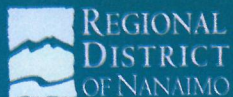




FRENCH CREEK

Water Service Area Annual Report 2011

Prepared by:



REGIONAL
DISTRICT
OF NANAIMO

REGIONAL DISTRICT OF NANAIMO

Water Services Department

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Appendix A - Map of French Creek Water Service Area

Appendix B - Water Quality Testing Results

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1. Introduction

The following annual report describes the French Creek Water Service Area and summarizes the water quality and production data from 2011. 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 2012.

2. French Creek Water Service Area

The French Creek Water Service Area was established in 1980 and comprises an area west of Drew Road and south of the Island Highway between the City of Parksville and the Town of Qualicum Beach. There are 236 water service connections in the French Creek Water System. The water source comes from a series of groundwater wells located within the Sandpiper subdivision. The water supply is chlorinated and stored in one reservoir. In the event of a power failure or water system emergency, back-up water supply is immediately provided by the Town of Qualicum Beach through a pressure-sensing valve located on Ormonde Road. A map of the French Creek Water Service Area is provided in Appendix A for reference.

2.1 Groundwater Wells

Six groundwater production wells are present in the French Creek Water Service Area.

Well / Name	Well Depth	In Use	Wellhead Protection	Treated/Untreated with Chlorine
#1	39.6 m	No	Yes	n/a
#2	40.5 m	Yes	Yes	Treated
#4	40.2 m	Yes	Yes	Treated
#5	50.3 m	No	Yes	n/a
#6	52.4 m	No	Yes	n/a
#7	39.6 m	Yes	Yes	Treated

French Creek Well #1 has not been used for several years due to low production and high iron levels. Well #1 is expected to be converted to a monitoring well in 2013. Wells #5 and #6 are temporarily not in use due to elevated levels of iron and manganese.

2.2 Reservoirs

One service reservoir (steel construction) is present at 1225 Sunrise Drive, Parksville, B.C. and has a capacity of 364 m³ (80,000 imperial gallons).

2.3 Distribution System

The water distribution system in the French Creek Water Service Area is summarized in the table below. Fire hydrants (68) are located throughout the water service area.

Watermain Material	Length of mains in service area	Prevalence in service area
<u>Asbestos-concrete:</u> 150mm or smaller 200mm or larger	3.5 km 0.8 km	52% 12%
<u>PVC:</u> 150mm or smaller 200mm or larger	0.9 km 1.5 km	14% 22%

Note: 'PVC' is poly-vinylchloride (plastic)

3. **Water Sampling and Testing Program**

Water sampling and testing is carried out weekly in the distribution system. The following table includes a summary of all testing.

Timing	Location	Tests
Weekly	RDN (in-house) Laboratory	Total coliforms, E.Coli Temperature, pH, Conductivity Chlorine residual, Salinity, TDS Monthly- Iron and Manganese
Monthly	BC Centre for Disease Control	Total coliforms, E.Coli
Annual Source Water Testing (every Fall)	North Island Labs	Complete potability testing of raw well water, including T-Ammonia
Annual System Water Testing (every Spring)	North Island Labs	Complete potability testing of distribution system, including T-Ammonia

4. **Water Quality - Source Water and Distribution System**

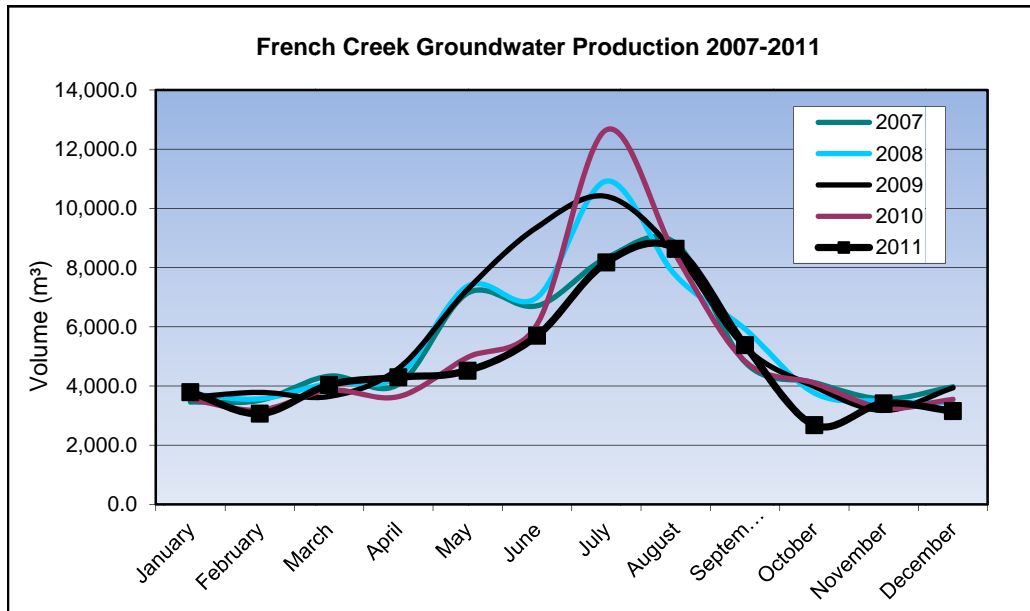
Up-to-date water quality reports and lab data are posted monthly on the RDN website at www.rdn.bc.ca in the Services section, under “Water & Utility Services” then “WaterSmart Communities”. Tables of water quality testing results for both the source water and distribution system are provided at the end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

5. **Water Quality Inquiries and Complaints**

A few complaints and inquiries were received from the French Creek water service area in 2011, and were typically related to isolated incidents of iron discolouration in the water.

6. Groundwater Production and Consumption

The monthly groundwater production in the French Creek Water Service Area for the past 5 years is shown in the chart below. Groundwater production in 2011 was average in comparison to previous years.



Consumption

In the Fall/Winter of 2011, the average usage per home in French Creek was 0.46 cubic metres per day (101 imperial gallons). In the summer, the average water usage was 0.92 cubic metres per day (202 imperial gallons). Based on these figures, the annual consumption per capita is estimated to be 256 L/day (based on 2.4 people per household). This consumption is 5% less than the RDN system average of 269 L/day/capita for 2011.

7. Maintenance Program

Weekly 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 twice annually: once in the Spring and once in the Fall.

Fire hydrants are serviced once per year (either 'A-level' or 'B-level' maintenance). The water storage reservoir is drained and cleaned once every two years.

Twenty-four hour on-call coverage is in place to respond to water system emergencies and alarms.

French Creek Main Pumphouse and Reservoir



8. Water Service Area Projects

8.1 2011 Completed Studies & Projects

- Drained and cleaned the water storage reservoir;
- Cleaned all water meters of iron/manganese build-up;
- Enforced the outdoor sprinkling regulations;
- Completed annual B-service fire hydrant maintenance;
- Amalgamated RDN water systems' rates & regulations into one bylaw;
- Prepared a Draft Cross-Connection Control Bylaw;
- 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;
- Utilized the Auto E-message service to notify member residents of water service disruptions and upcoming maintenance activities;
- Applied the low-flush toilet incentive;
- Maintained a high level of water quality;
- Maintained excellent customer complaint and service request response times;
- Continued quality control through regular testing and monitoring of our water systems; and,
- Completed additional educational programs.

8.2 2012 Proposed Projects & Upgrades

- Convert one unused production well to a monitoring well;
- Review water treatment costs (for iron & manganese);
- Complete the Cross-Connection Control Bylaw, and establish a procedure for reviewing commercial and industrial properties for water system risks;
- Install a new pump controller and wiring;
- Construct a new chlorine storage building/kiosk;
- Update Standard Operating Procedures; and
- Apply a rainwater harvesting (rain barrel) incentive.

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 reviewed and updated in 2011, and copies 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 in 2007. Cross connection controls in-place include dual check valves at each service connection, fire hydrant use permits, and water supply bylaws 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 2010, a Draft Cross-Connection Control Bylaw was prepared, and is anticipated to be finalized in 2012. Additionally, the program in 2012 will include:

- A formal survey of existing and potential cross-connections, and
- An audit of RDN-owned facilities in each water service area.

11. Closing

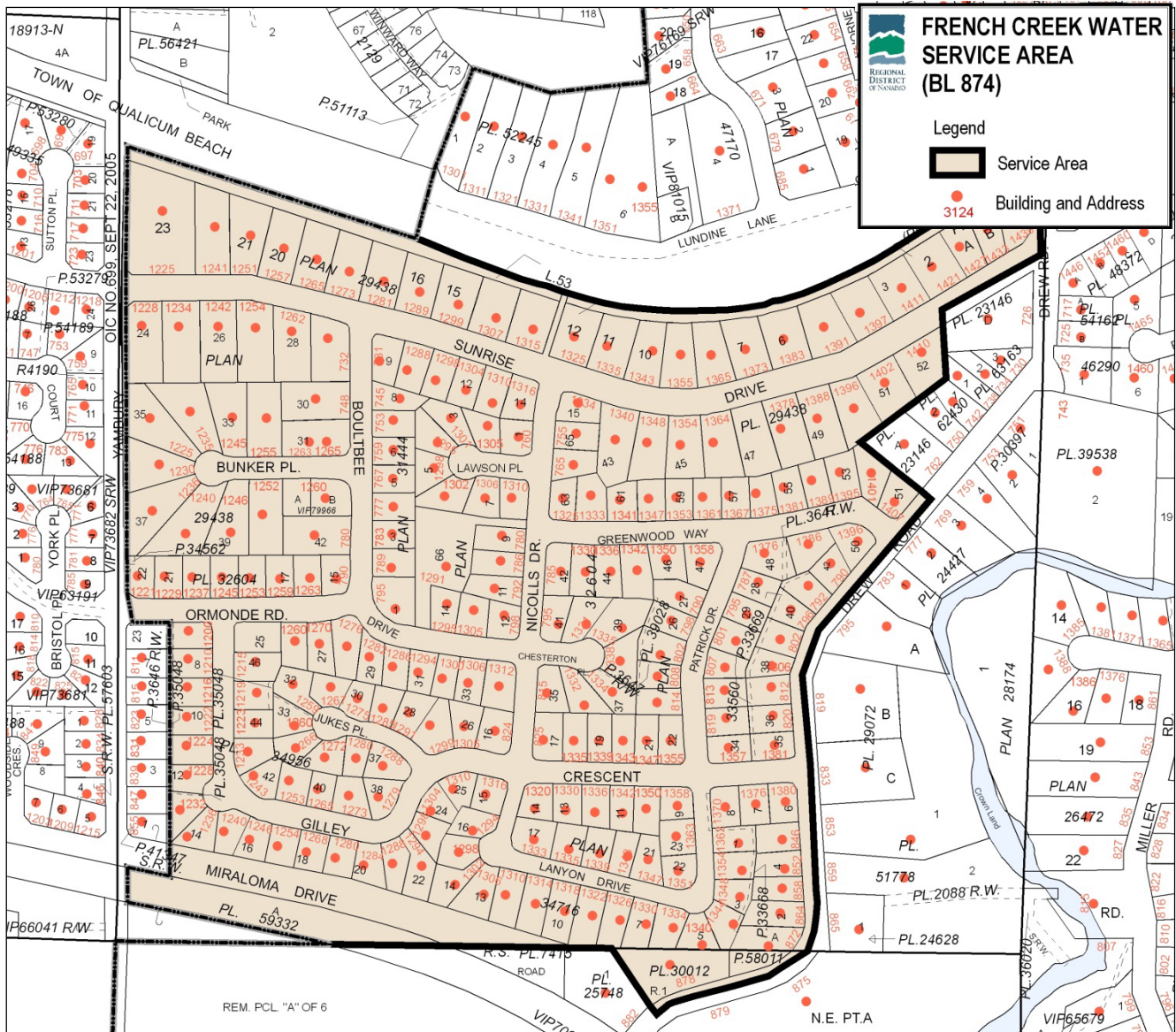
An annual report for the year 2012 will be prepared and submitted to the Vancouver Island Health Authority in the Spring of 2013. Annual reports are also available on our website at www.rdn.bc.ca in the SERVICES section, under Water & Utility Services then WaterSmart Communities.

APPENDIX A

MAP OF FRENCH CREEK

WATER SERVICE AREA

FRENCH CREEK
WATER SERVICE AREA



APPENDIX B

WATER QUALITY TESTING RESULTS