



## Background:

Kanaka Bar First Nations operates a creek sourced water treatment plant to distribute potable water throughout its community.

Kanaka approached COM COM SERVICES to troubleshoot a number of faulty sensor readings and alarms. After looking over the system it was apparent that several cards on the Allen Bradley PLC which powered the plant had failed and no suitable replacements were available, additionally over the 20 years since its inception the plant had undergone many changes and there was a mess of re-routed or half disconnected wires inside the control panel.

Following COM COM SERVICES recommendation a full automation system refurbishment was undertaken starting with stripping everything from the panel and rebuilding around two Flexs Q5 PLC's. The entire transition including programming took just 4 days and another day for staff training.

The new system also gave operators a mobile friendly web page where they could log in to view alarms and trends remotely.

Previously this rebuild job was estimated at around \$160,000.00 but COM COM was able to do it in just 5 days for \$17,000.00 thanks to the Flexs Q5's much more efficient scripting and easy to use web based monitoring tools.

## Challenges

### HMI

The existing control panel had a recently updated Automation Direct C-More HMI panel that did not need upgrading, we were able to reprogram this HMI to read directly from the new Flexs Q5 PLC over ModBUS TCP / ethernet instead of the legacy serial connection that was used previously. The Flexs Q5 can operate as either a ModBUS Slave or Master making it very easy to integrate with existing equipment.

### Chlorine Dosing

The original system would communicate with the grundfos chlorine dosing pump via a 4-20MA signal. Since the Flexs Q5 does not have 4-20 MA outputs it would have required a separate io module however the pump also had a pulse based dosing setting which was utilized allowing everything to be powered by the Q5 alone.