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North West Community Council

~~August 14, 2008~~
September 25, 2008

TO: Chair and Members of North West Community Council

SUBMITTED BY: Cathie O'Toole
Cathie O'Toole, Director, Infrastructure and Asset Management

DATE: July 24, 2008

SUBJECT: Paper Mill Lake - Threshold Values for Water Quality

INFORMATION REPORT

ORIGIN

Report Item 10.6.1 - July 10 North West Community Council meeting.

BACKGROUND

At the July 10, 2008 meeting of the North West Community Council, it was requested by Community Council that staff provide a report that identifies any implications there may be in adopting proposed threshold values for water quality in Paper Mill Lake as presented in the Bedford Watershed Advisory Board report dated April 28, 2008.

This report recommended the adoption of the following threshold values for water quality in Paper Mill Lake:

Total Phosphorus: 10 micrograms per litre

- Fecal coliforms:
 - 200 counts (MPN) per 100 ml at any location for the arithmetic mean on measurements taken within a given calendar year, and
 - 400 counts (MPN) per 100 ml for a single measurement

DISCUSSION

The adoption of the proposed threshold values has management implications, most of which are explicit in the Development Agreement under negotiation between HRM and West Bedford Holdings Ltd.

Section 5.0, Environmental Protection Measures, Clause 5.3.1(d) states that “in the event that threshold levels specified under clause 5.3.2 (b) are exceeded, the Municipality may direct the consultant to undertake further testing deemed reasonable to verify results”.

This clause implies that the additional testing required will be done, not only to verify the results, but also to determine the cause of the exceedence. It is possible that other events occurring in the same watershed unrelated to the development, are responsible for elevated readings.

Clause 5.3.2 (b) states that “if any total phosphorus measurement exceeds ten (10) micrograms per liter or if the arithmetic mean of any fecal coliform measurement within a given calendar year exceeds two hundred (200) counts (MPN) per 100ml at any location or if any fecal coliform measurement exceeds four hundred (400) counts (MPN) per 100ml, the findings will be reported immediately to the Developer and to the Waters(hed) Advisory Board and the Community Council at the next scheduled meeting. The Municipality shall make all reports provided to the Waters(hed) Advisory Board and the Community Council available to the public.”

This clause holds HRM staff responsible for immediate reporting of exceedences to three parties - Community Council, the Bedford Watershed Advisory Board, and the Developer.

The Canadian Council of Ministers of the Environment (CCME) established Guidelines for Canadian Recreational Water Quality, on which the thresholds stated above were based. The CCME guidelines, however, recommended the use of “... the geometric mean of at least five samples taken during a period not to exceed 30 days...”, rather than the arithmetic mean stated in the development agreement. The geometric mean is recommended over the use of the arithmetic mean to enable meaningful statistical calculations, as it dampens the effect of very high or very low values, which could bias the arithmetic mean. In the case of Paper Mill Lake, only three samples are anticipated to be collected over an annual period, so the effect of using a geometric mean is expected to be minimal.

In general terms, the adoption of water quality threshold values commit HRM to take action should these values be exceeded. At the minimum, this could be to do nothing. At the maximum, it may require HRM to impose limitations on development currently underway or planned for the future. As a middle ground, HRM could require the developer to take mitigative actions to reduce the amount of Total Phosphorus or fecal coliforms reaching affected water body.

These implications are similar to those inherent in the adoption of Total Phosphorus threshold values taken by the Harbour East Community Council for the Development Agreements reached with Clayton Developments Ltd. affecting Russell Lake and Morris Lake in Dartmouth. The establishment of water quality threshold values, particularly as they relate to development agreements, is an important component of establishing high expectations and performance

standards from the development community, and for HRM as well. The adequacy and availability of resources required to fulfill these requirements must be well considered, to ensure that we will be able to meet the established standards and expectations. The establishment of these thresholds means that they may be exceeded, which imposes a duty on HRM to act in accordance with the results. The risks inherent in this action include negative publicity and the possibility that the available resources are insufficient to the task. By extension, it is logical to anticipate that members of the HRM community will expect similar standards to be established for other watercourses throughout the municipality, with consistent procedures, protocols and responses for all. There is a risk of raising expectations above the level to which HRM is capable of responding with current resources.

BUDGET IMPLICATIONS

There are no budget implications.

FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN

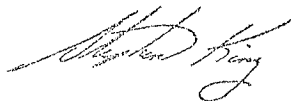
This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Capital and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Capital and Operating reserves, as well as any relevant legislation.

ATTACHMENTS

There are no attachments to this report.

A copy of this report can be obtained online at <http://www.halifax.ca/commcoun/cc.html> then choose the appropriate Community Council and meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

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A handwritten signature in black ink, appearing to read "Stephen King".

Report Approved by : Stephen King, Manager, Sustainable Environment Management Office, 490-6188