



**REPORT TO LYALL HARBOUR / BOOT COVE WATER LOCAL SERVICE COMMITTEE
MEETING OF THURSDAY, FEBRUARY 23, 2006**

SUBJECT WATER SYSTEM LONG TERM PLANNING ISSUES

PURPOSE

To identify for the Lyall Harbour / Boot Cove Water Local Service committee (LHBC) issues and concerns that will require direction of the LHBC in the administration of the water system in future. To solicit input from the committee towards the development and timing of an overall work plan to address such issues as are considered important, and whether or not staff should approach senior government for assistance with funding such projects as new programs may come available.

BACKGROUND

LHBC has been presented with a number of challenges to fund upgrades and improvements to the water system and has met the challenge without major increase to either parcel tax or user fee. Water quality issues have been a focus for the LHBC for a number of years. Installation of the carbon filters offered a significant increase to water quality delivered to residents and a major colour issue was largely resolved with the installation of a variable level intake in Money Lake. The LHBC has worked with the community to facilitate water service to the new community centre, has partnered with the community centre to install water infrastructure which, when completed, will further improve the operation of the water plant and provide a ready means to provide a full flow fire hydrant for the community. These types of projects have been carried out as opportunities arise or funds are available but have not been incorporated into a long range plan. It is appropriate that the LHBC provide direction to staff on whether or not continuation of such projects is desirable and if so to develop a long term strategy to fund the implementation of such works.

ISSUES

Filter Operation: Analysis of the filter operation during the 2002 colour event yielded the following:

- Peak flows through the filters are excessive.
- Filter backwash uses raw system water rather than treated water.
- Instantaneous rate fluctuations shock the filter, dislodging trapped particles into the system.
- Rates through filters increase even higher when one filter is off line for backwashing.
- Backwashing is by timer. A filter can reach breakthrough well in advance of the backwash cycle being initiated.

Water Supply. It may be appropriate to again revisit the long term supply requirements for the water system. Although growth in the number of users has been limited, other data indicates a shift in patterns for the water system. Some information of interest includes:

- The number of service connections increased by five from 1993 to 2003.
- On this basis it will be many years before the system is fully developed.
- Peak water demand, during the same time period (measured as a three day maximum) has increased from 47,200 gallons per day to 79,860 gallons per day.

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- The Capital Regional District has water licences on Money lake for storage and for abstraction. The licenced abstraction rate for the lake is 72,000 gallons per day.
- The equivalent number of single family dwellings, as contributed by other uses such as commercial, may be understated.
- Peak day flow, attributed to a number of leaks on the homeowner side of the system, during 2004 was 131,120 gallons per day.

The protection of watershed lands, the development of an alternate supply, and the management of the present water usage should be considered in any long term plan.

Water Quality. The work undertaken in 2003 respecting colour has concluded the event is due to iron, and the source is likely groundwater entering the reservoir. There is a growing concern that the presence of blue green algae in other water systems not unlike that in Lyall Harbour will prompt the need for additional treatment. Should o'cysts such as giardia and or cryptosporidium be detected in the lake, additional methods to disinfect the water may also be an issue.

Fire Department Issues. The fire department has been looking, for some years, for a means to refill their tanker for extended fires. The system production is severely limited by the capacity of the filters, and as noted above, during fire demand filter rates are exceeded even more than normal. It is not possible to provide a hydrant on the high pressure side of the water plant, as closing a hydrant with that type of pressure puts the main at considerable risk.

Distribution issues. As experienced in 2004, household service leakage, if left unchecked, can result in considerable loss of valuable treated water. Metering, whether used for billing or not, are the primary means to identify lost water on residential connections and on the primary system. Protection of the public health through cross connection control is also of concern.

FINANCIAL IMPLICATIONS

The utility has exhausted most of its reserve funds and needs to give consideration as to how to generate surplus funds for future projects arising from the plan.

SUMMARY/CONCLUSIONS

The LHBC has a number of longer term issues which need to be fully identified, costed, and prioritized into a working plan. The plan and the strategy to fund works arising from the plan need to be vetted by the public and then implemented by LHBC.

RECOMMENDATION

That the Lyall Harbour/Boot Cove Water Local Service committee receive this report for information and provide input to staff as to whether the planning process should be initiated in 2006.



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