

## **Technical Report on the Modification of the Wastewater Treatment Plant of the Hamlet of Pangnirtung**

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The Hamlet of Pangnirtung is located at 62°10'N and 92°36'W. This is a medium size community in Baffin Region of Nunavut with current population roughly 1850. The wastewater in the community is treated in a Mechanical Plant. The Wastewater treatment plant (WWTP) was built in 2003 within the range of about a km distance from the Community. Currently the plant has neither an office nor a laboratory. The Plant is recommended for structural modification accommodating a laboratory and an office space with adequate heating and ventilation system. This upgrade will provide the operators with enhanced working conditions.

The raw sewage bagging area will also be considered enclosed, heated and ventilated separately to significantly reduce the odour in the plant. Currently the odour and corrosive gases create unacceptable working conditions and also cause damages to the electrical system.

The Secondary clarifier will be covered up as well to reduce the humidity and odour intensity in the plant.

The exhaust fan will be variable speeds. This fan in the sludge bagging area can be operated with high speed during sludge bagging process to reduce odour. This fan will be also automatically controlled. During sludge bagging process, the high speed ventilation will significantly reduce odour and create more healthy and comfortable working condition.

The upgrade intent is to repair the treatment plant to keep in compliance with the Electrical Code with regard to the area classification. The containment and disposal of corrosive gases directly from the area of origin will increase the life of electrical and process components.

In the proposed improvements, there will be no change or modification of the existing treatment process.