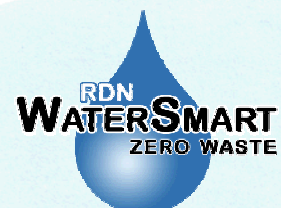


**Regional District of Nanaimo**

**MELROSE  
TERRACE**

**Water Local Service Area  
Annual Report**

**2006**



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Appendix A - Map of Melrose Water Local Service Area

Appendix B - Water Quality Testing Results

Appendix C - Emergency Response Plan

## 1. Introduction

The following annual report describes the Melrose Water Local Service Area and summarizes the water quality and production data from 2006. 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 2007.

## 2. Melrose Water System

The Melrose Water Service Area was established in April 2005 when the RDN acquired the existing Melrose Terrace Strata Plan VIS3747 water system. The water service area is comprised of 28 residential properties on Melrose Road located near the Alberni Highway southwest of Coombs. The water source for the Melrose Water Service Area comes from one groundwater well located nearby. The water is chlorinated and stored in a single reservoir. The water is then filtered through sand and charcoal filters, and re-chlorinated before entering the distribution system. A map of the Melrose Water System is provided in Appendix A for reference.

### 2.1 Groundwater Wells

One groundwater production well is present at the reservoir site on Melrose Road, west of Qualicum Beach, B.C.

Well / Name	Well Depth	Wellhead Protection	Treated/Untreated with Chlorine
#1	26.2 m	Yes	Treated

### 2.2 Reservoirs

One service reservoir (steel structure) is present at 3853 Melrose Road, and has a capacity of 136 m<sup>3</sup> (30,000 imperial gallons).

### 2.3 Distribution System

The water distribution system in Melrose is comprised of 150mm PVC watermains. There are no fire hydrants located within the system.

### 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, Fecal coliforms Temperature, pH, Conductivity Chlorine residual, Salinity Total Dissolved Solids Iron, Manganese
Weekly (Health Dept. Requirement)	North Island Labs	Total, Fecal coliforms
Annual Source Water Testing	North Island Labs	Complete potability testing of each well
Annual System Water Testing	North Island Labs	Complete potability testing of distribution system

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

Up-to-date water quality reports and lab data are posted monthly on the RDN website ([www.rdn.bc.ca/WaterSmart](http://www.rdn.bc.ca/WaterSmart)). 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

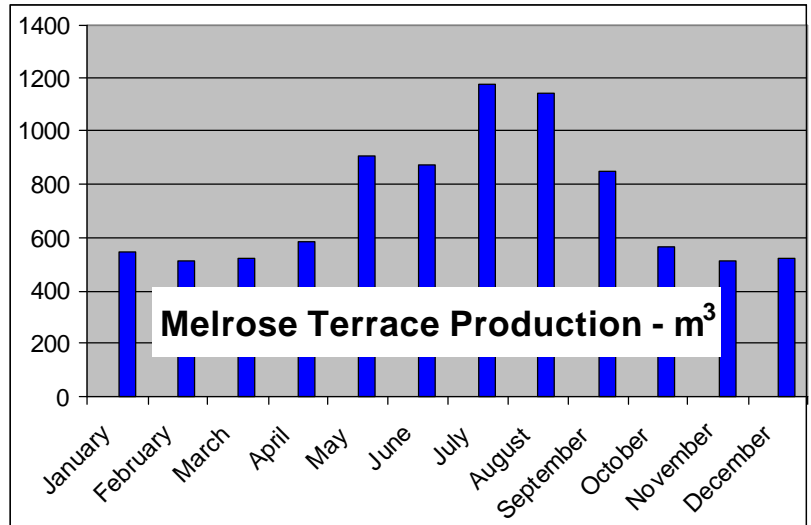
Very few complaints and inquiries were received from the Melrose water service area, and were typically related to power outages.

## 6. Groundwater Production and Average Consumption

Average monthly groundwater production is shown in the table and chart below.

### Monthly Production

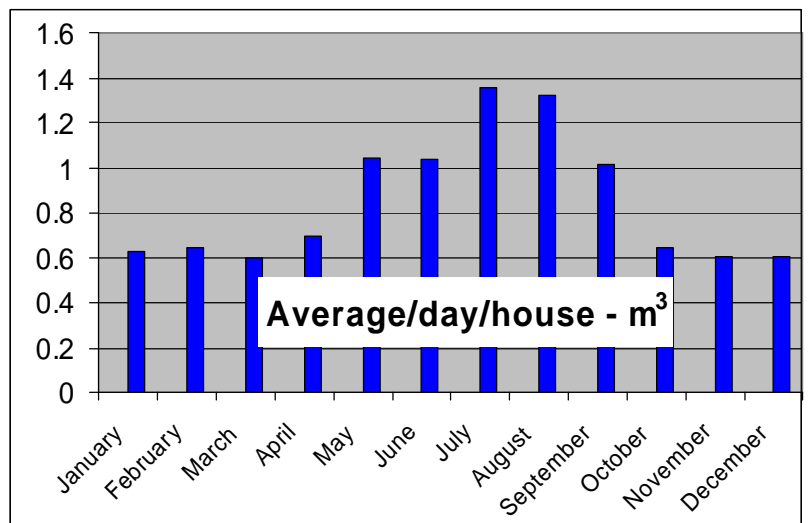
January	546.4	m <sup>3</sup>
February	505.5	m <sup>3</sup>
March	520.5	m <sup>3</sup>
April	585.9	m <sup>3</sup>
May	907.3	m <sup>3</sup>
June	873.6	m <sup>3</sup>
July	1,174.1	m <sup>3</sup>
August	1,145.0	m <sup>3</sup>
September	850.5	m <sup>3</sup>
October	562.7	m <sup>3</sup>
November	505.0	m <sup>3</sup>
December	520.9	m <sup>3</sup>



The average household water consumption per month is shown in the table and chart below.

### Average / Day / House

January	0.629	m <sup>3</sup>
February	0.645	m <sup>3</sup>
March	0.600	m <sup>3</sup>
April	0.698	m <sup>3</sup>
May	1.045	m <sup>3</sup>
June	1.040	m <sup>3</sup>
July	1.353	m <sup>3</sup>
August	1.319	m <sup>3</sup>
September	1.013	m <sup>3</sup>
October	0.648	m <sup>3</sup>
November	0.601	m <sup>3</sup>
December	0.600	m <sup>3</sup>



Groundwater production and household water consumption both increased dramatically from May to September despite the implementation of outdoor watering restrictions.

## 7. Maintenance Program

Regular maintenance and inspections are completed around the wellhead area to reduce or eliminate the risk of contamination and system failure. Watermains are flushed once annually; in the Spring. There are no fire hydrants on the system.

## 8. Water System Projects

### 8.1 2006 Completed Projects

- A comprehensive water conservation program was carried out from May to October.
- A Standard Operating Procedures Manual was created for all routine Utilities duties.
- The Emergency Response Plan was reviewed and updated.
- A security review was completed by an independent agency and a report with recommendations was provided.
- A web-based Capital Asset Management Program was completed to inventory all water system pipes, valves, wells, reservoirs, hydrants, and manholes, etc. to assist with infrastructure replacement priorities.

### 8.2 2007 Proposed Projects & Upgrades

- Repair the pump house roof.
- Frame in the window located at the back of the pump house.
- Reservoir cleaning (Contract out to a Diving service).
- Re-keying all locked facilities.
- Other security improvements.
- Addressing the design of a SCADA system.

### 8.3 2007 Proposed Studies

- Innovative water supply and reuse.
- Well redevelopment planning.
- Water Use Bylaw/Best Practices Review.

## 9. Emergency Response Plan

The Emergency Response Plan (ERP) was reviewed and updated in 2006. A copy of the ERP is attached in Appendix C.

## 10. Cross Connection Control

A formalized Cross Connection Control Program will be initiated in 2007. Cross connection controls already in-place include check valves at each residential and commercial water meter, and well piping disconnected from a house where the owner has a municipal water connection.

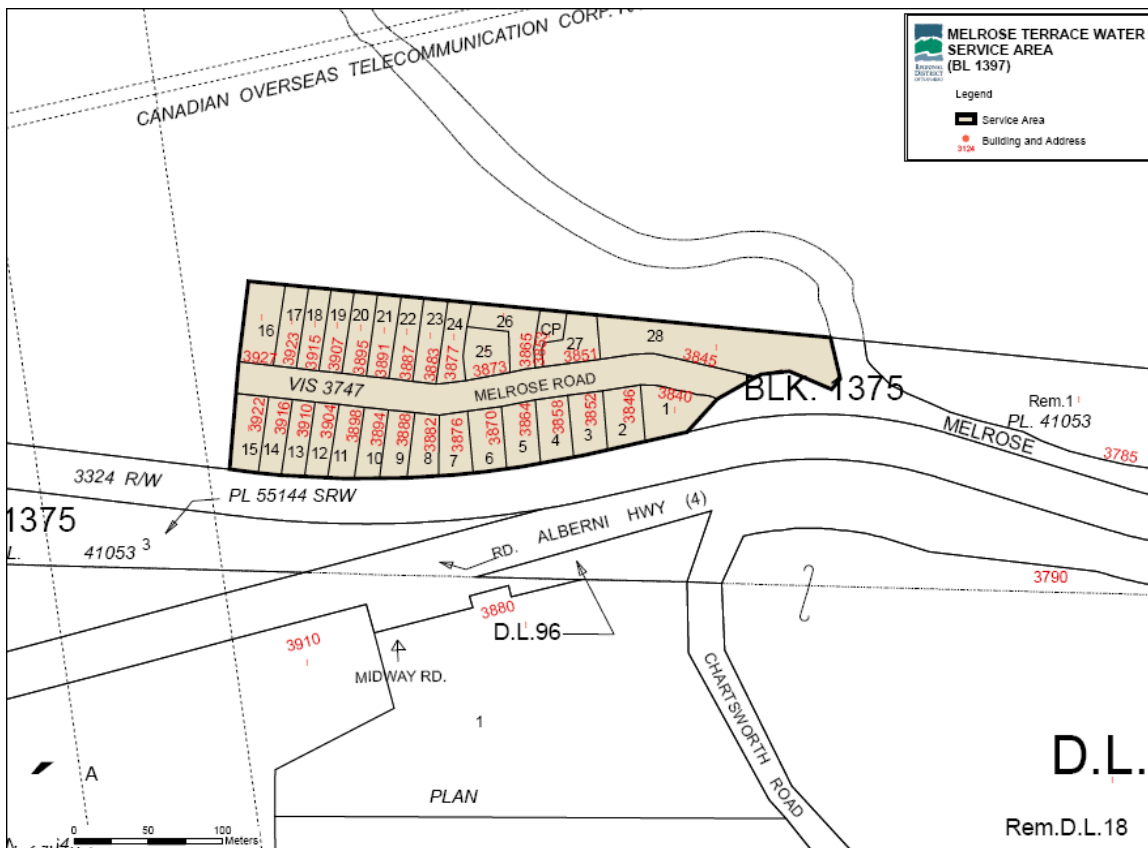
## 11. Closing

An annual report for the year 2007 will be prepared and submitted to the Vancouver Island Health Authority in the Spring of 2008. Annual reports are also available on our website at [www.rdn.bc.ca/WaterSmart](http://www.rdn.bc.ca/WaterSmart).

**APPENIDX A**

**MAP OF MELROSE  
WATER LOCAL SERVICE AREA**

## MELROSE WATER LOCAL SERVICE AREA





## **APPENDIX B**

### **WATER QUALITY TESTING RESULTS**

## **APPENDIX C**

### **EMERGENCY RESPONSE PLAN**