

Client: Stoney Nakoda First Nation, Morley Alberta

Date: June-July 2020

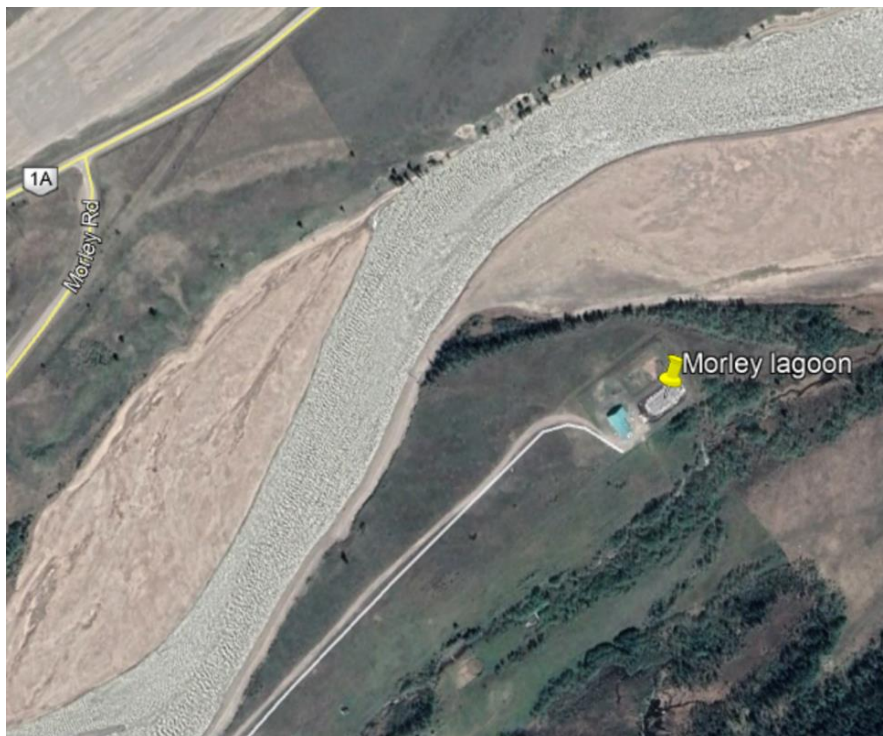
Summary

Morley is in Southern Alberta, Canada (est. 60 km west of Calgary). It is located along the Bow River, upstream from Ghost Lake. The original wastewater treatment plant was completed in 2009.

The CWC Clarification unit was added to this existing plant in mid-June to late July of 2020. When the unit came on-site the flow rates of the facility were operating at 25% of required capacity. Up to 15 vac trucks per day from 6 different companies were dumping into the facility for revenue to the community. This increased concentration of sewage was unable to be processed by the existing facility. In this application the clarifier was used as a pre-treatment to increase the facilities capacity and to reduce the lagoons toxicity. However additional configurations are available such as sludge press, ultraviolet, sand filters, etc.

Project Success

With the CWC unit installed the facility was able to maintain 4 L/s once again. In this application CWC used its C-50 model that is designed for 200 m³ / day. Using an advanced automation system called VT SCADA, the unit can be monitored 24/7 remotely. During the 1-month test operations the SCADA system received notifications that helped optimize the unit operation.





Below are some points to note from the 28-day testing:

- pH averaged 8.0.
- Chemical ratio for this test was 1: 2500+
- Total sewage treated = 3,612 m³ (954,189.5 gallons)
- Operated at 75% of unit design.
- The unit operated at a low pressure.

Below are some test results of the reduced percentage that the C-50 removed. These exceeded the environmental regulations of each throughout Canada.

TSS (Total Suspended Solids)	99.6 % (8,000+ mg/L to <10 mg/L on final test)
AB Environment requires TSS < 25 mg/L prior to discharging in Rivers, Lakes, etc.	

BOD (Biochemical Oxygen Demand)	97.1 %
Phosphorus	98.8 %
Microplastics	99.9 %
Cadmium	99.7 %
Aluminum	99.5 %
& Other Heavy Metals	



The Solution is Clear

-Clear Water Clarification-