

Summerside



WATER SYSTEM REPORT

For 2009

**Prepared By the Department of
Municipal Services
City of Summerside**

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Water System Report
January – December 2009
City of Summerside, Prince Edward Island
Department of Municipal Services

Introduction

The City of Summerside began sampling and testing its water on a bi-weekly basis in the 1960's. In 2001 Summerside established its present policy for standard water sampling practice. This policy ensures that the drinking water quality in the City Water Utility is maintained according to the standards set out in the Canadian Drinking Water Standards. These standards are used as the basis for interpreting our water testing results. In any situation where standards do not exist the City follow the guidance of the Provincial Chief Health Officer.

The Environmental Protection Act, Drinking Water and Wastewater Facility Operation Regulations, sets out the requirements which the City follows for sampling, testing, and reporting of water quality. These regulations first came into effect on December 18, 2004. As well as federal and provincial regulations, the Atlantic Canada Guidelines for the Supply, Treatment, Storage, Distribution, and Operation of Drinking Water Supply Systems provide information to City officials with regards to our water system. These guidelines offer information about the design, operation, and maintenance of new and existing water systems, both large and small.

This report fulfills the City's regulated requirement for summarizing system water quality on an annual basis.

Summary

The City of Summerside have identified 8 locations within the water distribution system from which water samples are collected for testing on a regular (2 week) basis. In addition to collecting samples at these 8 locations, which are shown in Table 1: Water Sample Locations, City staff also collect samples from each active source (well or well field) within the City. The number of sample locations and frequency of sampling was determined in accordance with Health Canada's Canadian Drinking Water Guidelines in consultation with Provincial authorities.

Sample Location	Civic Address (Summerside, P.E.I.)	City Sampling Zone
St. Eleanor's Community Center	1 West Drive	1
Pope Road Variety Store	148 Pope Road	2
Granville Street Gas and	486 Granville Street	3

Convenience		
Lions Club Senior’s Residence	326 Brophy Avenue	4
Summerside Fire Hall (Station 1)	251 Foundry Street	6
24 Hour Irving	96 Water Street	6
Ben’s Bakery Outlet Store	686 Water Street East	7
Read’s Corner Tim Hortons	820 Water Street East	8
City Water Source Location		
Summerside Well “Number 7”	123 Walker Avenue	3
Summerside Well “Number 1”	411 Northmarket Street	6
Summerside Well “Number 10”	277 Greenwood Drive	8
Wilmot Well Field (contains 4 active wells)	855 Read Drive	2

Table 1: Water Sample Locations

The City Sampling zones listed in Table 1 are shown below in Figure 1: Summerside Water Sample Areas. Section 11 of the Prince Edward Island Environmental Protection Act was used to determine that 8 sampling zones were needed for the City.

Following collection, all water samples are sent to the Provincial Department of Environment Analytical Laboratory in Charlottetown. Every sample is tested for 3 Bacteria types – Total Coliforms DC, Escherichia Coli DC (“E. Coli”), and Background Growth Bacteria. In addition to the bacteria tests which are performed at the Provincial lab, at the time of sample collection the Chlorine Residual is analyzed and recorded by City Staff, as required by City policy.

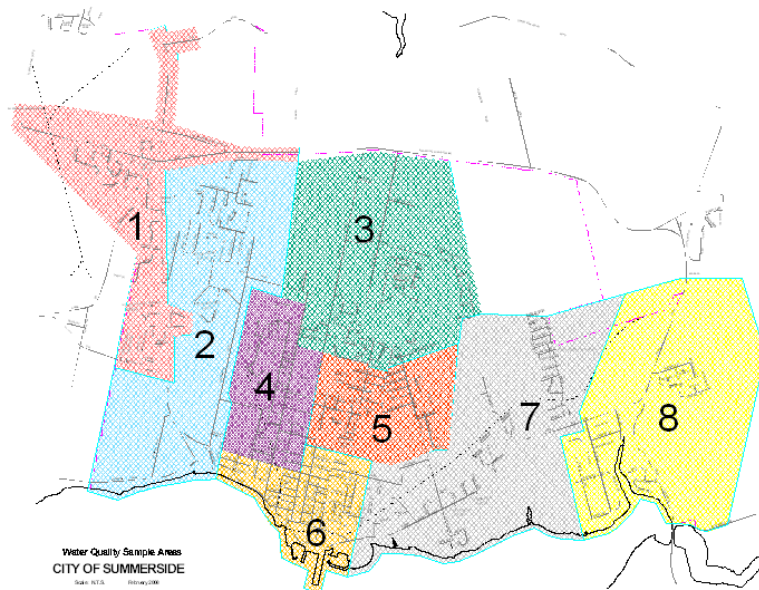


Figure 1: Summerside Water Sample Areas

Bacteria Testing Results

During the 2009 year 309 Water Samples from the City of Summerside System and Source Wells were tested for Bacteria at the P.E.I. Analytical Laboratory (samples from Capital Projects – construction of new lines – are discussed in a later section of this report). Of these 309 samples 307 were taken from the public drinking water system as part of the City's regular testing procedure. The other two samples were taken by request. The first requested test was test ID number 235109 (a utility customer's home) and the second was at the City Wind Farm maintenance building on Lyle Road (a property which is not connected to the water utility and obtains all of its water from an isolated on site well). Both samples taken by request were free from all 3 bacteria types.

Only one water sample taken during 2009 returned results which were out of compliance with provincial drinking water guidelines. This particular sample was taken from Wilmot Well #1 during a time when the well was disconnected from the Public Water System because of well pump repair work. This test, ID number 243553, showed a background bacteria count of over 200 CFU/100 ml. It is very common to see such a result on a system during repair work and following a normal flushing procedure this water source returned test results in compliance with provincial regulations for drinking water on three separate days before this well was reconnected to the public system.

All other City of Summerside System and Source Well Samples taken in 2009 showed water met or exceeded provincial guidelines. All samples were fit for drinking in regards to E. Coli and Total Coliform Bacteria testing.

Chemistry Analysis

According to the Canadian Drinking Water Guidelines all active wells must be subject to chemical analysis. A general chemical analysis of each well must be performed annually and a detailed chemical analysis is required every three years. All water chemistry analysis for the City of Summerside is performed at the Provincial Analytical Laboratory, the same lab which performs the City's water Bacteria testing. The Canadian Drinking Water Guidelines set a Maximum Allowable Concentration (MAC) for various chemicals in drinking water.

The City of Summerside performed detailed chemical analysis on all active wells in August 2007. City wells are due for detailed chemical analysis in 2010.

During 2009 City of Summerside staff collected 69 samples for nitrate analysis. The Canadian Drinking Water Guidelines set 10 mg/L as the Maximum Allowable Concentration for Nitrates. Of all Summerside water samples for 2009 only one returned a non-compliant test result. Sample ID 233891, collected at Wedgewood Manor, 310 Brophy Avenue, on March 17 showed a Nitrate concentration of 13.3 ppm.

Water System Capital Projects

During 2009 Capital Projects were carried out by the City to replace or extend water mains on Willow Avenue, Arnett Avenue, and Heckbert Street. All of these new sections of line were tested to ensure water provided through these new lines meets the Canadian Drinking Water Guidelines. The purpose of these new installations was increasing system reliability by replacing aged infrastructure and to service new properties which were previously developed.

A capital project occurred on Willow Avenue and at this location 12 samples were taken during June. 3 of these samples were non compliant with provincial regulations because of Background Bacteria growth of more than 200 CFU/100ml. These were sample ID # 238694, 238695, and 238696. This same line returned 6 clean samples on 2 days before being put into service. The Willow avenue capital project was also sampled 4 times in September with all 4 samples in compliance with provincial guidelines.

A capital project occurred on Arnett Avenue where 5 samples were taken. One sample, ID 240034, was out of compliance because of a greater than 80 CFU/100ml count of Total Coliform bacteria. This line later returned 2 clean samples before being put into service.

The third and final capital project for 2009 was a new line on Heckbert street. This line was sampled twice with both samples conforming with provincial guidelines.

Chlorination of Water System

The City of Summerside continues to apply chlorine to the municipal water system at each well site and well field. The goal of chlorination is to maintain a Chlorine Free Residual of at least 0.1 mg/L or higher at all points in the system at all times. This level of chlorination is required by the Canadian Drinking Water Guidelines.

City Staff evaluate the chlorine free residual of each water sample used for bacteria testing. This means that on average 12 chlorine free residual tests are performed at the same locations as bacteria tests on a biweekly basis. During 2009 the lowest chlorine level measured was 0.10 mg/L and the highest was 0.66 mg/L. Therefore, all chlorine residuals were within Canadian Drinking Water Guidelines.

Conclusion

The City of Summerside Municipal Works department continues to operate and maintain a safe water utility, delivering water to customers which is safe for human consumption. The public are welcome to contact the Municipal Services Director at 902-432-1272 with any questions.

Suggested Reading Material

Information on The Atlantic Canada Water Guidelines and the P.E.I. Act can be seen on Provincial Government's web site:

<http://www.gov.pe.ca/infopei/index.php3?number=1004345&lang=E>

Information on Health Canada's Canadian Drinking Water Guidelines can be seen at Health Canada's web site:

http://www.hc-sc.gc.ca/ewh-semt/water-eau/drink-potab/index_e.html

Information on Chemical parameters can be found on the P.E.I. Gov web site:

<http://www.gov.pe.ca/infopei/index.php3?number=43878&lang=E>