

Beaver Creek Water System

Public Meeting November 4, 2013

A strategy to meet the Drinking Water Treatment Objectives for the Beaver Creek Service Area.

- Often referred to as “4-3-2-1”
- A condition of the operating permit
- Required by Vancouver Island Health Authority (VIHA)
- Must be completed this fall!!



Tonight's Presentation

- Review of water supply alternatives
- The proposed “4-3-2-1” strategy
- Implications and known costs of the strategy
- Water System update and other financial issues
- Questions / comments



ACRD Values

- Quality services at an affordable price;
- Communication and advice – water advisory committee / notices;
- Maintain autonomy and control as much as possible;
- Commence with system upgrades;
- Seek grants and other funding sources;
- Cooperate with other jurisdictions;
- Safety and water quality!

So what are the VIHA Objectives.....?

“Treatment is to protect against: enteric viruses, pathogenic bacteria, Giardia cysts and Cryptosporidium oocysts.

The general objectives are:

- *4-log reduction or inactivation of viruses*
CHLORINATION.
- *3-log reduction or inactivation of Giardia and Cryptosporidium.*
ULTRA VIOLET PROTECTION
- *2- treatment processes for surface water (CHLORINATION & UV PROTECTION)*
- *Less than or equal to (\leq) one nephelometric turbidity unit (NTU) of turbidity.*
FILTRATION OR A DEFERRAL
- *No detectable E. Coli, fecal coliform and total coliform.*

Choosing an appropriate water source, protecting that source and reducing distribution system risks can be essential complementary steps to providing treatment when dealing with microbiological risks.”

McElhanney Consulting Services

reviews water supply options

1. *Independent supply* and treatment maintained on the stamp river – 2 different types of treatment evaluated
 2. *Bulk water* purchase from the City of Port Alberni
 3. *Regional supply* established between City and Beaver Creek, share governance and costs for supply
- *Assessed capital, operation and maintenance costs, ranked options based on environmental, social and economic values.*

McElhanney Ranking of the Options

rank	environmental	social	economic
First	Regional	Regional	Regional \$0.49/m ³
Second	Bulk	Independent	Bulk \$0.70/m ³
Third	Independent	Bulk	Independent \$0.95/m ³

Water Supply Strategy for Beaver Creek.....

1. Connect to City with Strick Road pump station.
 2. City Implements Ultra Violet treatment in 2014.
 3. Investigate Sproat Lake for a filtration deferral, including negotiating the required licenses and agreements for treatment and pumping infrastructure.
- *The City is interested in a regional approach to Sproat Lake not existing supply.*
 - *All works for the BCWS support a regional option or bulk supply – the two best alternatives as determined by McElhanney.*
 - *The ACRD will continue to keep options open including the Stamp and possibly integration with Cherry Creek.*



What will the City Connection Cost?

- The cost for City water for a full year in 2014 would be \$160,000 based on 500,000 m³;
- \$90,000 in reduced expenditures targeted from 2013 budget
- Reduction in overall consumption to reduce expenditures by additional \$20,000:
 - Reduced leaks, lower consumption for system maintenance , reduced consumer demand
- Therefore we estimate \$50/year for each connection for....
 - Reduced turbidity;
 - UV protection in 2014;
 - Reallocation of staff resources;
 - 4-3-2-1 strategy in progress!

Cost Comparison

	2013 Actual	2014 Proposed
Operating costs	\$657,000	\$707,000
Capital costs	From reserves & Gas Tax Funds	\$240,000
Total costs	\$657,000	\$947,000
Estimated total cost per household for water tolls and parcel tax	\$658	\$858 Includes water supply and capital contribution

Comparison of Bulk Water Rates:

Bulk Water Rates (2013)	\$ per cubic meter (m³)	500,000 m³
Capital RD	\$0.56	\$280,000
City of Nanaimo	\$0.44	\$220,000
City of Parksville	\$0.42	\$210,000
Comox Valley RD	\$0.64	\$320,000
Arrowsmith Water Service	Percent of use	N/A
Metro Vancouver	\$0.688	\$344,000
Abbotsford Mission Water Commission	\$0.38	\$190,000
Fraser Valley RD	\$0.30	\$150,000
City of Port Alberni	\$0.32	\$160,000
Average	\$0.47	\$235,000



Financial Decisions to be made.....

- Water system costs need to be allocated to taxes and tolls on principle that tolls pay for maintenance and tax for pays for capital costs!
- Water rates to be revised to encourage conservation and reflect allocation of costs – to be adopted in advance of the second quarter of 2014.
- Budget to be determined by March – confirms annual expenditures and allocation to taxes.

The need for an annual capital contribution.....

- Majority of the system was developed in 1960's
- Includes Asbestos Cement (AC) watermains >65%
- Regular breaks and failures / water leaks
- Need to loop dead ends
- Koers report from 2011 identifies strategy

- \$240,000 proposed









2014 accomplishments.....

- ✓ \$ **1,550,000** in gas tax invested in BCWS (\$1,500 per household);
- ✓ Kitsuksis reservoir completed and on line;
- ✓ 1st phase of Beaver Creek north watermain replaced;
- ✓ Strick Road watermain replaced;
- ✓ Strick Road pump station under construction;
- ✓ Mapping upgrades;
- ✓ No boil water advisories;
- ✓ Continuation of water meter replacement











Projects and issues for 2014

- Confirm with VIHA the strategy!
- Complete Strick Road pump station and manage integration within the works;
- City to provide UV protection for water supply – 3 of the four water supply barriers met!
- Revise taxes and tolls;
- Continue with necessary water system upgrades as identified in the 2011 Koers report;
- Explore Sproat Lake supply as possible component of a regional water service.

.....thank you

