



Agenda No: 6.12

Mtg Date: December 14, 2009

## DEVELOPMENT & ENVIRONMENTAL SERVICES DEPARTMENT REPORT

**TO:** Chair & Members of the Regional Board

**FROM:** Chris Radford, Infrastructure Services Coordinator

**DATE:** December 14, 2009

**SUBJECT:** Regional District Water Systems – Community Works Funding

**LOCATION:** Central Okanagan Electoral East and Central Okanagan Electoral Area West

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### RECOMMENDATION:

1. **THAT** the Board authorizes staff to proceed with the required proposal requests for water system engineering review and reports on the regional water systems as identified in the attached proposal.
2. **AND THAT** the Board authorizes staff to include the proposed funding for inclusion in the 2010 budget review process.
3. **AND FURTHER THAT** the Board endorses Regional Water System upgrade applications to Gas Tax Funding – Strategic Priorities Fund and Innovations Fund when the next uptake for application process is advertised.

### PURPOSE:

To utilize a portion Gas Tax Funds received in the electoral areas to improve water quality, implement water demand management, improve overall efficiency and form frameworks/plans required for subsequent funding applications on Regional water systems.

### BACKGROUND:

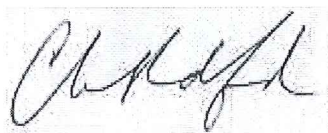
The water systems do not hold adequate reserve funds at the present time to meet proposed improvements identified. The water system reviews will establish upgrade requirements, construction costs estimates and form a comprehensive development plan to set a framework for user fees and fee structures for required capital replacement and asset management. Currently the Gas Tax -Community Works fund comprises of- COE \$261,282 and COW \$488,381.

**DEVELOPMENT & ENVIRONMENTAL SERVICES STAFF COMMENTS:**

The implementation of monitoring and control devices and installation of residential water meters on the Regional water systems will reinforce RDCO's commitment to foster water quality stewardship in the Okanagan.

Comprehensive plans will form framework for capital improvements and establish a funding strategy to be incorporated into the 5 year Financial Plan.

Respectfully submitted,



Chris Radford, ASCT  
Infrastructure Services Coordinator



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Dan Plamondon, Manager Development & Environmental Services



December 7, 2009

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Proposal for  
Water System Improvements utilizing  
Community Works Fund – Gas Tax Funding

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# I. Summary

The Regional District of Central Okanagan currently operates and maintains five small water systems in the region. Three systems are located in Central Okanagan Electoral Area West and two in Central Okanagan Electoral Area East.

The Regional District's mandate for water systems states- to provide effective and efficient water treatment and distribution to utility customers in order to contribute to a safe and healthy community. In 2009, during site visits with Interior Health representatives along with RDCO staff, observations and recommendations identified some short term and long term requirements to meet water quality objectives.

System requirements include installation of control and monitoring equipment, water protection plans, cost and fee recovery analysis, and hydrological investigations.

The short-term requirements anticipated budget for the water system improvements are:

*Electoral East* - \$80,000.00

*Electoral West* - \$397,000.00

Many improvements required to the water systems have not previously been required and present additional costs to the respective systems. All of the proposed improvements and engineering reviews are applicable to the Gas Tax Funding targets of:

- Reduced greenhouse gas emissions
- cleaner air
- cleaner water

Funding through the Gas Tax-Community Works Fund projects will reduce the financial burden to water system users. Water quality, system efficiency and water demand management would also be realized as a result of the system improvements. Unallocated funds are available for the projects in each of the Electoral areas for the proposed works. The projects would also be consistent with the RDCO commitment on the Climate Action Plan? and BC Hydro power smart objectives.

## II. Introduction

The Regional District of Central Okanagan currently operates and maintains five small water systems in the region. Three systems are located in Central Okanagan Electoral Area West and two in Central Okanagan Electoral Area East.

### **Electoral Area West:**

Trepanier (Star Place) - 8 connections

- Surface water source (Trepanier Creek)
- Filtration and disinfection
- Pressure pump/reservoir facility
- Partially metered to each residence

Killiney Beach- 279 connections

- Surface water source (Okanagan Lake)
- Disinfection
- Series of booster pumps/reservoir facilities
- No residential metering

West Shore – 230 connections

- Surface water source (Okanagan Lake)
- Disinfection
- Series of booster pumps/reservoir facilities
- No residential metering

### **Electoral Area East**

Sunset Ranch – 171 connections

- 2 supply wells
- Disinfection
- 1- 3 cell reservoir and booster pump facility
- Fully metered system

## Falcon Ridge – 53 connections

- 1 shallow well- Mission Creek
- Disinfection
- 1 single cell reservoir/contact chamber

The Regional District's mandate for water systems states- to provide effective and efficient water treatment and distribution to utility customers in order to contribute to a safe and healthy community. In 2009, during site visits with Interior Health representatives along with RDCO staff, observations and recommendations identified some short term and long term requirements to meet water quality objectives.

A few system improvements have been implemented as part of maintenance repairs or equipment replacement; however there are many outstanding items that will need to be addressed to improve efficiencies, ensure water quality objectives are met and comply with Interior Health requirements.

### **Needs/Problems**

Not all of the systems require the same improvements, other than increased bacteriological sampling/testing by accredited labs and in house chlorine residual testing. Specific system challenges that have been identified are:

#### *Trepanier*

- Water demand management through installation of new water meters consistent with the RDCO specifications- partial completion 2009
- pump improvements to ensure reliability and improve efficiency- completed 2009
- filter improvements and automatic control upgrades to improve water quality – partial completion 2009
- Standby pump- 2010

#### *Sunset Ranch*

- Wellhead protection plan and establishment of well head protection area.

### *Falcon Ridge*

- SCADA upgrades and on line water quality monitoring equipment-2010
- Full comprehensive system review that would include a hydrological assessment of source water, requirements to meet RDCO Subdivision servicing bylaw 704 and a user rate review to ensure fees are set to sustain the utility to IH requirements and RDCO standards.
- Controls and associated mechanical improvements -2010

### *West Shore*

- Water demand management- universal metering consistent with other RDCO systems and meter specifications. It should be noted that the Ministry of Community and Rural development refer to metering in the Water Smart document on numerous funding requirements.
- Full comprehensive system review that would include, requirements to meet RDCO Subdivision servicing bylaw 704, with options on capital upgrades complete with cost estimates and a user rate review to ensure fees are set to sustain the utility to IH requirements and RDCO standards.

### *Killiney Beach*

- Water demand management- universal metering consistent with other RDCO systems and meter specifications. It should be noted that the Ministry of Community and Rural development refer to metering in the Water Smart document on numerous funding requirements.
- Full comprehensive system review that would include, requirements to meet RDCO Subdivision servicing bylaw 704, with options on capital upgrades complete with cost estimates and a user rate review to ensure fees are set to sustain the utility to IH requirements and RDCO standards

## III. Goals/Objectives

Due to the fact that many of these requirements are relatively new to small water systems and have not previously been required, they present additional costs to the respective systems. All of the improvements are applicable to the Gas Tax Funding targets of:

- Reduced greenhouse gas emissions
- cleaner air
- cleaner water

If funds can be directed to these specific projects, the financial burden to these water systems would be significantly reduced. Unallocated funds from the

Community Works Fund are available for the projects in each of the Electoral areas for the proposed works. The projects would also be consistent with the RDCO commitment on the Climate Action Plan and BC Hydro power smart objectives.

## IV. Procedures/Scope of Work

Most of the required short term improvements have commenced or will be scheduled in the next few months. RDCO staff is capable of installation of field devices and equipment upgrades. Outsourcing will be required for engineering reviews, reports and plans.

## V. Timetable

<b>Trepanier</b>	<b>Description of Work</b>	<b>Start and End Dates</b>
<b>Phase One</b>	Pump and filter upgrades, meter installations	March 2009-Dec 2009
<b>Phase Two</b>	Meter project completion, standby pump, filter and mechanical completion.	Jan 2010- Dec 2010

<b>Falcon Ridge</b>	<b>Description of Work</b>	<b>Start and End Dates</b>
<b>Phase One</b>	SCADA upgrades and monitoring equipment installation.	Jan 2010-Dec 2010
<b>Phase Two</b>	Comprehensive engineering and hydrological review	Jan 2010- Dec 2010

<b>Sunset Ranch</b>	<b>Description of Work</b>	<b>Start and End Dates</b>
<b>Phase One</b>	Wellhead protection Plan	March 2010-Dec 2010

<b>West Shore</b>	<b>Description of Work</b>	<b>Start and End Dates</b>
<b>Phase One</b>	Comprehensive engineering report and user rate review	March 2010- Dec 2010
<b>Phase Two</b>	Universal Metering	2010-2011

<b>Killiney Beach</b>	<b>Description of Work</b>	<b>Start and End Dates</b>
<b>Phase One</b>	Comprehensive engineering report and user rate review	March 2010-Dec 2010
<b>Phase Two</b>	Universal metering	2010-2011

## VI. Budget

<b>Sunset Ranch</b>	<b>Description of Work</b>	<b>Anticipated Costs</b>
Phase One	Wellhead Protection Plan	\$20000
	<b>Total</b>	<b>\$ 20000.00</b>

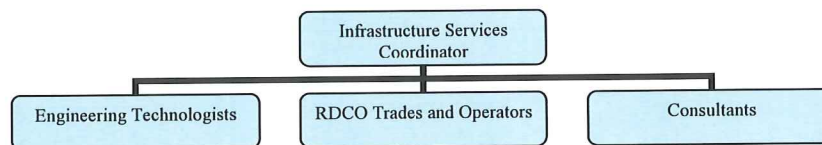
<b>Trepanier</b>	<b>Description of Work</b>	<b>Anticipated Costs</b>
Phase One	Pump and filter upgrades, meter installations	\$10000
Phase Two	Meter project completion, standby pump, filter and mechanical upgrade completion. Turbidity and Chlorine analyzer.	\$12000
	<b>Total</b>	<b>\$ 22000.00</b>

<b>Falcon Ridge</b>	<b>Description of Work</b>	<b>Anticipated Costs</b>
Phase One	SCADA upgrades and on line water quality monitoring equipment	\$40000.00
Phase Two	Comprehensive engineering and hydrological review.	\$20000.00
Phase Three	Application for funding to implement capital improvements.	TBD
	<b>Total</b>	<b>\$ 60000.00</b>

<b>West Shore</b>	<b>Description of Work</b>	<b>Anticipated Costs</b>
Phase One	Comprehensive engineering review	\$15000.00
Phase Two	Universal Metering. On line monitoring equipment.	\$160000.00
Phase Three	Application for funding to implement capital improvements	TBD
	<b>Total</b>	<b>\$175,000</b>

<b>Killiney Beach</b>	<b>Description of Work</b>	<b>Anticipated Costs</b>
Phase One	Comprehensive engineering review	\$15000.00
Phase Two	Universal Metering. On Line monitoring equipment.	\$185000.00
Phase Three	Application for funding to implement capital improvements	TBD
	<b>Total</b>	<b>\$200,000</b>

## VII. Key Personnel



## VIII. Evaluation

Projects will continually be monitored by RDCO and sent for review to Health Officials, where applicable. Target dates would be set at the onset of any project and be consistent with budget year. Progress tracked through quarterly reporting.

## IX. Next Steps

Approve funding through the Gas Tax- Community Works Fund on completed projects identified in 2009 and agree to have proposed improvements for 2010 included in future work plans.