

Technical Summary of Environmental Projects of the Hamlet of Igloolik

The Hamlet of Igloolik is located on Igloolik Island in the Foxe Basin Lowlands area. The coordinates are 69°23" latitude and 81°46" longitude. This Island is composed of a dolomitic conglomerate, with sand stone, dolostone and siltstone. This is a very low, heavily ponded Island and has extensive tidal foreshore. The average permafrost thickness is roughly 0.70m. The summer here lasts rarely longer than three months. The snow fall is in average of 19.1cm per year. In July the mean low temperature is 3.3 °C and high temperature is 7.8°C. Again in January the high and low temperatures are -23.3°C and 32.8°C. The winds normally north with an annual average 21km/h.

Water Supply, Wastewater Treatment by Lagoon, Solid wastes management and Bulky metal management are the components of the Hamlet Water License.

1. Water Supply System:

The Water supply system of the Hamlet consists of source water Lake, earthen storage Reservoir and a truck fill station. The Intake pipe from the water lake to the water storage Reservoir is more than two kms and needs improvement. Water sampling, testing and quality assurance is in perfect order. Currently the Hamlet has O&M manual for water supply system. The Capital planning for the improvement of Water supply system is in progress.

2: Sewage Lagoon

The Sewage Lagoon is located 1.6km north of the community. The lagoon is a three- cell exfiltration lagoon with a capacity of 17,000 m³. The old cell still exists there. The effluent that exfiltrates from the lagoons proceeds downstream through an undefined natural wetland where it receives additional treatment prior to reaching the marine environment. Currently there are signs of catastrophic failures in the berms along the sea side in all four lagoons. The regulatory agencies are concerned in seepage and erosion issues currently evidenced at the sewage disposal facility. As built drawings, O&M manual, Spill contingency plan, QA/QC, and monitoring program are not available at the moment. The current population of this community is 1700 and annual average wastewater volume is roughly 62,000 cubic meters.

3: Domestic waste-Land fill site:

Practically there is no proper land fill site for this community. Hamlet is dumping wastes along the road on sea side about 1.6km from the Community. This site has no fencing, and waste has no proper treatment. Paper is flying all over the area. Combustible wastes are burnt sometimes in summer and covered on yearly basis. DFO recommended installation of appropriate fencing at the Solid waste site, as to prevent the deposition of airborne litter into waste in contravention of the Fisheries Act. O&M manual is not available. Decommissioning this site will allow the community to grow towards this direction.

4: Metallic Waste-Land fill site:

This site also has no fencing. Metals are being dumped haphazardly and making heaps. Waste is segregated, with a generic landfill area, a bulky wastes area, and a sealift container for hazardous wastes. Current situation is adverse to shipping these metals away from the community until and unless proper shortings are made. O&M is not available.

The current water License was expired on August 31, 2008. Renewal application was made on July 28, 2008.

Action taken:

A reputable Consultant has been hired. They will be working on Liquid and Solid wastes management for the Community. They will

1. Make arrangements to perform the necessary community visits and investigations, obtain and review reports, review the current water license , collect data and samples, consult and interview Hamlet representatives and authorities having jurisdiction, and carry out other duties as needed to prepare detailed planning, design, and construction documents for these waste facilities.
2. Recommend methodologies for increasing hydraulic capacity and improving waste water treatment and establishing a construction schedule based on the availability of local resources. Establish

wetland boundaries if applicable and identify design parameters in conformance with current legislation and foreseeable amendments including a geotechnical investigation and thermal analysis of the project area.

3. Develop a plan and design for the Decommissioning of the existing solid waste sites (domestic and metallic) and also building a new site satisfying the requirements of the regulatory bodies.
4. Prepare an Operation and Maintenance Manual with remedial contingency plans that will serve the Hamlet's staff in the proper maintenance and environmental monitoring of the current (and proposed or abandoned waste) disposal facilities.
5. Develop the necessary documents to satisfy CCME guidelines and the Nunavut Waters and Nunavut Surface Rights Tribunal Act 2002 and support Community Government Services in their application.
6. Establish a commissioning program (testing, disinfection, sampling, etc.) period to monitor demonstrated compliance of the new facility and submit supporting documentation as needed to the authorities having jurisdiction.