



Environment Environnement
Canada Canada

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Our File: 4782 016

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RE: NWB3PON – Hamlet of Pond Inlet – Design Modifications for Sewage Lagoon Project

On behalf of Environment Canada (EC), I have reviewed the information submitted with the above-mentioned application. The following specialist advice has been provided pursuant to Environment Canada's mandated responsibilities for the enforcement of the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

The Government of Nunavut, Department of Community Government and Services is proposing to implement some design modifications for the sewage lagoon project in Pond Inlet, NU. These design modifications stem from unexpected groundwater flow into the sewage lagoon, creating saturated and unstable areas in the base of the lagoon. This is problematic as the lagoon base may experience frost heaving and be unable to provide sufficient support to the geosynthetic clay liner planned for installation in the lagoon. The proposed modifications include:

- The installation of a sub-drain system;
- The use of a manhole to monitor and control sub drain systems;
- The installation of riprap to protect the sand liner cover as an improvement to the original design in order to stabilize berms; and
- Construction of a cut off ditch and catchment basin.

Environment Canada supports these modifications as they will help to ensure the proper operation of the sewage lagoon. Given the complexity of the system modifications and the need for close monitoring by the lagoon operator, EC strongly recommends that an operation and maintenance plan be created and submitted for review. Environment Canada also recommends that the weekly monitoring reports referenced in the notification of the modifications be submitted to the NWB for review. Silt curtains, or other similar preventative measures, should be used to prevent sediment from entering waterbodies during the construction of the cut-off ditches. The Department of Community Government and Services will have to ensure that no chemicals, wastes or sediment are deposited, or permitted to be deposited, into any water body. According to the Fisheries Act, Section 36(3), the deposition of deleterious substances of any type in water frequented by fish, or in any place under any conditions where the deleterious substance, or any other deleterious substance that results from the deposit of the deleterious substance, may enter any such water, is prohibited. Environment Canada also recommends that the Department of CG&S take measures to prevent external water from reaching the base of the basin, which would exacerbate the current problem. External runoff should be diverted away from the lagoon through



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the construction of diversion ditches, or similar methods.

If there are any changes in the proposed project, EC should be notified, as further review may be necessary. Please do not hesitate to contact me with any questions or comments with regards to the foregoing at (867) 975-4639 or by email at colette.meloche@ec.gc.ca.

Yours truly,

Original signed by

Colette Meloche
Environmental Assessment / Contaminated Sites Specialist

cc: (Paula Pacholek, Northern Environmental Assessment Coordinator, Environment Canada, Yellowknife)