

Technical Summary of Clyde River Environmental Facilities

Clyde River is a community located on Patricia Bay on the east coast of Baffin Region of Nunavut. Its geographical coordinates are 70°27'N latitude and 68°33'W longitude. Its current population is about 937. The main Environmental facilities of this community are Water Supply, Wastewater Treatment, Landfills site and Bulky metals site.

Water Supply:

The Community has a potable water source. The approximate depth is about 14.8m and volume is about 135.8×10^3 cubic meters. The truck fill station is located adjacent to this facility. The intake pipe has a submersible pump with heat trace. Water is being disinfected by chlorine. The annual average consumption of water is about 24,755 cubic meters. Truck water supply is the only mode of transportation. Contents of Chlorine residual is being tested in each truck before delivery to the houses. Samples are also sent to Iqaluit GN-DOH Lab for testing microbiological parameters. No adverse result was seen so far. No major remedial works were carried out during the Water License life time. O&M manual is available.

Wastewater Treatment by Aerated Sewage Lagoon:

Presently the annual average wastewater discharge volume of this community is about 36,636 cubic meters. The existing wastewater treatment facility is undersized to satisfy the present demand of the community and failed to meet the conditions of the Water License. A condition assessment study was conducted in 2003 and recommended for expansion.

A new lagoon has been designed which will operate jointly with the existing facility.

The both lagoons will function as storage cell lagoons with the capacity of existing cell being 11,600 cubic meters and the capacity of new lagoon being 46,900 cubic meters. The lagoons will work in conjunction with a vast area of wetlands of 23.5 ha. The life time of the project has been designed for 20 years.

The expected levels of BOD and TSS of the effluent from the lagoons is 97 mg/L and 116 mg/L respectively and expected of BOD and TSS of the effluent at the end of the wetlands is 18 mg/L and 22 mg/L respectively. The existing facilities will be easy to operate, meet the community demand and satisfy the conditions of the Water license issued by Nunavut Water Board. The lagoons and wetlands are expected adequately function even to address the future CCME guidelines. O & M Manual is under preparation.

Land Fill Site:

The Community has only one domestic Landfill site to the Eastern side of the Lagoon. No remedial works were carried out in this facility during the Water License life time.

No fencing or cell structures, garbage blows all over in the wind, all garbage dumped into same area ,no sorting or separate cells, no recycling/waste reduction, no signage, no operations plan, no hazardous waste/contaminated soil pits or areas. This facility has been budgeted under Capital Planning process to optimize during the period of 2009 to 2011. O&M manual will developed during the rehabilitation of this facility.

Metal Dumps:

This facility is located to the West of the existing Lagoon. During the life time of the Water License, no remedial works were carried out in this facility. Day by day, this facility is becoming bigger and bigger. Currently there is no committed funding available for optimization for this facility.