

August 6, 2004

Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU
X0E 1J0

Re: Notice of Modification, Cape Dorset Water Licence

Dear Sirs;

On behalf of the Government of Nunavut, Department of Community Government and Services, and the Hamlet of Cape Dorset, we are submitting the design concept for the modification to the sewage disposal system in Cape Dorset. These modifications are in response to the letter of direction received from Environment Canada, dated May 13, 2004. The work required under the letter of direction entails two broad aspects, namely;

- 1) development of a new long term sewage treatment and disposal system
- 2) interim measures to be undertaken until such time that the long term solution is contracted and in use.

This submission addresses only the second of these two issues. It is our understanding that a second submission dealing with the long term solution to the sewage treatment issues in Cape Dorset is forthcoming directly from the Government of Nunavut.

The proposed modifications to the sewage treatment system are shown in the attached PDF file. The area commonly known as the "old Lagoon" will be enhanced through the construction of new berms and the raising of the existing berms. The natural contours of the land are being used to retain the sewage in part of the lagoon. The existing road will need to be relocated to allow for the construction. The rehabilitated lagoon is sized to retain the annual sewage generation for the community based on the community records of the water consumption.

Ancillary components of the facility will include;

- A truck turn around pad and sewage discharge flume to allow the trucks to discharge the sewage into the lagoon
- A control structure which will include a culvert at the invert of the lagoon and a control valve on the downstream
- An overflow structure consisting of a culvert and riprap channel



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Limited**



Based on the concept provided, the available sewage lagoon capacity, after the proposed modifications is as follows;

Existing Cell 1 -	1,900 m ³
Cell 2&3 -	14,000 m ³
Rehabilitated Old lagoon -	<u>48,500 m³</u>
Total Available	64,400 m ³

Based on the current water consumption rates received from the hamlet, the annual need is 48,500 m³.

The existing lagoon system will be used through the construction of the proposed modifications. Therefore the existing system will have sewage retained throughout the winter of 2004/05. The continued use of the existing system will be assessed in 2005, and will depend on the sewage generation rates of the community.

The modified "old Lagoon" is located within the 450 meter set back requirement outlined in the Health Act. The distance from the wall of the rehabilitated lagoon to the closest residential building is 380 meters. We have had preliminary discussions with the Department of Health and Social Services, and they have indicated that they will consider approving the proposed works after they have completed a thorough review of the design concepts and details.

Over the next few days we are completing the detailed design of the proposed facility; this will include the berm wall details, overflow culvert details, control culvert details, and truck discharge details. These will be submitted at the earliest possible date.

Under a separate cover we will be submitting the information to the following agencies;

Environment Canada - Sid Bruinsma
GN H&SS - Bruce Trotter
INAC - Scott Stewart
DFO - Derek Moogie

We have had preliminary conversations with these agencies to determine their requirements with respect to these modifications. We hope to convene a meeting in Iqaluit on August 12 to further discuss these works and to receive any comments that the agencies and your Board wish to make. As you are aware the rehabilitation works need to be completed in a urgent manner to allow for the operation of the revised system in this coming winter season.

Since time is an issue, we are respectfully requesting that this application for modification be treated as an emergency amendment, to allow the longest possible construction period.

We trust that this allows the Board to start the review process.

Sincerely

DILLON CONSULTING LIMITED



Gary Strong, P. Eng

Project Manager

Distribution list:

Environment Canada - Sid Bruinsma
GN H&SS - Bruce Trotter
INAC - Scott Stewart
DFO - Derek Moogie
GN- CG&S – Joe McKeaveney
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