

REGIONAL DISTRICT OF NANAIMO

Water Service Area Annual Report 2017



Descanso Bay Regional Park Water System



June 2018

REGIONAL DISTRICT OF NANAIMO
Water & Utility Services Department

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Appendix A - Map of Descanso Bay Regional Park Water System

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1. Introduction

The following annual report describes the Descanso Bay Regional Park Water System and the water quality and production data from 2017. This report also includes a summary of inquiries and complaints, completed and proposed maintenance activities, Operator Certification, the Emergency Response Plan, and the Cross Connection Control Program. This report is to be submitted to Island Health by the spring of 2018.

2. Descanso Bay Regional Park Water System

The Regional District acquired the Descanso Bay Regional Park property in 2002 from the Coastal Community Credit Union. The park is accessed from Taylor Bay Road and comprises an area of 16 hectares (40 acres) on the west side of Gabriola Island. There are 5 standpipes (taps) for drinking water supply at the campground, including one at the Park Office. The water source comes from one groundwater well located within the park. The water is filtered, disinfected with ultraviolet radiation, and stored in one cistern. The on-site water treatment system was installed in 2010. A portable generator is available for emergency power outages. A map of the Descanso Bay Regional Park Water System is provided in Appendix A for reference.

2.1 Groundwater Well

The Descanso Bay Regional Park well is 54.8 metres deep and located approximately 50 metres northwest of the Park Office. The well water is filtered with a 5 and 10 micron filter, and then disinfected with UV (ultraviolet) radiation.

2.2 Reservoir

One polyethylene cistern is located behind the pumphouse next to the Park Office. The cistern has a capacity of 9.0 m³ (2,000 imperial gallons).

2.3 Distribution System

The water distribution system is comprised of 675 metres of 3-inch PVC (poly-vinylchloride) pipe. There are no fire hydrants in this water system. There are five standpipes from which to draw drinking water in the campground (also known as yard hydrants).

**Descanso Bay Park
Pumphouse
(green cistern is located
behind the pumphouse)**



3. Water Sampling and Testing Program

Water sampling and testing is carried out monthly from a standpipe in the water system. The following table includes a summary of all testing:

Timing	Location	Tests
Monthly (from May to Sept)	BC Centre for Disease Control	Total coliforms, E.Coli
Quarterly (from Oct to April)	BC Centre for Disease Control	Total coliforms, E.Coli
Annually (October)	Maxxam Labs	Complete potability testing of raw well water at wellhead, including UV Transmittance
Annually (May)	Maxxam Labs	Complete potability testing of treated water

4. Water Quality - Source Water and Distribution System

Water quality testing results for both the source water and distribution system (for the period January 2017 to March 2018) are provided at the end of this report under Appendix B. Bacteriological results are posted on the Island Health website at:

http://www.healthspace.ca/Clients/VIHA/VIHA_Website.nsf/Water-Samples-Frameset?OpenPage, then click on [Gabriola Island](#), then click [Descanso Bay Regional Park](#).

5. Water Quality Inquiries and Complaints

No complaints were received from the Descanso Bay Regional Park Water System in 2017. Inquiries were limited to seasonal campground hours.

Standpipe for water supply in Descanso Bay Regional Park



6. Groundwater Production and Consumption

The volume of groundwater pumped from the Descanso Bay Regional Park well is not metered, but the water consumption at the standpipes is estimated to be 450 cubic metres per year. The campground is only used seasonally.

7. Maintenance Program

A daily pump station inspection is carried out to reduce or eliminate the risk of contamination and system failure. Watermains are flushed once annually in the spring.

The water storage cistern is drained every fall and then cleaned in the spring before it is put back into service. The office runs off a smaller pressure tank.

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

8. Operator Certification

The Regional District Water & Utility Services staff are comprised of one Manager, one Project Engineer, one Engineering Technologist, one Chief Operator, and seven certified Level 2 Water Distribution System Operators. The Park Operator has the Small Water Systems Operator certification. The operators receive ongoing training and certification in:

- | | | |
|----------------------------|---|----------------------------|
| ✓ Water Treatment | ✓ Chlorine Handling | ✓ Confined Space Awareness |
| ✓ Water Distribution | ✓ WHMIS (Workplace Hazardous Material Information System) | ✓ Traffic Control |
| ✓ Wastewater Collection | ✓ TDG (Transportation of Dangerous Goods) | ✓ Fall Protection |
| ✓ Cross Connection Control | | ✓ First Aid |
| ✓ Asbestos Awareness | | |

9. Water System Projects

9.1 2017 Completed Studies & Projects

- Changed the cartridge filters and UV bulb in June 2017.
- Installed a lock on the reservoir (cistern) lid;
- Completed a Cross Connection Control Bylaw in draft format;
- Added 15 new volunteer observation wells to the RDN monitoring network;
- Completed the online GIS Water Map update for aquifer and watershed info;
- Issued a Public newsletter on State of Our Aquifers;
- Maintained a high level of water quality;
- Continued quality control through regular testing and monitoring of water system; and
- Completed additional educational programs.

9.2 2018 Proposed Projects & Upgrades

- Review and update the Emergency Response Plan;
- Complete the Cross Connection Control Bylaw; and
- Review and update the Drinking Water and Watershed Protection Action Plan.

10. 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 2017, 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.

11. Cross Connection Control

In 2017, a more robust Cross Connection Control Plan was prepared that fully defines the CCC program, including standard operating procedures, plumbing code references, reporting procedures, survey schedules, backflow prevention standards, detailed installation schematics, blank test forms, testing reminders, and non-compliance letters. Two RDN Operators achieved their Backflow Assembly Tester re-certification in 2017. The RDN Chief Operator is the designated Cross Connection Control Manager.

In 2018, a stand-alone Cross Connection Control Bylaw will be adopted that contains definitions, authorizations, applications, liability, rules, regulations, testing requirements, and reporting requirements. The bylaw will address retrofits, prohibitions, special circumstances, reclaimed water use, alternate water sources, failure to comply, inspections, testing, offences, penalties and more. Sections of the existing RDN Water Supply Bylaw No. 1654 will be repealed so they do not conflict with the new Cross Connection Control Bylaw. A webpage will be established on the Water & Utility Services website that will educate RDN customers about cross connections and list the relevant links to current standards and resources.

12. Closing

An annual report for the year 2018 will be prepared and submitted to Island Health in the Spring of 2019. The Descanso Bay Regional Park Water System Annual Reports are also available on our website at www.rdn.bc.ca in the SERVICES section, under “Parks” then “Regional Parks and Trails”.



North Cove

APPENDIX A

MAP OF DESCANSO BAY REGIONAL PARK

WATER SYSTEM

DESCANSO BAY REGIONAL PARK
WATER SYSTEM

Descanso Bay Regional Park



APPENDIX B

WATER QUALITY TESTING RESULTS

DESCANSO BAY REGIONAL PARK WATER SYSTEM



Facility Location:

595 Taylor Bay Road
Gabriola Island

Facility Information:

Facility Type: DWS

Facility Sampling History:

<u>Location</u>	<u>Date</u>	<u>Total Coliform</u>	<u>E. Coli</u>
Descanso Bay - Stand pipe #5, 595 Taylor Bay Road	7-Dec-2017	L1	L1
Standpipe #3 - Descanso Bay , 595 Taylor Bay Road	7-Dec-2017	L1	L1
Standpipe #4 Descanso Bay Regional Park, 595 Taylor Bay Road	7-Dec-2017	L1	L1
AUDIT Descanso Bay Regional Park (Manager's Cabin), 595 Taylor Bay Road	30-Nov-2017	L1	L1
Descanso Bay - Stand pipe #5, 595 Taylor Bay Road	9-Nov-2017	L1	L1
Standpipe #3 - Descanso Bay , 595 Taylor Bay Road	9-Nov-2017	L1	L1
Standpipe #4 Descanso Bay Regional Park, 595 Taylor Bay Road	9-Nov-2017	L1	L1
Standpipe #3 - Descanso Bay , 595 Taylor Bay Road	12-Oct-2017	L1	L1
Standpipe #4 Descanso Bay Regional Park, 595 Taylor Bay Road	12-Oct-2017	L1	L1
Descanso Bay - Stand pipe #5, 595 Taylor Bay Road	13-Sep-2017	L1	L1
Standpipe #3 - Descanso Bay , 595 Taylor Bay Road	13-Sep-2017	L1	L1
Standpipe #4 Descanso Bay Regional Park, 595 Taylor Bay Road	13-Sep-2017	L1	L1
Descanso Bay - Stand pipe #5, 595 Taylor Bay Road	30-Aug-2017	L1	L1
Standpipe #3 - Descanso Bay , 595 Taylor Bay Road	30-Aug-2017	L1	L1
Standpipe #4 Descanso Bay Regional Park, 595 Taylor Bay Road	30-Aug-2017	L1	L1
Descanso Bay - Stand pipe #5, 595 Taylor Bay Road	6-Jul-2017	L1	L1
Standpipe #3 - Descanso Bay , 595 Taylor Bay Road	6-Jul-2017	L1	L1
Standpipe #4 Descanso Bay Regional Park, 595	6-Jul-2017	L1	L1

<u>Location</u>	<u>Date</u>	<u>Total Coliform</u>	<u>E. Coli</u>
Taylor Bay Road			
Descanso Bay - Stand pipe #5, 595 Taylor Bay Road	7-Jun-2017	L1	L1
Standpipe #3 - Descanso Bay , 595 Taylor Bay Road	7-Jun-2017	L1	L1
Standpipe #4 Descanso Bay Regional Park, 595 Taylor Bay Road	7-Jun-2017	L1	L1
Standpipe #3 - Descanso Bay , 595 Taylor Bay Road	3-May-2017	L1	L1
Standpipe #4 Descanso Bay Regional Park, 595 Taylor Bay Road	3-May-2017	L1	L1
Standpipe #4 Descanso Bay Regional Park, 595 Taylor Bay Road	3-May-2017	L1	L1
Descanso Bay - Stand pipe #5, 595 Taylor Bay Road	24-Apr-2017	L1	L1
Standpipe #3 - Descanso Bay , 595 Taylor Bay Road	19-Apr-2017	L1	L1
Standpipe #4 Descanso Bay Regional Park, 595 Taylor Bay Road	19-Apr-2017	L1	L1

Interpreting Sample Reports

In VIHA, the results of drinking water sampling are reported using the following coding system:

- L1 Less than 1 (no detectable bacteria) - Meaning: No bacteria present
- OG Overgrown - Meaning: Too many background bacteria to give an accurate count
- EST Estimated Count
- A Sample not tested; Too long in transit
- C Sample leaked/broken in transit
- D Sample not tested; No collection date given
- T Sample submitted unsatisfactory. Exceeded 30 hours holding time, please resample.
- NS No sample received with requisition