™ engagement, the community has access to safe drinking water using a pilot technology that is unique in the world and has the potential to be applied to small and remote communities across the country.