BI Pure WATER

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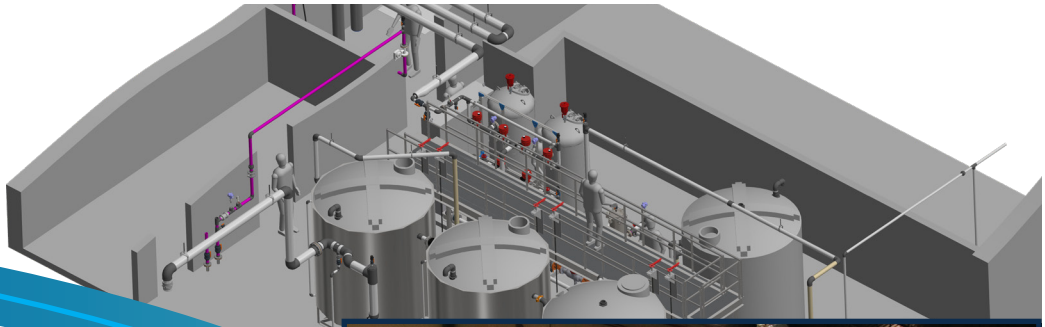
25+ YEARS



Burwash Landing Water Treatment Plant

Bi Pure Water completed a package water treatment system for Burwash Landing located at historical mile 1093 on the Alaska Highway. It is on the southern shore of Kluane Lake. The majority of the population are First Nations.

Figure 1: Full system on skids

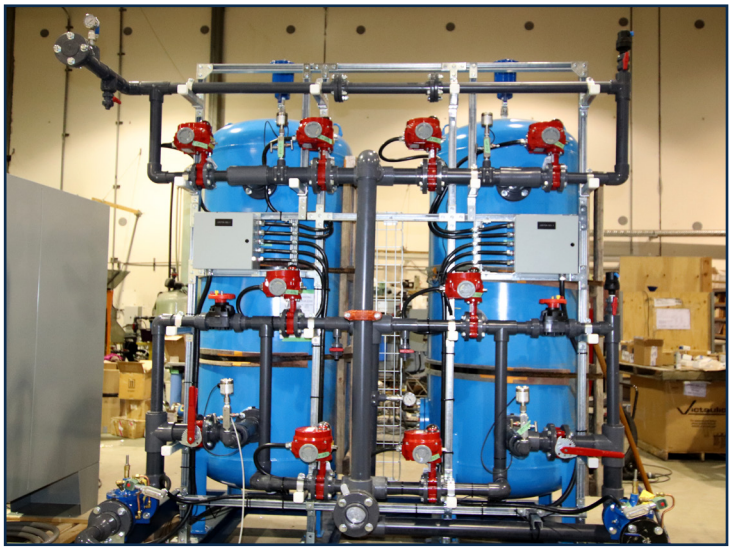


Figure 2: Greensand system on skids

Key Features:

Water Source: Kluane Lake

Peak Flow Rate: 16.8 L/min

Treatment:
1. Sodium Hypochlorite disinfection
2. Carbon Dioxide injector
3. Greensand Plus filtration
4. Cartridge Filtration

Dimensions: In-Building Installation

About the System

Designed and manufactured in Surrey, BC by Bi Pure Water Canada Inc., the WTP system was factory fabricated then installed into an existing building unit. Like many Yukon ground water supplies, the raw water has excessive Iron and Manganese that must be removed.

This BIPW water treatment plant has been designed to meet Canadian drinking water quality standards with respect to levels of suspended/dissolved solids, turbidity and microbiological safety (exceeding 3-log reduction of pathogenic cysts and 4-log reduction of viruses).

Water Treatment Methodology

The water treatment process starts and stops by the level transmitter in the treated water tank. On start, the filters begin the filtration sequence steps and the well pumps begin priming. Two groundwater wells with independent well pumps supply raw water (at 2.5 L/sec) to a buried feed pipeline with two well pumps. Once the water enters, pressure and flow are measured by instruments.

Figure 3: Dual Chlorination system

The first chlorination system injects sodium hypochlorite into the raw water at the mixer. The objective of the first stage chlorination is to oxidize and precipitate iron and manganese elements in the water.

If required, a carbon dioxide injection system is used to reduce the pH. The CO2 is added to a side stream using venturi / ejector system. This system includes an ejector booster pump (EB), an ejector / venturi, and CO2 system.

A 150 mm diameter x 17m long pipe will provide the required contact time. Near the end of the pipe, the pH is measured by AIT-101. After the contact pipe, will separates into two streams and enters two GreensandPlus filter vessels piped in parallel. The GreensandPlus filters are loaded with layers of anthracite, GreensandPlus, and gravel for filtering out iron and manganese.

BIPW specializes in reviewing water quality test results, analyzing customer needs and then prescribing the most cost-effective solution. Our engineers and staff pilot, design, manufacture, install, start-up and commission package water & wastewater treatment plants. The operators are then trained and the plants can be serviced on a regular basis.

These package water treatment plants are cost-effective because:
- The water treatment plants are custom engineered to a specific water analysis and budget.
- The plant can be built in the Port Kells factory where the trained staff works.
- The completed water treatment plant is quality, leak- and flow- tested at the factory.