



Drinking Water Annual Report

2009

Table of Contents

1.0 Introduction3
2.0 Water Distribution System3
3.0 Regulations & Management4
4.0 Testing and Monitoring Program4
5.0 Maintenance and Repairs.....4
6.0 Improvements.....5
7.0 Water Conservation.....6
8.0 Operator Education and Training.....6
9.0 Cross Connection Control.....6
10.0 SCADA System.....7
11.0 Events/Emergency Response.....8
12.0 Future Plans and Improvements for 2010.....8
13.0 Sample Analysis Results.....9
14.0 Turbidity9
15.0 Summary.....9

List of Tables

Table 1.0 – RDCO Water Systems (Fall 2008).....3
Table 2.0 – EOCP Certifications.....6

List of Appendices

Appendix 1 - RDCO Consolidated Water Systems *Bylaw No. 1268*.....10
Appendix 2 – RDCO Water Systems Annual Physical and Chemical Data.....11
Appendix 3 – RDCO Monthly Water Systems Data.....12

1.0 Introduction

The purpose of this report is to provide information on the monitoring and maintenance of the Regional District of Central Okanagan's (RDCO) water distribution system directed by Interior Health as set forth by the Drinking Water Protection Act.

During 2009 the Regional District of Central Okanagan continued to monitor and improve the domestic water supply.

This document will provide an overview of the distribution system, maintenance performed and the results of microbiological tests performed at Caro Analytical Services in Kelowna, BC.

2.0 Water Distribution System

The Regional District of Central Okanagan administers five water distribution systems. The water distribution systems vary in size with the smallest system encompassing eight properties and the largest system encompassing over 700 properties. The water distribution systems administered by the Regional District, the number of users for each system and the assigned EOCP number (Environmental Operators Certification Program) is outlined in the table below.

Table 1

RDCO Water Systems (Fall 2008)

<i>Water System</i>	<i>EOCP #</i>	<i># of Customers (approx.)</i>
Falcon Ridge (water source - Well)	1851	53
Killiney Beach (water source - Okanagan Lake)	1850	270
Trepanier Bench (water source - Creek)	1853	8
Westshore (water source - Okanagan Lake)	1852	230
Sunset Ranch (water source - Well)	678	181

3.0 Regulations and Management

The regulations for the management of the water distribution systems and the terms and conditions under which water services may be provided are set out in **Bylaw 1268**. User fees and maintenance fees vary according to the number of users and the maintenance required for each particular system. Fees are set under the **Regional District of Central Okanagan Consolidated Water Systems Bylaw No. 1268** (*Appendix 1*).

4.0 Testing and Monitoring Program

The monitoring program integrates source monitoring as well as the quality in the distribution system.

Routine bi-weekly samples were collected at each system throughout the distribution system including raw water sources. These samples were collected by RDCO Staff and forwarded to a private lab for microbiological testing. The Microbiology results were reported to Public Health on a monthly basis.

RDCO staff also conducts in-house testing including microbiology (using the approved IDEXX system), Chlorine residual, turbidity, iron, manganese and temperature. This data was used as background information and also as a checking procedure within the Drinking Water Monitoring program.

The Regional District of Central Okanagan has tested each source in 2009 for physical and chemical parameters. These are summarized in *Appendix 2*.

5.0 Maintenance and Repairs

The Regional District of Central Okanagan has begun to implement an operations and maintenance (O&M) program that includes annual disinfection for the reservoirs and annual hydrant inspection and flushing, as well as valve exercising and dead end flushing.

6.0 Improvements

Improvements for each water system are as follows:

6.1 Falcon Ridge

- New Electrical Kiosk and controls installed at well site.

6.2 Killiney Beach

- Distribution system improvements.

6.3 Trepanier Bench

- Backwashing system maintenance program, increased pressure to residents
- Replaced filters
- New pump
- Telemetry communications improved

6.4 Westshore

- Phase 1 pump replacement
- BC Hydro approved 3 phase power project

6.5 Sunset Ranch

- Transfer of services and commissioning complete in August 2009
- On-line chlorination using gas cylinders at Reservoir

7.0 Water Conservation

The summer of 2009 was very dry, with record setting temperatures and minimal rainfall. In June 2009 the Regional District of Central Okanagan issued/implemented Stage 1 conservation measures for its customers, which primarily restricts outdoor/lawn watering on an odd/even basis, according to street addresses. Further time restrictions were issued to the *Falcon Ridge System* in July 2009 due to an increased demand in water consumption – watering permitted only between 4 – 10 am and 7 -10 pm.

8.0 Operator Education and Training

The RDCO has established a training program that follows EOCP guidelines and required training, including First Aid, TDG and Backflow Prevention. Operators have been qualifying to write exams as per EOCP guidelines. The Regional District of Central Okanagan currently employs 2 full-time and one part-time operator.

Table 2

EOCP Certifications

Employee	Certification #	Level
Gil McIlraith	3255	WD-II, Backflow tester
Kevin Trottier	4607	WD-II
Garry Evans	5654	WD-1

9.0 Cross Connection Control

In 2009 the Regional District of Central Okanagan is beginning to look at a cross connection control program. The Regional District of Central Okanagan will begin assessments on all RDCO managed facilities this year and will commit to training staff during this process.

10.0 SCADA System

The RDCO has a *Supervisory Control and Data Acquisition* system. This system allows integrated real-time automated control that can respond quickly enough to compensate for process changes. Within in the SCADA system there are several controls in place and the Regional District of Central Okanagan staff has the ability to make changes on an as needed basis. The following list is a description of some of the things that the RDCO currently trends and reports on our SCADA system.

10.1 Falcon Ridge – SCADA not available

10.2 Killiney Beach

- **Lake:** Pump run status (on/off)
- **Killarney Way:** Pump run status (on/off)
- **Udell Road:** Pump run status (on/off) and reservoir level in %
- **Winchester:** Pump run status (on/off)

10.3 Trepanier Bench

- Reservoir level in %
- Pump run status (on/off)
- Pump hours and amp draw
- Valve position

10.4 Westshore

- **Lake:** Pump run status (on/off), turbidity and ambient chlorine levels
- **Mountain:** Reservoir level in %

10.5 Sunset Ranch

- Reservoir level in %
- Pump status (on/off), hours, and pressure
- Wet well level in meters
- Flow and total flow m3
- Discharge flow and total flow

All trending is done on a daily basis and is in real time unless noted above. Trending and reporting is also compiled into monthly and yearly reports.

11.0 Events/Emergency Response

There were several major events that occurred in 2009 that created challenges for the water system operators. The Terrace Mountain Fire and the Glenrosa Fire resulted in evacuation orders and alerts for Killiney Beach, Westshore, and Trepanier Bench/Star Place Residents – emergency response procedures were put into place and thanks to quick reactions of the RDCO staff no service interruptions resulted.

12.0 Future Plans and Improvements for 2010

Future plans for all water systems include the implementation of dedicated Water Sampling Stations as well as the following:

12.1 Falcon Ridge

- Completion of residential metering
- Instrumentation and controls upgrades
- Engineering review

12.2 Killiney Beach

- Begin installation of residential water meters
- Comprehensive Engineering review
- SCADA and system improvements

12.3 Trepanier Bench

- Completion of residential water meter retrofit
- Equipment and control improvements

12.4 Westshore

- Begin installation of residential water meters
- Comprehensive Engineering review
- Controls and instrumentation improvements
- Three phase power upgrade and pump upgrade

12.5 Sunset Ranch

- Wellhead protection plan

13.0 Sample Analysis Results

Results for Total Coliform and E.Coli are included in *Appendix 3*, and include the date, time and location.

14.0 Turbidity Analysis (NTU)

Results for Turbidity can be found in *Appendix 3*, and include the date and location of the analysis. Turbidity must be monitored on-line for water distribution systems with greater than 300 connections.

15.0 Summary

The Regional District of Central Okanagan continues to work with local Health Officials and is in the process of developing a Water Quality Monitoring Program that exceeds the Drinking Water Regulations.

The Regional District of Central Okanagan will continue with this Monitoring Program as part of the commitment to deliver a safe potable water supply to consumers.

Appendix 1

RDCO

Consolidated Water Systems Bylaw 1268

REGIONAL DISTRICT OF CENTRAL OKANAGAN

BYLAW NO. 1268

Being a bylaw to set fees and regulate connections to and use of Regional District of Central Okanagan *water systems*.

1. PURPOSE	2
2. APPLICATION	2
3. SEVERABILITY	2
4. DEFINITIONS.....	2
5. COMPLIANCE WITH BYLAW	3
6. OWNER'S LIABILITY.....	4
7. INTERFERENCE WITH THE WATER SYSTEM.....	4
8. DISCONNECTION.....	4
9. ADDITIONAL TERMS & CONDITIONS OF USE	4
10. FEES & CHARGES.....	5
11. SPECIAL USE PERMIT	5
12. INSTALLATION AND LOCATION REQUIREMENTS FOR WATER METERS	5
13. OWNERSHIP OF <i>WATER SYSTEM</i>	5
14. PRESSURE, SUPPLY, AND QUALITY	5
15. WATER SYSTEMS RECORDS.....	5
16. OTHER LEGISLATED REQUIREMENTS.....	5
17. LIMITATION OF LIABILITY.....	6
18. INDEMNIFICATION.....	6
19. RIGHT OF ENTRY.....	6
20. CEASE AND DESIST ORDER.....	6
21. VIOLATION.....	6
22. PENALTIES	7
23. CITATION	7
24. ENACTMENT	7
SCHEDULE "A" ADDITIONAL TERMS & CONDITIONS OF USE.....	8
1 Water Service Connections.....	8
2 Water System Extensions	8
3 Approval to Connect	8
4 Water Meters	9
5 Pressure Reducing Valves.....	9
6 Owner's Responsibilities.....	9
7 Prohibitions.....	10
8 Consumption Restrictions	10
9 Outdoor Water Use Restrictions.....	10
SCHEDULE "B" FEES & CHARGES.....	12
SCHEDULE "C" SPECIAL USE PERMIT.....	13
SCHEDULE "C" 7 DAY HYDRANT USE PERMIT	14
SCHEDULE "D" M-1 STANDARD LAYOUT FOR FUTURE RESIDENTIAL METER	15

WHEREAS the Regional District of Central Okanagan is authorized by separate bylaws to provide for the operation, maintenance, and improvements of various *water systems* located within the Regional District of Central Okanagan;

AND WHEREAS it is deemed prudent to regulate connections to and use of the *water systems* in one bylaw for optimum clarity and administrative efficiency;

AND WHEREAS it is deemed necessary to review the terms and conditions and the fees and charges for connections to and for use of the *water systems* from time to time;

AND WHEREAS the Regional Board had adopted the "Regional District of Central Okanagan Water Systems Bylaw No. 1108, 2005" as amended by Bylaw Nos. 1119, 1121, 1142, 1166, and 1213, a bylaw to provide for the administration of the Regional District of Central Okanagan *water systems*;

AND WHEREAS this bylaw repeals and replaces the "Regional District of Central Okanagan Water Systems Bylaw No. 1108, 2005";

NOW THEREFORE, THE REGIONAL BOARD OF THE REGIONAL DISTRICT OF CENTRAL OKANAGAN, IN OPEN MEETING ASSEMBLED, ENACTS AS FOLLOWS:

1. PURPOSE

The purpose of this bylaw is to establish regulations under which water will be provided and to establish fees and charges which may be imposed against the owner of any parcel located within a Regional District of Central Okanagan *water system* service area.

2. APPLICATION

This bylaw shall apply to the *owner* or occupier of all *parcels* located within a *Regional District water system* service area or the *owner* or occupier of all parcels connected to a *Regional District water system*.

3. SEVERABILITY

If any section, subsection, sentence, clause, or phrase of this bylaw is deemed to be invalid by the decision of any court of competent jurisdiction, the invalid portion shall be severed and the decision that it is invalid shall not affect the validity of the remainder of the bylaw.

Wherever the masculine is used throughout this bylaw, it shall also mean the feminine, and wherever the singular is used throughout this bylaw, it shall also mean the plural.

4. DEFINITIONS

In this bylaw, unless the context requires otherwise:

"*connection fee*" means a fee for applying to connect to a *water system*;

"*disconnect or disconnection*" means the *turn off*, or complete removal, of a *water connection*.

"*maintenance fee*" means a fee for the availability of water service and may be imposed regardless of whether or not a *property* or a *premises* is connected to a *water system*.

"*Owner*" shall be interpreted as defined in the Local Government Act as amended from time to time.

"*parcel*" means any lot, block, or other area in which land is held or into which land is subdivided but does not include a highway.

"*premises*" means any residence, building, or structure located on a *property*.

"*property*" means any *parcel* contained within the boundaries of a *Regional District water system* service area.

"*Regional Board*" means the elected Board of the *Regional District*.

"*Regional District*" means the Regional District of Central Okanagan as described in Letters Patent and amendments thereto but shall not include incorporated municipalities.

"*Regional District Officer*" means the person of the Regional District of Central Okanagan as appointed by the Regional Board.

"*Sprinkle or Sprinkling*" means the application or distribution of domestic water on premises, lawns or boulevards by sprinkling or spraying.

"*turn on*" means the opening of the shut-off valve located in a standpipe at or near where the *water connection* crosses the *property* line.

"*turn off*" means the closing of the shut-off valve located in a standpipe at or near where the *water connection* crosses the *property* line.

"*user fee*" means a fee imposed for the use and consumption of water.

"*Utility Corridor*" means a parcel of land registered by the *Regional District* for the purpose of accessing the utility for operation and maintenance.

"*works*" means all pipes, fittings, water meters, pumps, intakes, reservoirs and all appurtenances.

"*water service connection*" means a pipe connected to a main water supply line and extending to a *property* line for the purpose of conveying water and includes a shut-off valve and standpipe.

"*water system*" means any water supply, distribution system and *works* that the *Regional District* is authorized by bylaw to operate, maintain and improve.

Unless otherwise defined herein, all words or expressions used in this bylaw shall have the same meaning assigned to them as like words or expressions contained in the Local Government Act, the Interpretation Act, the BC Building Code and Regional District Bylaws.

5. COMPLIANCE WITH BYLAW

No person shall connect to or interfere in any way with the water system except in accordance with the provisions of this bylaw.

Should any person contravene the provisions of this bylaw, and such contravention causes or may cause damage to the water system, the Regional District may make any repairs and take whatever remedial action necessary to limit the extent of the damage and shall recover the cost from the Owner pursuant to this bylaw.

6. OWNER'S LIABILITY

The Owner shall be liable for any contravention of this bylaw arising on the parcel to which the water connection is provided, whether the contravention is actually committed by the Owner or by a third party renting, leasing, or having access to the property.

7. INTERFERENCE WITH THE WATER SYSTEM

No person other than the Regional District officer or employee acting in the course of his duties, or a contractor authorized by the Regional District shall:

- a) enter into or work upon the water system;
- b) make or disconnect a water service connection to the water system;
- c) uncover or tamper with the water system; or
- d) block the access of a Utility Corridor or by any means change or obstruct the Utility Corridor, or
- e) attach or detach any line, pipe, or other appurtenance to the water system.

8. DISCONNECTION

The Regional District may, without notice, disconnect the water connection to any property or premise for any of the following reasons:

- a) unnecessary or wasteful use of water;
- b) violation of any water use regulations, including irrigation and sprinkling;
- c) non-payment of costs, rates, charges, fees, and penalties;
- d) failure to repair or replace defective pipes, fittings, valves, tanks or appliances which are leaking or are otherwise not in a good state of repair and which are or may become a cause of waste of water;
- e) where a person contravenes the provisions of this bylaw.

Customers whose water service has been turned off for non-compliance with this bylaw will be subject to a disconnection service charge and a further service charge to restore the connection in accordance with Schedule "B".

The Regional District shall not be liable for any damages that may result from the disconnection of the water connection or the restriction of water use pursuant to this section.

Except in the case of an emergency, reasonable efforts will be made to notify the Owner or occupant if the Regional District is planning to disconnect the water connection or restrict water use.

9. ADDITIONAL TERMS & CONDITIONS OF USE

For the purposes of this Bylaw, additional terms and conditions for connection to and use of a Regional District water system are prescribed in Schedule "A".

10. FEES & CHARGES

Every owner of parcels and/or premises situated within the service boundary of a Regional District Water Service Area shall pay to the Regional District the fees and charges established in accordance with this Bylaw, as prescribed in Schedule "B".

11. SPECIAL USE PERMIT

The Regional District may issue permits for special uses, in accordance with the conditions of and in accordance with Schedule "C".

12. INSTALLATION AND LOCATION REQUIREMENTS FOR WATER METERS

For residential connections, the water meter is to be installed in accordance with standard drawing M-1 as found in Schedule "D". For all other types of connections, the water meter is to be installed in a location approved by the Regional District.

13. OWNERSHIP OF WATER SYSTEM

All water pipes, connections, appurtenances, or facilities required to provide water to an *Owner's* property line shall be owned by the *Regional District*. This includes, but is not limited to, all works that are located within a highway or a statutory right of way, or lands owned by the utility regardless of whether they were constructed at the expense of the *Owner* or the Regional District.

14. PRESSURE, SUPPLY, AND QUALITY

The Regional District does not guarantee a constant pressure nor a continuous supply of water, and it reserves the right at any and all times, without notice, to change operating conditions for the purposes of making repairs, extensions, alterations or improvements or for any other reason.

The Regional District shall not incur any liability by reason of the water containing sediments, deposits or other foreign matter.

15. WATER SYSTEMS RECORDS

The *Regional District* shall not be responsible for the accuracy of records with respect to the location of any works, or for the costs incurred by the parties relying on such records.

16. OTHER LEGISLATED REQUIREMENTS

No person shall enter into or work upon the *water system* without meeting the applicable confined space entry, street regulations, or other safety requirements required by the Workers' Compensation Act.

Nothing in this bylaw relieves any person or organization from complying with any provision of any Federal or Provincial legislation or any other bylaw of the *Regional District*. Where there is a conflict of regulations, the more stringent shall apply.

17. LIMITATION OF LIABILITY

Water is provided on the condition that the *Owner* make no claim against the *Regional District*, its Board or Council, or its officers, agents, and employees acting within the scope of their employment. It is further a condition that the *Owner* shall make no claim for any indirect, incidental, or consequential damage. Nothing contained in the Bylaw shall be construed to impose any liability on the *Regional District* to give a continuous supply of water to any person or *premises*.

18. INDEMNIFICATION

Water is provided on the condition that the *Owner* indemnify and save harmless the *Regional District*, its Board or Council, or its officers, agents, and employees in respect of all claims arising from the provision of the water.

19. RIGHT OF ENTRY

Regional District officers, or their designates, are authorized to enter upon any *property* or *premises* at any reasonable time to inspect any building, structure, or premise to ensure compliance with, or prevent violation of, the provisions of this bylaw.

The *Owner* or occupant shall permit the *Regional District* officers or their designates to perform all actions required including inspection, observation, measurement, testing, and sampling in order to determine compliance with this bylaw.

20. CEASE AND DESIST ORDER

Regional District officers may order the *Owner* or occupant who contravenes this bylaw to comply with the bylaw within a specified time. Where an *Owner* does not comply with a cease and desist order within the specified time, the *Regional District* officer may order the action contained in the order to be performed by *Regional District* employees, or others, at the expense of the *Owner*. All costs incurred as a result of such action shall be recovered pursuant to this bylaw.

21. VIOLATION

Any person who:

- a) violates the provisions of this bylaw;
- b) causes or permits any act in contravention or violation of the provisions of this bylaw;
- c) neglects or omits bylaw requirements;
- d) tampers with, interferes with, or damages the *works* or *water system*;
- e) interferes with the operation or maintenance of the *works* or *water system*;
- f) fails to comply with bylaw orders, directions, or notices;
- g) prevents, obstructs or attempts to prevent or obstruct the authorized entry of any officer authorized under this bylaw;

will be guilty upon summary conviction of an offence under this bylaw. Each day's continuance of an offence under this section will constitute a new and distinct offence.

22. PENALTIES

Any person who violates bylaw provisions may, on summary conviction, be liable to the maximum penalty under the Offence Act, plus the cost of prosecution, for each offence. The penalties imposed under this section are a supplement and not a substitute for any other remedy to an infraction of this bylaw.

23. CITATION

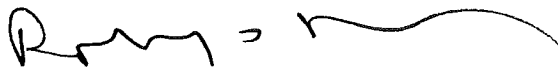
This Bylaw may be cited for all purposes as the "Regional District of Central Okanagan Water Systems Fees and Regulations Bylaw No. 1268, 2009".

24. ENACTMENT

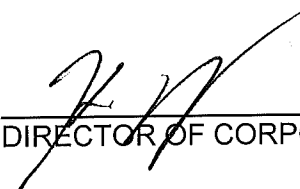
The "Regional District of Central Okanagan Water Systems Administration Bylaw No. 1108, 2005", as amended, is hereby repealed.

This bylaw comes into effect upon adoption.

READ A FIRST TIME THIS	14 th	DAY OF	December	2009.
READ A SECOND TIME THIS	14 th	DAY OF	December	2009.
READ A THIRD TIME THIS	14 th	DAY OF	December	2009.
RECONSIDERED AND ADOPTED THIS	14 th day of		December	2009.



CHAIR



DIRECTOR OF CORPORATE SERVICES

I hereby certify the foregoing to be a true and correct copy of Bylaw No. 1268 cited as the "Regional District of Central Okanagan Water Systems Bylaw No. 1268, 2009", as read a third time and adopted by the Regional Board on the 14th day of December, 2009.

Dated at Kelowna, BC this
15th day of December, 2009.



DIRECTOR OF CORPORATE SERVICES

SCHEDULE "A" ADDITIONAL TERMS & CONDITIONS OF USE

1 Water Service Connections

- 1.1 Where an Owner applies to connect to a Regional District water system and the water service connection must be installed in order to service the property the Owner shall be responsible for all capital costs pertaining to the installation of the *water service connection* as set out in Schedule "B".
- 1.2 Additional *water service connections* and their locations must be approved by the Regional District.
- 1.3 Each parcel shall be limited to one *water service connection* to the property line except:
 - a) each residential unit on an R2 zoned property shall have a separate *water service connection*.
 - b) where limitations in site servicing, development restrictions, future subdivision, or proposed stratification exist, the Owner may make application for additional *water service connections*.
- 1.4 The Regional District reserves the right to refuse to install water connections under frost conditions.
- 1.5 In the Killiney Beach service area, all new accounts will be subject to the capital service connection charge, which is payable at the time when application for connection is made.

2 Water System Extensions

- 2.1 Where an Owner applies to connect to a Regional District *water system* and the *water system* must be extended to service the *property*, the Owner shall be responsible for all costs pertaining to the extension of the *water system* as set out in Schedule "B".
- 2.2 The Regional District reserves the right to refuse to make water system extensions under frost conditions.

3 Approval to Connect

- 3.1 Any owner of real property or their authorized agent wishing to connect any building or structure to a Regional District water system shall make a written application for a water service connection to the Regional District and pay the applicable fees and charges set out in Schedule "B" of this bylaw for that connection. Fees and charges are payable when application is made.
- 3.2 All applications for connection shall state the use of the premises for which the water system is to be connected, the number of dwelling units, the legal description and location of the property or premises to which the connection is to be made, and any other information that may be necessary to accurately assess the fees and charges applicable to the connection.
- 3.3 Approval for connection to the water system shall not be granted until the owner or his agent:
 - a) Submits an Application for Connection;
 - b) Submits an Application for a Building Permit;
 - c) Submits a Capital Cost Connection Security Agreement, if applicable;

- d) Pays all applicable fees and charges;
 - e) Complies with the provisions of this bylaw, and any other applicable Regional District Bylaws;
 - f) Complies with the B.C. Building Code.
- 3.4 The Regional District may inspect any works undertaken, and may accept or reject the work.

4 Water Meters

- 4.1 Unless otherwise specified all new and upgraded water connections shall include the installation of a water meter.
- 4.2 Water meters will be supplied and installed by the Regional District or a contractor as authorized by the Regional District, at the expense of the Owner in accordance with the fees and charges set out in Schedule "B" of this Bylaw.
- 4.3 An Owner will be charged for the water meter when an application is received for,
- connection to a water system, or
 - a building permit to change an existing water service, or
 - a building permit to install additional water fixtures, or
 - a building permit to install a pool, or
 - any irrigation service on common property.

On an existing water service where an Owner is deemed to be using an undue amount of water, the Regional District may require the Owner to have a water meter installed, and thereafter charge the Owner in accordance with the fees and charges as set out in Schedule "B" of this Bylaw.

5 Pressure Reducing Valves

- 5.1 Connections to the water systems must be made through a Pressure Reducing Valve (PRV), which is to be located within the premises, connected directly to the water service. The PRV is to be installed prior to the residential water distribution and after the water meter and is to be installed and maintained by the Owner.

6 Owner's Responsibilities

- 6.1 Every Owner shall:
- a) ensure that the terms and conditions under which water is provided are not contravened;
 - b) Maintain, repair or replace as necessary all defective service pipes, stop cocks, fixtures, and fittings on their property and premises which are leaking or are otherwise not in good repair such that they are a cause of waste of water;
 - c) Protect all water service pipes on and within their premises from freezing;
 - d) close the main water supply valve when the premises are vacant;
 - e) pay all costs, rates, charges, fees, and penalties that may be imposed pursuant to this bylaw.

- 6.2 Consumers using water for processes which require a guaranteed supply and pressure, or a critical standard of purity shall, at their expense, provide such equipment as necessary to provide the required standards and to protect such equipment from damage due to variations in or cessation of the Regional District water supply.

7 Prohibitions

- 7.1 Pumps, boosters, or other devices that have the effect of increasing water pressure in the water connection to a pressure that is higher than the normal water pressure in the water connection are prohibited.
- 7.2 No person shall sell any water, allow any water to be used on a parcel other than the parcel for which the water connection has been provided, or permit any water to be taken from the parcel for which the water connection has been provided.
- 7.3 No person will place or introduce contaminants or pollutants into a Regional District water system.

8 Consumption Restrictions

- 8.4 This section applies only to the users on the Dietrich Water System.
- 8.5 The per parcel maximum daily consumption shall not exceed 4.54 m³

9 Outdoor Water Use Restrictions

- 9.1 The Regional District may, at its discretion, and whenever the public interest so requires, suspend or limit the consumption of water from the water systems, or regulate the hours or days of use, or may further prescribe the manner in which such water may be used.

9.1.1 Sprinkling Restrictions – Sprinkling Hours

- a) Properties equipped with an automated time clock sprinkler system may only sprinkle between the hours of 12:00 midnight to 6:00 a.m. on the days permitted by the sprinkling restrictions as identified below.
- b) Properties equipped with only manually controlled sprinkling systems, including those attached to outside taps, may only operate from 6:00 a.m. to 11:00 a.m. and from 6:00 p.m. to 12:00 midnight on the days permitted by the sprinkling regulations as identified below.

9.1.2 Sprinkling Restrictions – Sprinkling Days

Stage 1 Alternate Days Sprinkling:	
Effective	September 16 th to June 15 th , unless Notice of Stage 3 or 4 in Effect
Even numbered addresses:	sprinkling is only permitted on Even Calendar Days
Odd numbered addresses:	sprinkling is only permitted on Odd Calendar Days
Stage 2 Twice a Week Sprinkling:	
Effective	June 16 th to September 15 th , unless Notice of Stage 3 or 4 in Effect
Even numbered addresses:	sprinkling is only permitted on Saturdays & Tuesdays
Odd numbered addresses:	sprinkling is only permitted on Sundays & Wednesdays
Stage 3 Restriction Period - Once a Week Sprinkling:	
Effective	Upon Notice Issued by RDCO Water Operator
Even numbered addresses:	sprinkling is only permitted on Saturdays
Odd numbered addresses:	sprinkling is only permitted on Sundays
Stage 4 Restriction Period – No Sprinkling:	
Effective	Upon Notice Issued by RDCO Water Operator

9.1.3 During a Stage 3 sprinkling restriction period there shall be no outdoor water use for the following purposes:

- a) to fill a swimming pool, hot tub, garden pond, or decorative fountain
- b) wash a vehicle or boat with water, or
- c) wash driveways or sidewalks or patios

9.1.4 During a Stage 4 sprinkling restriction period there shall be no outdoor water use for any purpose.

9.2 The following operations or activities that rely on a steady supply and use of water are automatically exempt to Sprinkling Restrictions:

- c) nurseries;
- d) farms;
- e) orchards;
- f) vineyards;
- g) washing exterior building surfaces including windows, parking lots, driveways or sidewalks prior to the application of a product such as paint, preservative, stucco or preparation of a surface prior to paving or repainting or bricks or if required by law to comply with health and safety regulations.

9.3 A person may water new trees and shrubs during installation and for the following 24 hours, but after that 24 hour period watering must comply with Stage 1, 2, 3, or 4 water use restrictions.

9.4 For exemption to the Sprinkling Requirements Owners may apply for a special use permit, as found in Schedule "C".

SCHEDULE "B" FEES & CHARGES

1. Application for Connection Fee (/residential unit) \$200.00
2. Killiney Beach Capital Service Connection Charge \$1,000.00
3. Water Meter Fees (/meter)*:
 - 3/4" diameter \$440.00
 - 1" diameter \$635.00
 - 1 1/2" diameter \$935.00
 - 2" diameter \$1,220.00

* Any additional costs incurred will be at the expense of the owner. If it is deemed that the premises is inaccessible to install a water meter, repair a water meter or to obtain a meter read due to gates, unrestrained dogs or any other reason, a non-refundable charge of \$100.00 per billing period will be charged to the property.

4. Disconnection Fee* \$75.00
 - * Maintenance fees shall continue to apply during temporary disconnections from the water systems.

5. Temporary Disconnection Re-Connection Fee..... \$75.00

6. Water System Extension & Water Capital Service Connection Fees:

= (All capital costs*) + (3% administration fee*) + (25% security deposit*)

- * Where upon application to connect the Owner will be provided with an estimated capital cost including all applicable taxes.
- * In no case shall the administration fee be less than \$150.
- * In no case shall the capital costs be less than \$1,000.
- * Upon completion of the works, the Regional District shall reimburse the applicant any remaining balance of the security deposit. If the security deposit is insufficient to cover the costs then the Regional District shall recover the costs from the Owner in accordance with the Local Government Act and the Community Charter.

7. Water Rates:

- a) User fees shall commence on the day which final inspection is made or as determined by the Building Inspector.
- b) Annual fee increases are effective January 1st.
- c) Maintenance fees shall commence immediately upon registration of a property.
- d) Billing will coincide with any other utility charges being levied by the *Regional District* on a quarterly or semi-annual basis.
- e) User and maintenance fees shall be due and payable thirty (30) days after the billing date.
- f) Any user fees or maintenance fees that remain unpaid on the 15th day of December of each year shall be deemed taxes in arrears and shall be forthwith entered on the real property tax roll by the collector as taxes in arrears.

Water System	Annual User Fee Per Residential Unit		Annual Maintenance Fee Per Parcel	
	2010	2011	2010	2011
Dietrich	n/a		\$1,104	\$1,132
Falcon Ridge	\$442	\$454	\$150	\$200
Killiney Beach	\$226	\$232	\$150	\$200
Westshore	\$226	\$232	\$150	\$200
Sunset Ranch (< 0.25ha)	n/a		\$250	\$256
Sunset Ranch (> 0.25ha)	n/a		\$1,800	\$1,800



SCHEDULE "C" SPECIAL USE PERMIT

Permit # _____

Date of Issue: _____ Date of Expiry: _____

OFFICE USE ONLY:

Issued to: _____ Ph: _____ Cell: _____
Service Address: _____

Reason for Special Use Permit:

\$20 Use Fee: New Sod¹ or Newly Seeded Lawn²
\$5/day Use Fee: Other³ (Specify Use) _____, #Days: _____
Application Fee: \$ _____

SPECIAL USE PERMIT NOTES:

Resale as potable water is prohibited.
Application fee for this Special Use Permit is non-refundable.
This permit must be displayed at the premises for which it was issued.
The Regional District of Central Okanagan reserves the right to suspend this permit during a Stage 3 or Stage 4 restriction period.

1. New Sod may be sprinkled for a period of 21 days after installation, provided a permit has been issued.
2. Newly Seeded Lawn may be sprinkled for a period of 49 days or until growth is established, whichever is less, provided a permit has been issued.
3. Length of permit to be determined at Date of Issue.

**This Permit allows the holder to sprinkle on a daily basis
between the hours of 6:00am to 11:00am and 6:00pm to 12:00 midnight ONLY,
for the Period as specified above.**

I HAVE READ AND UNDERSTAND THE ABOVE CONDITIONS.

Signature

Date

CC: RDCO Water Operator
RDCO Bylaw Enforcement Officer



HYDRANT NO. _____

SCHEDULE "C" 7 DAY HYDRANT USE PERMIT

NAME OF HYDRANT USER:	PHONE NO.:
NAME OF WATER UTILITY:	
LOCATION OF HYDRANT:	
REASON FOR USE:	
ESTIMATED DURATION REQUIRED: DATE START:	FINISH:
ESTIMATED VOLUME REQUIRED:	
NAME OF CONTACT PERSON:	PHONE NO:

OFFICE USE ONLY

AUTHORIZED BY:
FEE DEPOSITED:
DATE SERVICED:

SPECIAL NOTES:

Resale as potable water is prohibited.
 A \$50 non-refundable fee is required upon application.
 The permit must be in the **possession of the user** when operating the hydrant.
 A gate valve shall be installed on the hydrant to control flow. The operating wheel shall be removed when leaving the hydrant unattended. **Ball valves are not to be used for control.**
 The connection shall be removed by the end of each working day, except by written permission.
 Approved backflow prevention assemblies or an approved air gap must be used.
 A current test report for backflow prevention assemblies (if applicable) must be available on request.
 The hydrant must be fully open for use.
 Only hydrant wrenches are to be used (no pipe wrenches).
 Regional District of Central Okanagan reserves the right to restrict or terminate hydrant use.
 The applicant acknowledges that any damage to the hydrant or the water main as a result of hydrant use will be repaired at the applicant's expense.
 Any connection to any fire hydrant without permitted approval will be subject to penalties authorized by the *Regional District of Central Okanagan Water Systems Bylaw* and the *Regional District of Central Okanagan Fire Prevention and Regulations Bylaw*.
 The Hold Harmless and Indemnification Clause applies to this permit:
The Hydrant User shall be liable for all loss, costs, damages, and expenses whatsoever incurred or suffered by the Regional District of Central Okanagan, its elected officials, officers, employees and agents (the Indemnitees) including but not limited to damage to or loss of property and loss of use thereof, and injury to or death of a person or persons resulting from or in connection with the performance, purported performance, or non-performance of this Permit, excepting only where such loss, costs, damages and expenses are as a result of the sole negligence of the Indemnitees.
The Hydrant User shall defend, indemnify and hold harmless the Indemnitees from and against all claims, demands, actions, proceedings, and liabilities whatsoever and all costs and expenses incurred in connection therewith and resulting from the performance, purported performance, or non-performance of this Permit, excepting only where such claim, demand, action, proceeding or liability is based on the sole negligence of the Indemnitees.

I HAVE READ AND UNDERSTAND THE ABOVE CONDITIONS.

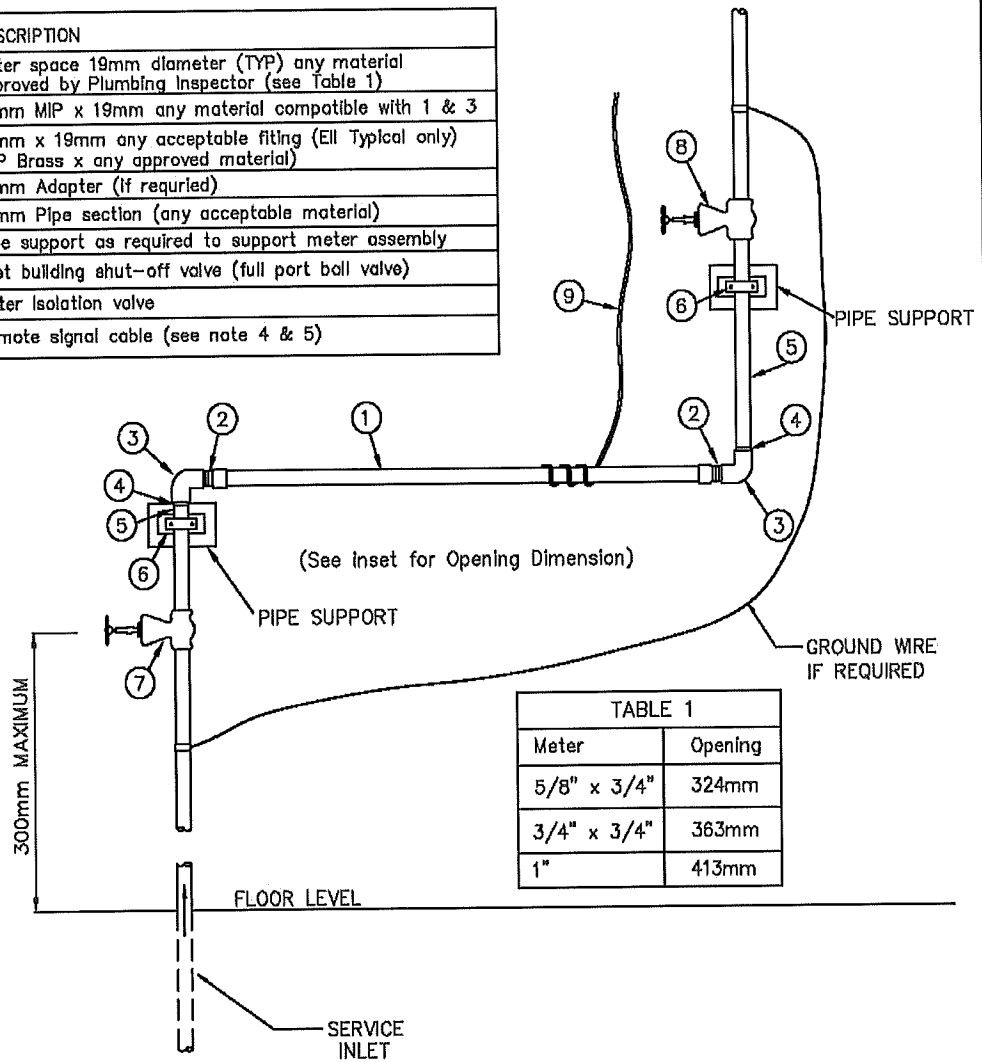
Signature

Date

SCHEDULE "D" M-1 STANDARD LAYOUT FOR FUTURE RESIDENTIAL METER

Regional District of Central Okanagan Water Systems Bylaw No. 1108, 2005
 Appendix "B" Standard Drawings
 (Amended by Bylaw No. 1168, 2006)

ITEM	DESCRIPTION
1	Meter space 19mm diameter (TYP) any material approved by Plumbing Inspector (see Table 1)
2	19mm MIP x 19mm any material compatible with 1 & 3
3	19mm x 19mm any acceptable fitting (EII Typical only) (FIP Brass x any approved material)
4	19mm Adapter (if required)
5	19mm Pipe section (any acceptable material)
6	Pipe support as required to support meter assembly
7	Inlet building shut-off valve (full port ball valve)
8	Meter Isolation valve
9	Remote signal cable (see note 4 & 5)



NOTES:

- All dimensions are shown in millimeters unless otherwise shown.
- Service Inlet and meter setter must be installed in an accessible area such as furnace room so that meter does not end up in a finished living area. Meter setters and meters, when installed, must remain accessible.
- Meter setter pipes must be a minimum of 50mm away from the wall.
- The owner must install a 3-wire 22 gauge conductor cable in a sheath which must be extended from the meter setter to an outside wall within 1.0m of the electrical meter.
- If the remote cable is not installed before the walls are covered in, remote cables will be run on the surface and access holes will be drilled as required to install the cable.
- No load is to be supported by the pipe alone. Pipe supports are to be placed as shown.

NOT TO SCALE

Created:
November 2005

Revision Date:
April 2008



**STANDARD LAYOUT FOR
 FUTURE RESIDENTIAL METER**

DRAWING NUMBER:

M-1

Summary of Bylaw Amendments

Bylaw No.	Description	Date of Adoption

Appendix 2

RDCO Water Systems Annual Chemical and Physical Data

SAMPLE DATA



CLIENT
PROJECT FILE

Regional District of Central Okanagan
Drinking Water

WORK ORDER #
REPORTED

K9E0619
May-28-09

Analyte	Result	Canadian DW Guidelines (May 08)	RDL	Units	Analyzed	Method	Lab	Notes
---------	--------	------------------------------------	-----	-------	----------	--------	-----	-------

General Parameters

Falconridge Pump Stn (K9E0619-01) Matrix: Water Sampled: May-21-09 11:10

Alkalinity, Total as CaCO3	35.6		1.0	mg/L	May-25-09	APHA 2320 B	KEL	
Chloride	6.31	AO ≤ 250	0.10	mg/L	May-22-09	APHA 4110 B	KEL	
Colour, True	19	AO ≤ 15	5	Color Unit	May-22-09	APHA 2120 B	KEL	
Conductivity (EC)	86		5	uS/cm	May-26-09	APHA 2510 B	KEL	
Cyanide (total)	<0.01	MAC = 0.2	0.01	mg/L	May-26-09	APHA 4500-CN	KEL	
Fluoride	<0.10	MAC = 1.5	0.10	mg/L	May-22-09	APHA 4110 B	KEL	
Hardness, Total (Total as CaCO3)	33.9		2.91	mg/L	May-27-09	APHA 2340 B	RMD	
Nitrogen, Nitrate as N	<0.01	MAC = 10	0.01	mg/L	May-22-09	APHA 4110 B	KEL	
Nitrogen, Nitrite as N	<0.01	MAC = 1	0.01	mg/L	May-22-09	APHA 4110 B	KEL	
pH	7.2	AO = 6.5 - 8.5	0.1	pH Units	May-22-09	APHA 4500-H+	KEL	
Solids, Total Dissolved	57	AO ≤ 500	5	mg/L	May-27-09	APHA 2540 C	KEL	
Sulfate	2.5	AO ≤ 500	1.0	mg/L	May-22-09	APHA 4110 B	KEL	
Transmissivity @ 254nm	55.3		0.1	%	May-25-09	APHA 5190B	KEL	
Turbidity	1.6	Varies, See Guidelines	0.1	NTU	May-22-09	APHA 2130 B	KEL	

Total Recoverable Metals by ICPMS

Falconridge Pump Stn (K9E0619-01) Matrix: Water Sampled: May-21-09 11:10

Aluminum	0.156	AO ≤ 0.1	0.050	mg/L	May-27-09	EPA 6020A	RMD	
Antimony	<0.0010	MAC = 0.006	0.0010	mg/L	May-27-09	EPA 6020A	RMD	
Arsenic	<0.0050	MAC = 0.01	0.0050	mg/L	May-27-09	EPA 6020A	RMD	
Barium	0.0107	MAC = 1	0.0050	mg/L	May-27-09	EPA 6020A	RMD	
Beryllium	<0.0010		0.0010	mg/L	May-27-09	EPA 6020A	RMD	
Boron	<0.020	MAC = 5	0.020	mg/L	May-27-09	EPA 6020A	RMD	
Cadmium	<0.00010	MAC = 0.005	0.00010	mg/L	May-27-09	EPA 6020A	RMD	
Calcium	10.2		1.0	mg/L	May-27-09	EPA 6020A	RMD	
Chromium	<0.0050	MAC = 0.05	0.0050	mg/L	May-27-09	EPA 6020A	RMD	
Cobalt	<0.00050		0.00050	mg/L	May-27-09	EPA 6020A	RMD	
Copper	0.0801	AO ≤ 1	0.0010	mg/L	May-27-09	EPA 6020A	RMD	
Iron	0.14	AO ≤ 0.3	0.10	mg/L	May-27-09	EPA 6020A	RMD	
Lead	<0.0010	MAC = 0.01	0.0010	mg/L	May-27-09	EPA 6020A	RMD	
Magnesium	2.03		0.10	mg/L	May-27-09	EPA 6020A	RMD	
Manganese	<0.0020	AO ≤ 0.05	0.0020	mg/L	May-27-09	EPA 6020A	RMD	
Mercury	<0.00050	MAC = 0.001	0.00050	mg/L	May-27-09	EPA 6020A	RMD	
Molybdenum	<0.0010		0.0010	mg/L	May-27-09	EPA 6020A	RMD	
Nickel	<0.0020		0.0020	mg/L	May-27-09	EPA 6020A	RMD	
Phosphorus	<0.20		0.20	mg/L	May-27-09	EPA 6020A	RMD	
Potassium	0.67		0.10	mg/L	May-27-09	EPA 6020A	RMD	
Selenium	<0.0030	MAC = 0.01	0.0030	mg/L	May-27-09	EPA 6020A	RMD	
Silicon	7.7		2.0	mg/L	May-27-09	EPA 6020A	RMD	
Silver	<0.00050		0.00050	mg/L	May-27-09	EPA 6020A	RMD	
Sodium	8.05	AO ≤ 200	0.10	mg/L	May-27-09	EPA 6020A	RMD	
Uranium	<0.00020	MAC = 0.02	0.00020	mg/L	May-27-09	EPA 6020A	RMD	
Zinc	<0.010	AO ≤ 5	0.010	mg/L	May-27-09	EPA 6020A	RMD	

Volatile Organic Compounds by PT-GCMS

SAMPLE DATA



CLIENT
PROJECT FILE

Regional District of Central Okanagan
Comprehensive Analysis

WORK ORDER #
REPORTED

K9E0878
Jun-05-09

Analyte	Result	Canadian DW Guidelines (May 08)	RDL	Units	Analyzed	Method	Lab	Notes
---------	--------	------------------------------------	-----	-------	----------	--------	-----	-------

General Parameters

Killiney Beach (K9E0878-01) Matrix: Water Sampled: May-28-09 09:30

Alkalinity, Total as CaCO3	106		1.0	mg/L	Jun-05-09	APHA 2320 B	KEL	
Chloride	5.95	AO ≤ 250	0.10	mg/L	May-29-09	APHA 4110 B	KEL	
Colour, True	<5	AO ≤ 15	5	Color Unit	May-29-09	APHA 2120 B	KEL	
Conductivity (EC)	281		5	uS/cm	May-29-09	APHA 2510 B	KEL	
Cyanide (total)	<0.01	MAC = 0.2	0.01	mg/L	Jun-02-09	APHA 4500-CN	KEL	
Fluoride	0.20	MAC = 1.5	0.10	mg/L	May-29-09	APHA 4110 B	KEL	
Hardness, Total (Total as CaCO3)	128		2.91	mg/L	Jun-02-09	APHA 2340 B	RMD	
Nitrogen, Nitrate as N	<0.01	MAC = 10	0.01	mg/L	May-29-09	APHA 4110 B	KEL	
Nitrogen, Nitrite as N	<0.01	MAC = 1	0.01	mg/L	May-29-09	APHA 4110 B	KEL	
pH	7.9	AO = 6.5 - 8.5	0.1	pH Units	May-29-09	APHA 4500-H+	KEL	
Solids, Total Dissolved	173	AO ≤ 500	5	mg/L	Jun-04-09	APHA 2540 C	KEL	
Sulfate	29.7	AO ≤ 500	1.0	mg/L	May-29-09	APHA 4110 B	KEL	
Transmissivity @ 254nm	90.5		0.1	%	Jun-04-09	APHA 5190B	KEL	
Turbidity	0.7	Varies, See Guidelines	0.1	NTU	May-29-09	APHA 2130 B	KEL	

Total Recoverable Metals by ICPMS

Killiney Beach (K9E0878-01) Matrix: Water Sampled: May-28-09 09:30

Aluminum	<0.050	AO ≤ 0.1	0.050	mg/L	Jun-02-09	EPA 6020A	RMD	
Antimony	<0.0010	MAC = 0.006	0.0010	mg/L	Jun-02-09	EPA 6020A	RMD	
Arsenic	<0.0050	MAC = 0.01	0.0050	mg/L	Jun-02-09	EPA 6020A	RMD	
Barium	0.0236	MAC = 1	0.0050	mg/L	Jun-02-09	EPA 6020A	RMD	
Beryllium	<0.0010		0.0010	mg/L	Jun-02-09	EPA 6020A	RMD	
Boron	0.057	MAC = 5	0.020	mg/L	Jun-02-09	EPA 6020A	RMD	
Cadmium	<0.00010	MAC = 0.005	0.00010	mg/L	Jun-02-09	EPA 6020A	RMD	
Calcium	34.8		1.0	mg/L	Jun-02-09	EPA 6020A	RMD	
Chromium	<0.0050	MAC = 0.05	0.0050	mg/L	Jun-02-09	EPA 6020A	RMD	
Cobalt	<0.00050		0.00050	mg/L	Jun-02-09	EPA 6020A	RMD	
Copper	0.0119	AO ≤ 1	0.0010	mg/L	Jun-02-09	EPA 6020A	RMD	
Iron	<0.10	AO ≤ 0.3	0.10	mg/L	Jun-02-09	EPA 6020A	RMD	
Lead	<0.0010	MAC = 0.01	0.0010	mg/L	Jun-02-09	EPA 6020A	RMD	
Magnesium	10.1		0.10	mg/L	Jun-02-09	EPA 6020A	RMD	
Manganese	<0.0020	AO ≤ 0.05	0.0020	mg/L	Jun-02-09	EPA 6020A	RMD	
Mercury	<0.00050	MAC = 0.001	0.00050	mg/L	Jun-02-09	EPA 6020A	RMD	
Molybdenum	0.0035		0.0010	mg/L	Jun-02-09	EPA 6020A	RMD	
Nickel	<0.0020		0.0020	mg/L	Jun-02-09	EPA 6020A	RMD	
Phosphorus	<0.20		0.20	mg/L	Jun-02-09	EPA 6020A	RMD	
Potassium	2.51		0.10	mg/L	Jun-02-09	EPA 6020A	RMD	
Selenium	<0.0030	MAC = 0.01	0.0030	mg/L	Jun-02-09	EPA 6020A	RMD	
Silicon	3.6		2.0	mg/L	Jun-02-09	EPA 6020A	RMD	
Silver	<0.00050		0.00050	mg/L	Jun-02-09	EPA 6020A	RMD	
Sodium	11.4	AO ≤ 200	0.10	mg/L	Jun-02-09	EPA 6020A	RMD	
Uranium	0.00234	MAC = 0.02	0.00020	mg/L	Jun-02-09	EPA 6020A	RMD	
Zinc	<0.010	AO ≤ 5	0.010	mg/L	Jun-02-09	EPA 6020A	RMD	

Volatile Organic Compounds by PT-GCMS

SAMPLE DATA



CLIENT
PROJECT FILE

Regional District of Central Okanagan
Sunset Ranch

WORK ORDER #
REPORTED

K9D0898
May-06-09

Analyte	Result	Canadian DW Guidelines (May 08)	RDL	Units	Analyzed	Method	Lab	Notes
---------	--------	------------------------------------	-----	-------	----------	--------	-----	-------

General Parameters

Sunset Ranch Snack Bar (K9D0898-01) Matrix: Water Sampled: Apr-30-09 10:30

Alkalinity, Total as CaCO3	246		1.0	mg/L	May-01-09	APHA 2320 B	KEL	
Chloride	16.4	AO ≤ 250	0.10	mg/L	May-01-09	APHA 4110 B	KEL	
Colour, True	<5	AO ≤ 15	5	Colour Units	May-01-09	APHA 2120 B	KEL	
Conductivity (EC)	641		5	uS/cm	May-01-09	APHA 2510 B	KEL	
Cyanide (total)	<0.01	MAC = 0.2	0.01	mg/L	May-05-09	APHA 4500-CN	KEL	
Fluoride	0.25	MAC = 1.5	0.10	mg/L	May-01-09	APHA 4110 B	KEL	
Hardness, Total (Total as CaCO3)	294		2.91	mg/L	May-05-09	APHA 2340 B	RMD	
Nitrogen, Nitrate as N	0.48	MAC = 10	0.01	mg/L	May-01-09	APHA 4110 B	KEL	
Nitrogen, Nitrite as N	<0.01	MAC = 1	0.01	mg/L	May-01-09	APHA 4110 B	KEL	
pH	7.4	AO = 6.5 - 8.5	0.1	pH Units	May-01-09	APHA 4500-H+	KEL	
Solids, Total Dissolved	399	AO ≤ 500	5	mg/L	May-05-09	APHA 2540 C	KEL	
Sulfate	70.2	AO ≤ 500	5.0	mg/L	May-05-09	APHA 4110 B	KEL	
Transmissivity @ 254nm	93.8		0.1	%	May-04-09	APHA 5190B	KEL	
Turbidity	0.7	Varies, See Guidelines	0.1	NTU	May-01-09	APHA 2130 B	KEL	

Total Recoverable Metals by ICPMS

Sunset Ranch Snack Bar (K9D0898-01) Matrix: Water Sampled: Apr-30-09 10:30

Aluminum	<0.050	AO ≤ 0.1	0.050	mg/L	May-05-09	EPA 6020A	RMD	
Antimony	<0.0010	MAC = 0.006	0.0010	mg/L	May-05-09	EPA 6020A	RMD	
Arsenic	<0.0050	MAC = 0.01	0.0050	mg/L	May-05-09	EPA 6020A	RMD	
Barium	0.0154	MAC = 1	0.0050	mg/L	May-05-09	EPA 6020A	RMD	
Beryllium	<0.0010		0.0010	mg/L	May-05-09	EPA 6020A	RMD	
Boron	<0.020	MAC = 5	0.020	mg/L	May-05-09	EPA 6020A	RMD	
Cadmium	<0.00010	MAC = 0.005	0.00010	mg/L	May-05-09	EPA 6020A	RMD	
Calcium	83.3		1.0	mg/L	May-05-09	EPA 6020A	RMD	
Chromium	<0.0050	MAC = 0.05	0.0050	mg/L	May-05-09	EPA 6020A	RMD	
Cobalt	<0.00050		0.00050	mg/L	May-05-09	EPA 6020A	RMD	
Copper	0.0383	AO ≤ 1	0.0020	mg/L	May-05-09	EPA 6020A	RMD	
Iron	<0.10	AO ≤ 0.3	0.10	mg/L	May-05-09	EPA 6020A	RMD	
Lead	<0.0010	MAC = 0.01	0.0010	mg/L	May-05-09	EPA 6020A	RMD	
Magnesium	21.0		0.10	mg/L	May-05-09	EPA 6020A	RMD	
Manganese	0.0373	AO ≤ 0.05	0.0020	mg/L	May-05-09	EPA 6020A	RMD	
Mercury	<0.00050	MAC = 0.001	0.00050	mg/L	May-05-09	EPA 6020A	RMD	
Molybdenum	0.0086		0.0010	mg/L	May-05-09	EPA 6020A	RMD	
Nickel	<0.0020		0.0020	mg/L	May-05-09	EPA 6020A	RMD	
Phosphorus	<0.20		0.20	mg/L	May-05-09	EPA 6020A	RMD	
Potassium	2.43		0.10	mg/L	May-05-09	EPA 6020A	RMD	
Selenium	<0.0030	MAC = 0.01	0.0030	mg/L	May-05-09	EPA 6020A	RMD	
Silicon	6.6		2.0	mg/L	May-05-09	EPA 6020A	RMD	
Silver	0.00052		0.00050	mg/L	May-05-09	EPA 6020A	RMD	
Sodium	14.4	AO ≤ 200	0.10	mg/L	May-05-09	EPA 6020A	RMD	
Uranium	0.00642	MAC = 0.02	0.00020	mg/L	May-05-09	EPA 6020A	RMD	
Zinc	0.011	AO ≤ 5	0.010	mg/L	May-05-09	EPA 6020A	RMD	

SAMPLE DATA



CLIENT
PROJECT FILE

Regional District of Central Okanagan
Comprehensive Analysis

WORK ORDER #
REPORTED

K9E0877
Jun-05-09

Analyte	Result	Canadian DW Guidelines (May 08)	RDL	Units	Analyzed	Method	Lab	Notes
---------	--------	---------------------------------	-----	-------	----------	--------	-----	-------

General Parameters

Westshore (K9E0877-01) Matrix: Water Sampled: May-28-09 11:50

Alkalinity, Total as CaCO3	111		1.0	mg/L	Jun-05-09	APHA 2320 B	KEL	
Chloride	6.34	AO ≤ 250	0.10	mg/L	May-29-09	APHA 4110 B	KEL	
Colour, True	<5	AO ≤ 15	5	Color Unit	May-29-09	APHA 2120 B	KEL	
Conductivity (EC)	291		5	uS/cm	May-29-09	APHA 2510 B	KEL	
Cyanide (total)	<0.01	MAC = 0.2	0.01	mg/L	Jun-02-09	APHA 4500-CN	KEL	
Fluoride	0.21	MAC = 1.5	0.10	mg/L	May-29-09	APHA 4110 B	KEL	
Hardness, Total (Total as CaCO3)	139		2.91	mg/L	Jun-02-09	APHA 2340 B	RMD	
Nitrogen, Nitrate as N	<0.01	MAC = 10	0.01	mg/L	May-29-09	APHA 4110 B	KEL	
Nitrogen, Nitrite as N	<0.01	MAC = 1	0.01	mg/L	May-29-09	APHA 4110 B	KEL	
pH	7.9	AO = 6.5 - 8.5	0.1	pH Units	May-29-09	APHA 4500-H+	KEL	
Solids, Total Dissolved	186	AO ≤ 500	5	mg/L	Jun-04-09	APHA 2540 C	KEL	
Sulfate	31.2	AO ≤ 500	1.0	mg/L	May-29-09	APHA 4110 B	KEL	
Transmissivity @ 254nm	89.8		0.1	%	May-29-09	APHA 5190B	KEL	
Turbidity	0.7	Varies, See Guidelines	0.1	NTU	May-29-09	APHA 2130 B	KEL	

Total Recoverable Metals by ICPMS

Westshore (K9E0877-01) Matrix: Water Sampled: May-28-09 11:50

Aluminum	<0.050	AO ≤ 0.1	0.050	mg/L	Jun-02-09	EPA 6020A	RMD	
Antimony	<0.0010	MAC = 0.006	0.0010	mg/L	Jun-02-09	EPA 6020A	RMD	
Arsenic	<0.0050	MAC = 0.01	0.0050	mg/L	Jun-02-09	EPA 6020A	RMD	
Barium	0.0250	MAC = 1	0.0050	mg/L	Jun-02-09	EPA 6020A	RMD	
Beryllium	<0.0010		0.0010	mg/L	Jun-02-09	EPA 6020A	RMD	
Boron	0.112	MAC = 5	0.020	mg/L	Jun-02-09	EPA 6020A	RMD	
Cadmium	<0.00010	MAC = 0.005	0.00010	mg/L	Jun-02-09	EPA 6020A	RMD	
Calcium	35.4		1.0	mg/L	Jun-02-09	EPA 6020A	RMD	
Chromium	<0.0050	MAC = 0.05	0.0050	mg/L	Jun-02-09	EPA 6020A	RMD	
Cobalt	<0.00050		0.00050	mg/L	Jun-02-09	EPA 6020A	RMD	
Copper	0.0117	AO ≤ 1	0.0010	mg/L	Jun-02-09	EPA 6020A	RMD	
Iron	<0.10	AO ≤ 0.3	0.10	mg/L	Jun-02-09	EPA 6020A	RMD	
Lead	<0.0010	MAC = 0.01	0.0010	mg/L	Jun-02-09	EPA 6020A	RMD	
Magnesium	12.4		0.10	mg/L	Jun-02-09	EPA 6020A	RMD	
Manganese	0.0093	AO ≤ 0.05	0.0020	mg/L	Jun-02-09	EPA 6020A	RMD	
Mercury	<0.00050	MAC = 0.001	0.00050	mg/L	Jun-02-09	EPA 6020A	RMD	
Molybdenum	0.0037		0.0010	mg/L	Jun-02-09	EPA 6020A	RMD	
Nickel	<0.0020		0.0020	mg/L	Jun-02-09	EPA 6020A	RMD	
Phosphorus	<0.20		0.20	mg/L	Jun-02-09	EPA 6020A	RMD	
Potassium	3.04		0.10	mg/L	Jun-02-09	EPA 6020A	RMD	
Selenium	<0.0030	MAC = 0.01	0.0030	mg/L	Jun-02-09	EPA 6020A	RMD	
Silicon	4.1		2.0	mg/L	Jun-02-09	EPA 6020A	RMD	
Silver	<0.00050		0.00050	mg/L	Jun-02-09	EPA 6020A	RMD	
Sodium	15.2	AO ≤ 200	0.10	mg/L	Jun-02-09	EPA 6020A	RMD	
Uranium	0.00242	MAC = 0.02	0.00020	mg/L	Jun-02-09	EPA 6020A	RMD	
Zinc	<0.010	AO ≤ 5	0.010	mg/L	Jun-02-09	EPA 6020A	RMD	

Volatile Organic Compounds by PT-GCMS

Appendix 3

RDCO Monthly Water System Data

2009 - WESTSHORE ESTATES WATER SYSTEM DATA

DATE	SAMPLE ID	TIME	TURBIDITY NTU	TOTAL COLIFORM CFU/100mL	E-COLI CFU/100mL
January 6/09	Mountain Avenue	10:15	na	<1	<1
January 6/09	Lakeshore	10:30	na	<1	<1
January 21/09	Mountain Avenue	8:00	na	<1	<1
January 21/09	Lakeshore	8:20	na	<1	<1
February 10/09	Mountain Avenue	8:00	na	<1	<1
February 10/09	Lakeshore	8:20	na	<1	<1
February 24/09	Mountain Avenue	8:00	na	<1	<1
February 24/09	Lakeshore	8:15	na	<1	<1
March 10/09	Mountain Avenue	10:30	na	<1	<1
March 10/09	Lakeshore	10:30	na	<1	<1
March 24/09	Mountain Avenue	7:30	na	<1	<1
March 24/09	Lakeshore	8:00	na	<1	<1
April 7/09	Mountain Avenue	7:30	na	<1	<1
April 7/09	Lakeshore	7:45	na	<1	<1
April 21/09	Mountain Avenue	7:40	na	<1	<1
April 21/09	Lakeshore	7:50	na	<1	<1
May 12/09	Mountain Avenue	7:45	na	<1	<1
May 12/09	Lakeshore		na	<1	<1
May 26/09	Mountain Avenue	8:00	na	<1	<1
May 26/09	Lakeshore	8:15	na	<1	<1
June 9/09	Mountain Avenue	6:20	na	<1	<1
June 9/09	Lakeshore	6:30	na	<1	<1
June 23/09	Mountain Avenue	10:10	na	<1	<1
June 23/09	Lakeshore	9:55	na	<1	<1
July 16/09	Mountain Avenue	7:30	na	<1	<1
July 16/09	Lakeshore	7:50	na	<1	<1
July 28/09	Mountain Avenue	8:45	na	<1	<1
July 28/09	Lakeshore	8:30	na	<1	<1
August 13/09	Mountain Avenue	7:10	na	<1	<1
August 13/09	Lakeshore	7:20	na	<1	<1
August 24/09	Mountain Avenue	6:20	na	<1	<1
August 24/09	Lakeshore	6:30	na	<1	<1
August 26/09	Lakeshore	7:00	na	<1	<1
September 9/09	Mountain Avenue	7:40	na	<1	<1
September 9/09	Lakeshore	8:00	na	<1	<1
September 24/09	Mountain Avenue	7:45	na	<1	<1
September 24/09	Lakeshore	8:00	na	<1	<1
October 6/09	Mountain Avenue	10:30	na	<1	<1
October 6/09	Lakeshore	10:45	na	<1	<1
October 22/09	Mountain Avenue	8:00	0.6	<1	<1
October 22/09	Lakeshore	8:30	0.6	<1	<1
November 4/09	Mountain Avenue	10:12	0.7	<1	<1
November 4/09	Lakeshore	10:25	0.5	<1	<1
November 17/09	Mountain Avenue	9:00	na	<1	<1
November 17/09	Lakeshore	8:50	na	<1	<1
December 1/09	Mountain Avenue	10:35	na	<1	<1
December 1/09	Lakeshore	10:50	na	<1	<1
December 15/09	Mountain Avenue	11:10	na	<1	<1
December 15/09	Lakeshore	11:30	na	<1	<1

2009 - TREPANIER BENCH/STAR PLACE WATER SYSTEM DATA

DATE	SAMPLE ID	TIME	TURBIDITY NTU	TOTAL COLIFORM CFU/100mL	E-COLI CFU/100mL
January 5/09	Pumphouse	11:30	na	<1	<1
January 20/09	Pumphouse	10:45	na	<1	<1
February 10/09	Pumphouse	11:45	na	<1	<1
February 24/09	Pumphouse	10:00	na	<1	<1
March 23/09	Pumphouse	8:30	na	<1	<1
April 7/09	Pumphouse	10:30	na	<1	<1
April 21/09	Pumphouse	9:45	na	<1	<1
April 23/09	Pumphouse	11:30	na	<1	<1
May 12/09	Pumphouse	11:25	na	<1	<1
May 26/09	Pumphouse	10:00	na	<1	<1
June 9/09	Pumphouse	10:15	na	<1	<1
June 23/09	Pumphouse	8:19	na	<1	<1
July 16/09	Pumphouse	11:30	na	<1	<1
July 30/09	Pumphouse	9:30	na	<1	<1
August 13/09	Pumphouse	10:20	na	<1	<1
August 24/09	Pumphouse	9:00	na	<1	<1
September 9/09	Pumphouse	9:40	na	<1	<1
September 21/09	Pumphouse	13:00	na	<1	<1
October 6/09	Pumphouse	7:20	0.2	<1	<1
October 27/09	Pumphouse	8:48	na	<1	<1
November 4/09	Pumphouse	8:15	0.2	<1	<1
November 17/09	Pumphouse	7:15	na	<1	<1
December 1/09	Pumphouse	8:40	na	<1	<1
December 15/09	Pumphouse	8:45	na	<1	<1

2009 - SUNSET RANCH WATER SYSTEM DATA

DATE	SAMPLE ID	TIME	TURBIDITY NTU	TOTAL COLIFORM CFU/100mL	E-COLI CFU/100mL
January 6/09	Reservoir	12:45	na	<1	<1
January 21/09	Reservoir	11:45	na	<1	<1
February 10/09	Reservoir	13:25	na	<1	<1
February 24/09	Reservoir	11:50	na	<1	<1
March 9/09	Reservoir	12:00	na	<1	<1
March 23/09	Reservoir	11:00	na	<1	<1
April 8/09	Reservoir	12:00	na	<1	<1
April 23/09	Reservoir	12:20	na	<1	<1
April 23/09	Pumphouse	12:00	na	<1	<1
May 12/09	Reservoir	13:30	na	<1	<1
May 12/09	Pumphouse	13:15	na	<1	<1
May 28/09	Reservoir	12:20	na	<1	<1
May 28/09	Pumphouse	12:30	na	<1	<1
June 10/09	Reservoir	12:05	na	<1	<1
June 10/09	Pumphouse	11:45	na	<1	<1
June 25/09	Reservoir	10:12	na	<1	<1
June 25/09	Pumphouse	10:37	na	<1	<1
July 16/09	Reservoir	11:30	na	<1	<1
July 16/09	Pumphouse	11:00	na	<1	<1
July 31/09	Reservoir	11:00	na	<1	<1
July 31/09	Pumphouse	11:10	na	<1	<1
August 14/09	Reservoir	13:15	na	<1	<1
August 14/09	Clubhouse	12:25	na	<1	<1
August 27/09	Reservoir	8:30	na	<1	<1
August 27/09	Pumphouse	8:51	na	<1	<1
September 11/09	Reservoir	12:00	na	<1	<1
September 11/09	Clubhouse	12:15	na	<1	<1
September 28/09	Reservoir	8:40	na	<1	<1
September 28/09	Pumphouse	8:55	na	<1	<1
October 6/09	Reservoir	13:10	na	<1	<1
October 6/09	Pumphouse	12:55	na	<1	<1
October 21/09	Reservoir	14:15	0.5	<1	<1
October 21/09	Clubhouse	14:00	0.5	<1	<1
November 4/09	Reservoir	12:52	0.6	<1	<1
November 4/09	Clubhouse	12:37	0.4	<1	<1
November 17/09	Reservoir		na	<1	<1
November 17/09	Clubhouse	11:00	na	<1	<1
December 1/09	Reservoir	13:15	na	<1	<1
December 1/09	Clubhouse	13:00	na	<1	<1
December 15/09	Reservoir	13:45	na	<1	<1
December 15/09	Clubhouse	14:10	na	<1	<1

2009 - KILLINEY BEACH WATER SYSTEM DATA

DATE	SAMPLE ID	TIME	TURBIDITY NTU	TOTAL COLIFORM CFU/100mL	E-COLI CFU/100mL
January 6/09	Winchester	10:50	na	<1	<1
January 6/09	Lakeside	11:10	na	<1	<1
January 21/09	Winchester	8:30	na	<1	<1
January 21/09	Lakeside	8:45	na	<1	<1
February 10/09	Winchester	8:50	na	<1	<1
February 10/09	Lakeside	9:05	na	<1	<1
February 24/09	Winchester	8:45	na	<1	<1
February 24/09	Lakeside	9:00	na	<1	<1
March 10/09	Winchester	10:00	na	<1	<1
March 10/09	Lakeside	10:15	na	<1	<1
March 24/09	Winchester	8:30	na	<1	<1
March 24/09	Lakeside	8:45	na	<1	<1
April 7/09	Winchester	8:25	na	<1	<1
April 7/09	Lakeside	8:10	na	<1	<1
April 21/09	Udell Road	8:25	na	<1	<1
April 21/09	Lakeside	8:25	na	<1	<1
May 12/09	Winchester	8:15	na	<1	<1
May 12/09	Lakeside	8:30	na	<1	<1
May 26/09	Winchester	8:15	na	<1	<1
May 26/09	Lakeside	8:30	na	<1	<1
June 9/09	Winchester		na	<1	<1
June 9/09	Lakeside	6:48	na	<1	<1
June 23/09	Winchester	9:30	na	<1	<1
June 23/09	Lakeside	9:00	na	<1	<1
July 16/09	Winchester	7:31	na	<1	<1
July 16/09	Lakeside	7:50	na	<1	<1
July 28/09	Winchester	8:00	na	<1	<1
July 28/09	Lakeside	7:55	na	<1	<1
August 13/09	Winchester	7:50	na	<1	<1
August 13/09	Lakeside	7:30	na	<1	<1
August 24/09	Winchester	6:50	na	<1	<1
August 24/09	Lakeside	7:00	na	<1	<1
September 9/09	Winchester	8:25	na	<1	<1
September 9/09	Lakeside	8:15	na	<1	<1
September 24/09	Winchester	8:15	na	<1	<1
September 24/09	Lakeside	8:30	na	<1	<1
October 6/09	Winchester	10:15	0.6	<1	<1
October 6/09	Lakeside	10:00	0.7	<1	<1
October 22/09	Winchester	8:45	0.6	<1	<1
October 22/09	Lakeside	8:30	0.6	<1	<1
November 4/09	Winchester	9:55	0.4	<1	<1
November 4/09	Lakeside	9:20	0.5	<1	<1
November 17/09	Winchester	8:20	na	<1	<1
November 17/09	Lakeside	8:30	na	<1	<1
December 1/09	Winchester	10:15	na	<1	<1
December 1/09	Lakeside	9:55	na	<1	<1
December 15/09	Winchester	10:20	na	<1	<1
December 15/09	Lakeside	10:40	na	<1	<1

2009 - FALONRIDGE WATER SYSTEM DATA

DATE	SAMPLE ID	TIME	TURBIDITY NTU	TOTAL COLIFORM CFU/100mL	E-COLI CFU/100mL
January 5/09	Pumphouse	13:00	na	<1	<1
January 20/09	Pumphouse	13:20	na	<1	<1
February 10/09	Pumphouse	12:45	na	<1	<1
February 24/09	Pumphouse	11:15	na	<1	<1
March 9/09	Pumphouse	11:30	na	<1	<1
March 23/09	Pumphouse	10:00	na	<1	<1
April 7/09	Pumphouse	11:30	na	<1	<1
April 21/09	Pumphouse	11:24	na	<1	<1
May 12/09	Pumphouse	12:45	na	<1	<1
May 26/09	Pumphouse	11:50	na	<1	<1
June 9/09	Pumphouse	11:10	na	<1	<1
June 22/09	Pumphouse	9:31	na	<1	<1
July 13/09	Pumphouse		na	<1	<1
July 29/09	Pumphouse	10:00	na	<1	<1
August 17/09	Pumphouse	11:00	na	<1	<1
August 24/09	Pumphouse	10:00	na	<1	<1
September 9/09	Pumphouse	11:30	na	<1	<1
September 22/09	Pumphouse	9:45	na	<1	<1
October 6/09	Pumphouse	12:15	0.4	<1	<1
October 21/09	Pumphouse	13:30	0.4	<1	<1
November 4/09	Pumphouse	12:06	0.6	<1	<1
November 17/09	Pumphouse	10:35	na	<1	<1
December 1/09	Pumphouse	12:30	na	<1	<1
December 1/09	7421 Hawk Road	12:20	na	<1	<1
December 15/09	Pumphouse	14:45	na	<1	<1