



FilterBoxx™
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**YOUR WATER
OUR SOLUTIONS**

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A new cement factory located on the south eastern shores in Quebec was faced with several water challenges. First, while fortunate to be rich in Calcium and other ingredients necessary to formulate concrete, the area did not have the necessary water quality for its cement processing process. Second, the remote location dictated the need for a dedicated potable water treatment plant rather than connect to the nearest community or truck in water. Finally, because the facility is not connected to infrastructure, it is mandated to have its own fire protection system which includes the water storage and specialized fire pumping system.

From a robust competitive bid process, FilterBoxx was awarded the contract because of its unique skill set and expertise to provide a containerized 185 gpm process water plant, a skid based 30 gpm potable water plant, and a containerized 2000 gpm fire pumping plant.

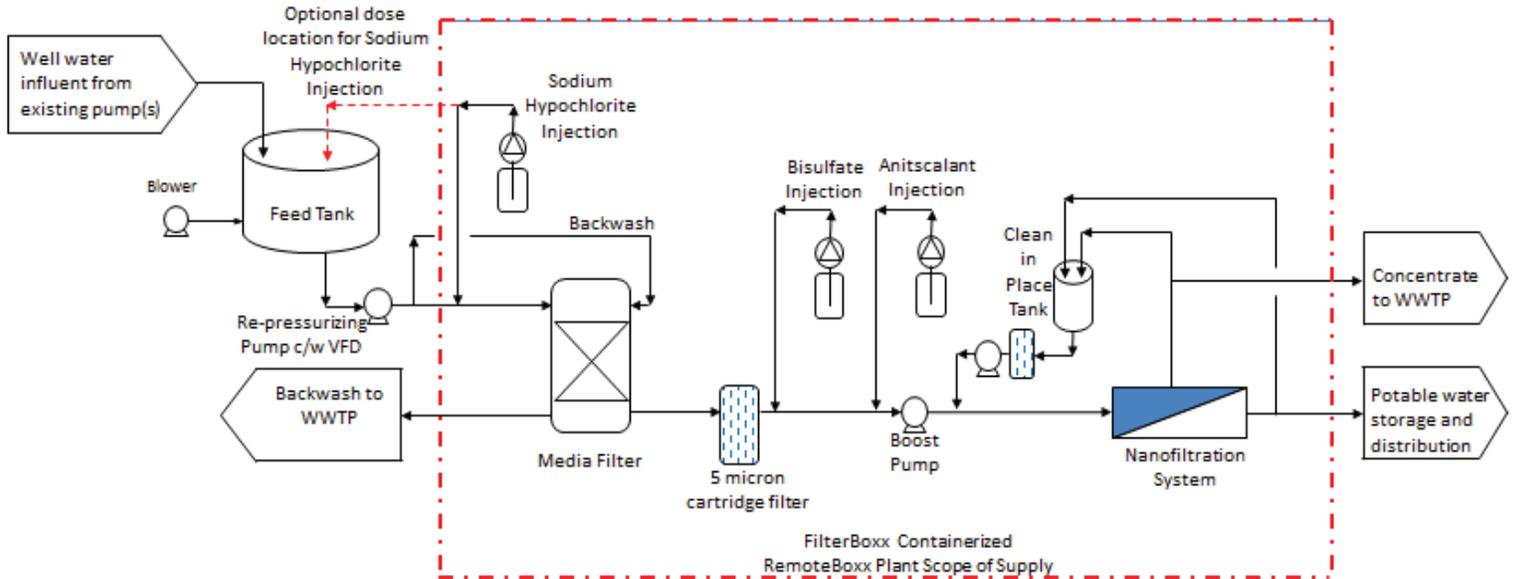


The site is serviced by a total of 6 wells that stretch over several kilometers from each other. In addition to the iron, manganese, hardness and TDS contaminants expressed in this GUDI groundwater, it also exhibits varying concentrations of colour (0 - 23 TCU), TSS (0 - 25 mg/L), Turbidity (0 - 11 NTU), TKN (0 - 7 mg/L), TOC (0 - 23 mg/L) and Total Coliforms (0 - 4,300 cfu/100ml). It was necessary that the FilterBoxx design address these issues while generating a final effluent that met all plant and regulatory guidelines for potable water, while also allowing for an increase in nitrate levels over time that may result from explosives used for cement mining.

Each well has a different water quality, and flow. While the collected water will be combined into a common source tank, the water quality will vary constantly as different wells will be used at different times and for different durations. The cement production quality cannot accept a varying water quality so FilterBoxx's challenge was to develop systems that would reliably treat varying feedwater quality and deliver a constant water quality.

FilterBoxx was required to provide a 185 gpm RemoteBoxx Containerized system for the cement production plant. The RemoteBoxx plant included chemical oxidation, media filtration, bisulfite addition, antiscalant, Nanofiltration and final pH adjust.

FilterBoxx was also required to provide a 30 gpm skid based Potable Water Treatment Plant to meet all local, provincial and national regulatory requirements. The skid based potable water treatment plant includes chemical oxidation, media filtration, bisulfite addition, antiscalant, Nanofiltration, ultraviolet disinfection, and distribution system and hypochlorite for distribution disinfection.



FilterBoxx was also required to provide a 2000 gpm /120 psi containerized Fire Protection plant. This system was designed to meet all ULC/FM and NFPA requirements including NFPA 20 and NFPA 13. The system includes the jockey pump, diesel fuel tank enclosed in a building including structural steel base skid, lighting, heating, ventilation, and insulation.

When delivering the equipment to site, we were informed by the client's Engineer that "FilterBoxx is the only company on the entire construction project that has delivered their equipment scope on time."



185 gpm Nanofiltration System



Potable Water System



2000 gpm Fire Pump System