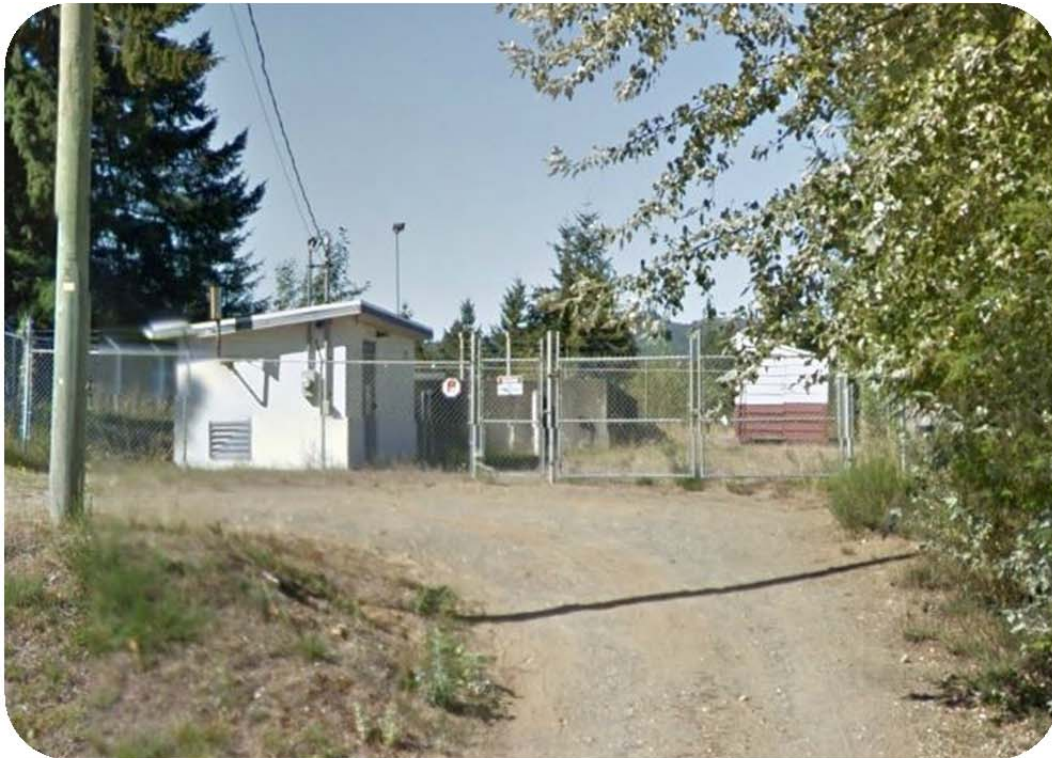


REGIONAL DISTRICT OF NANAIMO

Water Service Area Annual Report 2012



Whiskey Creek Water System

June 2013

REGIONAL DISTRICT OF NANAIMO

Water & Utility Services Department

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Appendix A - Map of Whiskey Creek Water Service Area

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1. Introduction

The following annual report describes the Whiskey Creek Water Service Area and summarizes the water quality and production data from 2012. This report also includes a summary of inquiries and complaints, completed and proposed maintenance activities, the Emergency Response Plan, and the Cross Connection Control Program.

This report is to be submitted to the Vancouver Island Health Authority by the Spring of 2013.

2. Whiskey Creek Water System

The Whiskey Creek water system was constructed in the 1970s and was initially operated by the Subdivision Developer, Westerlea Estates Ltd. The water system is located eight kilometres southwest of Qualicum Beach on the south side of Highway 4. There are 123 residential lots connected to the water system. In January 2012, the ownership and operation of the Whiskey Creek Water District was transferred to the RDN. A map of the Whiskey Creek Water Service Area is provided in Appendix A for reference.

2.1 Source Water

Two water licences allow surface water to be extracted from nearby Crocker Creek. An emergency backup generator is available in the event of a power failure. Water from Crocker Creek is temporarily stored in a raw water storage pond next to the pumphouse on Hebert Road. Perforated pipe under the bed of the pond carries water into a concrete wet well containing two submersible pumps. These pumps deliver water through a pressure filter to a water storage reservoir. The water is dosed with a polymer upstream of the filter and then chlorinated. Drinking water is pumped into the water system via two booster pumps.

2.2 Reservoirs

One service reservoir (concrete) is present at 979 Poplar Way, and has a capacity of 195 m³ (43,000 imperial gallons).

2.3 Distribution System

The water distribution system in Whiskey Creek is summarized in the table below. There are 9 fire hydrants and 4 flush-outs in the system.

Watermain Material	Length of mains in Whiskey Creek Water Service Area	Prevalence in Water Service Area
<u>Asbestos-concrete:</u>		
100mm or smaller	1,280 m	40%
150mm or larger	1,920 m	60%

3. Water Sampling and Testing Program

Water sampling and testing was carried out by the Whiskey Creek Water District operators (not the RDN) until February 2012. A limited amount of historic test results are available, and are attached in Appendix B of this report. The RDN water sampling program is given in the table below.

Timing	Location	Tests
Weekly	BC Centre for Disease Control	Total coliforms, E.Coli
Weekly	RDN (in-house) Laboratory	Total coliforms, E.Coli Temperature, pH, Conductivity Chlorine residual, Salinity, TDS Monthly- Total Iron and Manganese
Quarterly	North Island Labs	Trihalomethanes (THMs), Total coliforms, and E.Coli at the reservoir site
Annual Source Water Testing (every Fall)	North Island Labs	Complete potability testing of raw source water incl. tannins and lignins
Annual System Water Testing (every Spring)	North Island Labs	Complete potability testing of distribution system water incl. tannins, lignins, Giardia, and Cryptosporidium

4. Water Quality - Source Water and Distribution System

Up-to-date water quality reports and lab data are posted monthly on the RDN website at www.rdn.bc.ca in the SERVICES section, under “Water & Utility Services” then “WaterSmart Communities”. Tables of water quality testing results for both the source water and distribution system are provided at the end of this report under Appendix B.

5. Water Quality Inquiries and Complaints

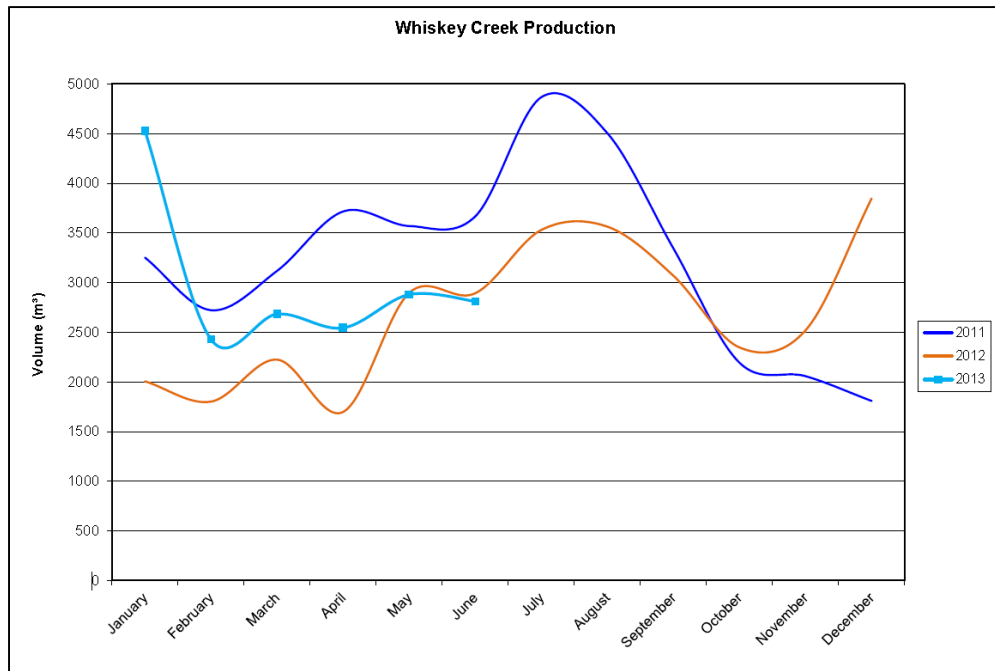
Very few complaints and inquiries were Received from the Whiskey Creek water service area in 2012 and were typically related to water billing.

Intersection of Britain Blvd and Poplar Way in Whiskey Creek



6. Water Consumption

The monthly water production for Whiskey Creek for the past 2.5 years is shown in the chart below. Water production in 2012 was much lower than previous years. The lower water usage rate is likely attributed to the installation of water meters at each residence.



Consumption

In the Fall/Winter of 2012, the average usage per home in Whiskey Creek was 0.34 cubic metres per day (75 imperial gallons). In the summer, the average water usage was 0.59 cubic metres per day (130 imperial gallons). Based on these figures, the annual consumption per capita is estimated to be 175 L/day (based on 2.4 people/household). This consumption is 35% less than the RDN system average of 268 L/day/capita in 2012.

7. Maintenance Program

Daily pump station inspections are carried out to reduce or eliminate the risk of contamination and system failure, and to ensure the consistent application of chlorine for treatment purposes. Watermains are flushed once annually in the Spring. Fire hydrants (9) are serviced once per year (either 'A-level' or 'B-level' maintenance) in the Fall. Twenty-four hour on-call coverage is in place to respond to water system emergencies and alarms.

Fire hydrants in the Whiskey Creek water system cannot be relied on for fire insurance purposes due to insufficient supply and capacity for fire flows. Upgrades to water supply volumes and reservoir storage may be required in the future, but would not proceed without community support and financing.

8. Water Service Area Projects

8.1 2012 Completed Studies & Projects

- Installed a control panel at the raw water station;
- Installed alarms at the pumphouse and reservoir site, along with communication lines to the RDN Utilities office;
- Installed stand-alone water sampling stations;
- Installed a Water Conservation Level sign with an arrow indicator;
- Completed Cross Connection Control wording in the water supply bylaw;
- Completed annual fire hydrant maintenance;
- Enforced the outdoor sprinkling regulations;
- Carried out a comprehensive water conservation campaign (Team WaterSmart);
- Updated and improved the RDN website at www.rdn.bc.ca;
- Updated the Emergency Response Plan;
- Applied a low-flush toilet and rainwater harvesting (rain barrel) incentive;
- Maintained excellent customer complaint and service request response times; and
- Maintained quality control through regular testing and monitoring of the water system.

8.2 2013 Proposed Projects & Upgrades

- Undertake berm repairs at the raw water station;
- Upgrade all four flush-outs;
- Continue to offer a low-flush toilet and rainwater harvesting (rain barrel) incentive;
- Update the Standard Operating Procedures;
- Continue quality control through regular testing and monitoring of water system; and
- Complete additional educational programs.

9. Emergency Response Plan

The Regional District Emergency Response Plan (ERP) contains procedures and contact information to efficiently respond to water system emergencies such as contamination of water supply, loss of supply, and pump failure. The ERP was updated in 2012, and copies of the ERP are available on our website, at each RDN office, in each pumphouse, and in each Water Services vehicle. A copy of the ERP is also attached to this report in Appendix C.

10. Cross Connection Control

A formalized Cross Connection Control Program was initiated at the RDN in 2007. Cross connection controls imposed in the Whiskey Creek Water System in 2012 include dual check valves installed at each service connection (121), mandatory fire hydrant use permits, and the creation of a water supply bylaw noting discontinued service if a threat to the water supply is perceived by staff.

In 2008, a review and comparison of successful cross-connection control programs in other small Water Service Areas nearby was undertaken. A database of commercial customers was set-up in order to keep track of the maintenance history of testable backflow prevention assemblies at each site. Three RDN Operations staff achieved Backflow Prevention Tester’s certification.

In 2012, *Regional District of Nanaimo Water Use Regulation Bylaw No. 1654, 2012* was adopted which includes enhanced cross connection control and backflow protection wording. A separate Cross Connection Control bylaw was deemed not to be required.

11. Closing

An annual report for the year 2013 will be prepared and submitted to the Vancouver Island Health Authority in the Spring of 2014. Annual reports are also available on our website at www.rdn.bc.ca in the SERVICES section, under “Water & Utility Services” then “WaterSmart Communities”.



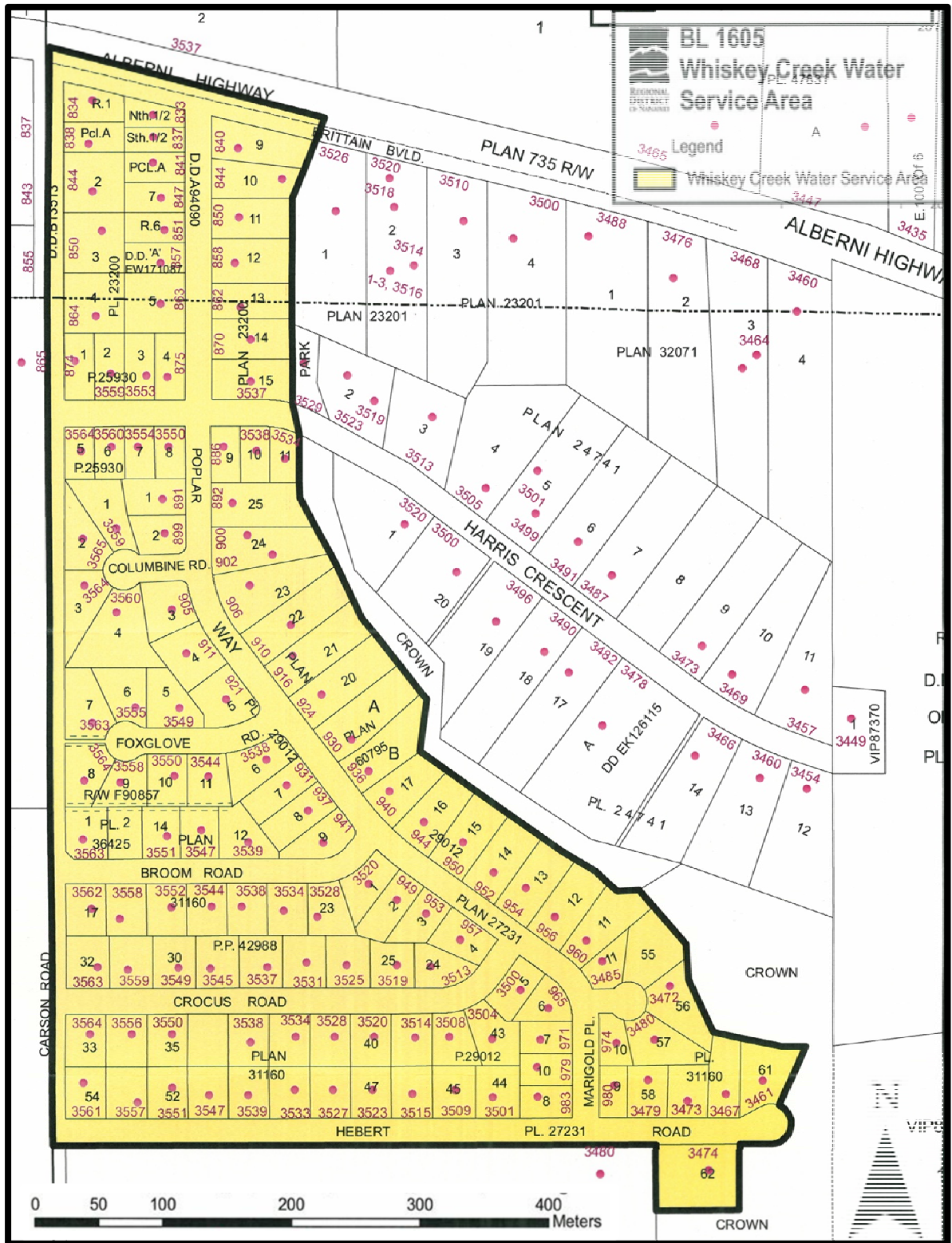
**Water Intake Location
and Pumphouse**

APPENDIX A

MAP OF WHISKEY CREEK

WATER SERVICE AREA

WHISKEY CREEK WATER SERVICE AREA



APPENDIX B

WATER QUALITY TESTING RESULTS