

# Technical Summary of the Water Licensed Facilities of the Hamlet of Grise Fiord

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The Hamlet of Grise Fiord is the smallest Community in Baffin Region located at 76°25'N and 83°01'W, on the southern tip of Ellesmere Island in Nunavut. A true Arctic desert, Grise Fiord, receives an average of 15.20 cm of snowfall each year. The annual rainfall is almost zero. The depth of the active layer of permafrost is approximately 0.60m. Like all other Baffin Communities, Grise Fiord has three environmental facilities under Water Licence like Water Supply, Sewage Lagoon and Waste Management Facility.

**Water Supply:** The Hamlet of Grise Fiord has no river or lake. This Community currently utilizes melt water from a glacier proximal to the community as a source of potable water. The glacier run -off continues roughly three months a year in summer. The Community usually fills two 4000 cubic meters capacity steel tanks each summer only when glacier run-off takes place.

**Sewage Lagoon:** The Community has a sewage lagoon with a total capacity of about 19,360 cubic meters. This is an unlined lagoon and functioning very well. This facility is located next to landfill site. Currently the Sewage lagoon has no fencing.

**Solid waste Facility:** The waste areas at the existing facility can be broadly grouped into the following two categories:

(a). Main municipal solid waste (MSW) areas containing items such as organic waste, paper, paperboard and other paper products, plastic, rubber, leather, diapers, cans, glass, ceramic, wood and wood products, etc.; and,

(b) Bulky waste areas containing construction and demolition wastes, white goods (such as large household materials like fridges, stoves, clothes washers and driers, televisions), scrap metal and scrap vehicles, snowmobiles, engines, and tires. Based on the results of

measurements taken by the consulting firm named ARKTIS from 2010 to 2012, it is estimated that there is approximately 3,000 m<sup>3</sup> of MSW, 89 m<sup>3</sup> of hazardous waste, and 4,459 m<sup>3</sup> of bulky waste currently in disposal at the existing waste site. It should be noted that based on visual observations the contents in the main waste areas and bulky waste areas indicated the presence of hazardous waste materials. The proposed new hazardous waste cell will be sized to accommodate this existing waste.

The Community has installed Monitoring signs at the dump site for leachate sampling. They have participated extended summer sampling program and testing these samples in Ottawa Accredited Lab to satisfy the requirements of their water licence.