

# Notes on Shawnigan Village Waterworks

## Pro-forma Statement

### Rates Items 1-4

#### Item 1; Equivalent unit rates

This item is the base monthly rate for each domestic equivalent unit line. The utility is planned a two stage rate increase. The first stage will increase the monthly rate to \$56, which will adjust for operating expense inflation increases since the last increase in 2008. The second stage of the increase will take effect upon completion of the treatment plant, which will require an addition, \$27 per month to finance the cost of the system improvements. These improvements are explained in detail in item 9 of the information package. This increase of an additional. The estimated rate after the completion of the treatment plant is \$80/monthly or \$960 annually, well below the proposed average rate for the CVRD systems of \$1414 annually. The project completion is planned for one year after which time we will be able to secure a long-term loan. The actual second rate increase will be dictated by the financing rates available at that time. For this estimate we have used the government of Canada 5 year bond rate plus 335 basis points for a rate of 4.41%. This rate is reflected in the Treatment Plant Annual Financing Costs (item 45).

The BC Water & Waste Association (BCWWA) recently reported that the majority of BC municipalities do not generate sufficient revenues from fees to pay the full cost of providing services, *“In some cases, rates will need to nearly double to reach financial sustainability”*. In 2016 the BCWWA conducted an [Ipsos Reid Survey](#) of water and wastewater utility users across BC. The survey results indicated a significant tolerance for rate increases to \$170/month (\$2,040/year) for both water and wastewater as follows:

\$86/month (\$1,032/year) for clean, safe tap water.

\$84/month (\$1,008/year) for sewer/wastewater services.

Here are some excerpts from the January 2017 [“Cowichan Valley Regional District Water & Wastewater Utilities Review and Assessment – Final Report”](#)

*“The majority of the 35 CVRD utilities are not collecting enough funds to be sustainable. Overall, a 67% increase in revenue is required to generate the required funds for long term capital upgrades, refurbishment, and replacement of infrastructure. The following components will be critical to achieving financial sustainability:*

**Increase Rates** – *Based on individual system asset condition assessments, increase rates either in full, or incrementally, to reach a financial steady state for each utility. Ensure users understand the precise allocations including separation of operations and asset replacement funding required.*

*This will be very challenging for the smaller utility systems with some facing a 200% increase in rates to achieve sustainability.”*

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*“Although rates vary considerably in British Columbia, a recent Ipsos Reid survey (2015 BCWWA) concluded that households in British Columbia are currently paying approximately \$500 per year for both water and wastewater services (note that many of these respondents only use one of the two utility services). The survey respondents also indicated they would be willing to pay \$1,032 per year for clean, safe drinking water and \$1,008 per year for reliable wastewater disposal services.*

*“A significant number of short and medium term capital projects are required in order to ensure water quality and supply meets acceptable standards. A 74% increase in revenue is required to generate the required funds for water utility long term capital upgrades, refurbishment and replacement of infrastructure.”*

*“The results of the financial analysis suggest that water rates should be increased as shown below:*

	EXISTING	RECOMMENDED
Average Parcel Tax	\$416	\$606
Average User Fee	\$396	\$808
<b>TOTAL</b>	<b>\$812</b>	<b>\$1,414</b>

**3.4.4. Parcel Tax and User Fees** – Develop and implement a Parcel Tax and User fee increase either immediately or graduated over time:

RECOMMENDED WATER UTILITY FEES

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NO.	NAME	PARCEL TAX	USER FEE	TOTAL
1	Arbutus Mountain Estates Wastewater	\$896	\$455	\$1,351
2	Arbutus Ridge Wastewater	\$174	\$279	\$453
3	Bald Mountain Wastewater	\$300	\$1,189	\$1,489
4	Brulette Place Wastewater	\$414	\$679	\$1,092
5	Cobble Hill Wastewater	\$717	\$476	\$1,193
6	Cowichan Bay Wastewater	\$411	\$549	\$960
7	Eagle Heights Wastewater	\$230	\$162	\$392
8	Kerry Village Wastewater	\$764	\$914	\$1,677
9	Lambourn Estates Wastewater	\$794	\$559	\$1,353
10	Maple Hills Wastewater	\$899	\$583	\$1,483
11	Mesachie Lake Wastewater	\$432	\$510	\$942
12	Mill Springs Wastewater	\$227	\$757	\$984
13	Sentinel Ridge Wastewater	\$461	\$1,281	\$1,742
14	Shawnigan Beach Wastewater	\$517	\$611	\$1,128
15	Twin Cedars Wastewater	\$616	\$1,027	\$1,643
16	Youbou Wastewater	\$583	\$1,140	\$1,723
	<b>TOTAL</b>	<b>\$8,390</b>	<b>\$101,170</b>	<b>\$19,560</b>

The entire CVRD report can be found at  
<https://www.cvrld.bc.ca/DocumentCenter/View/79863>

### Item 2; Excess Consumption Rate

This equivalent unit rate allows for a base consumption of 12,000 Imperial gallons over the two month billing period. It is important that the utility encourage responsible use of the water resource. This will enable the utility to maximize the availability of water to the community. If the utility is able to lower its peak day usage, it will be able to service more additional customers. New applicants also represent the single largest source of capital for system improvements such as the weir, new reservoir, new pumps and treatment equipment. Without maximizing these connections within the limits of the available resource, existing customers would need to finance a much greater portion of these improvements. The maximum daily demand for the utility since the last rate increase has increase by 28% whereas the number of customers has only increases by 13%. Therefore, we feel that an increase in the excess consumption charges from \$3.00 per 1000 imperial gallons over the 12,000 gallon bi-monthly base, to \$5.00 is warranted.

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### Item; 3 Service Availability Rent Charges

The new rates reflect 50% of the connected rates, which is typical.

### Item; 4 RRTF Contributions

The depreciation schedule calculation for the water system components has indicated an annual depreciation of \$176,000. The RRTF is the source of revenue for replacement of the works so must be supplemented by a similar amount. This will require an increase to 30% of the user rates. Initially the 5% increase will only increase the rates by one dollar to meet our expenses then in the next round of rate increase, the 5% will dictate an additional 6 dollars of the total increase to meet our expenses and collect an amount close to the depreciation calculations.

## Equivalent Units Items 5-9

### Item; 5 Domestic Connected

We have allowed for annual growth of 5 connected units for this area based on the average increase of the past 7 years.

### Item; 6 Commercial Connected

We have reviewed the consumption of our commercial customers, this data is available in Document #10, "Commercial customer equivalent unit review 2017", of the information package. The appropriate adjustment have been made to Schedule E-1 of the proposed Tariff #11

### Item; 7 Unconnected Rental Lots

We have used 31 lots for our estimates, which represents the average number off unconnected lots over the past 7 years since the last increase.

### Item; 8 Excess consumption domestic

The excess consumption domestic has been averaged from the last seven years and then increased in the projections by the percentage that total connected lots increases

### Item; 9 Excess consumption commercial

Commercial customers are allocated an equivalent unit value based on historical consumption. We have estimated the excess consumption for the commercial consumption on the commercial review spreadsheet. This spreadsheet created the basis for the new Schedule E-1 meter rates. If any base equivalent units were changed, a new estimate of excess usage was calculated based on the past total consumption and used for the projections in this statement.

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### Operating Revenue Items 10-19

Item; 10 Domestic base revenue

Calculated for estimate and projection columns by multiplying unit rate x domestic connected x 12 months

Item; 11 Commercial base revenue

Calculated for estimate and projection columns by multiplying unit rate x commercial connected (equivalent units) x 12 months

Item; 12 Domestic Excess charges revenue

Calculated for estimate and projection columns by multiplying excess rate x domestic excess consumption in thousands of imperial gallons (M.I.G)

Item; 13 Commercial Excess charges revenue

Calculated for estimate and projection columns by multiplying excess rate x domestic excess consumption in thousands of imperial gallons (M.I.G)

Item; 14 Rent charges revenue

Calculated for estimate and projection columns by multiplying estimated unconnected rental lots x rent charge annual rate)

Item; 15 Connection charges revenue

This item is estimated for 2017/18 by averaging the previous seven years.

Item; 16 Bad debt recovered

This item is just about nonexistent so there has been no proposed rate budget assigned to it.

Item; 17 Funds from trust revenue

This item varies from year to year based on trust fund projects, it is offset by the subcontractor expenses on item 39. Therefore it is a non-rate setting line item and is only shown for the purposes of duplicating the financial statements in this worksheet.

Item; 18 Funds receivable from trust revenue

This item varies from year to year depending on outstanding releases at year end for trust fund projects that, are in progress, and have incurred expenses. It is not included in rate setting for the same reasons as item 17.

Item; 19 GST rebate

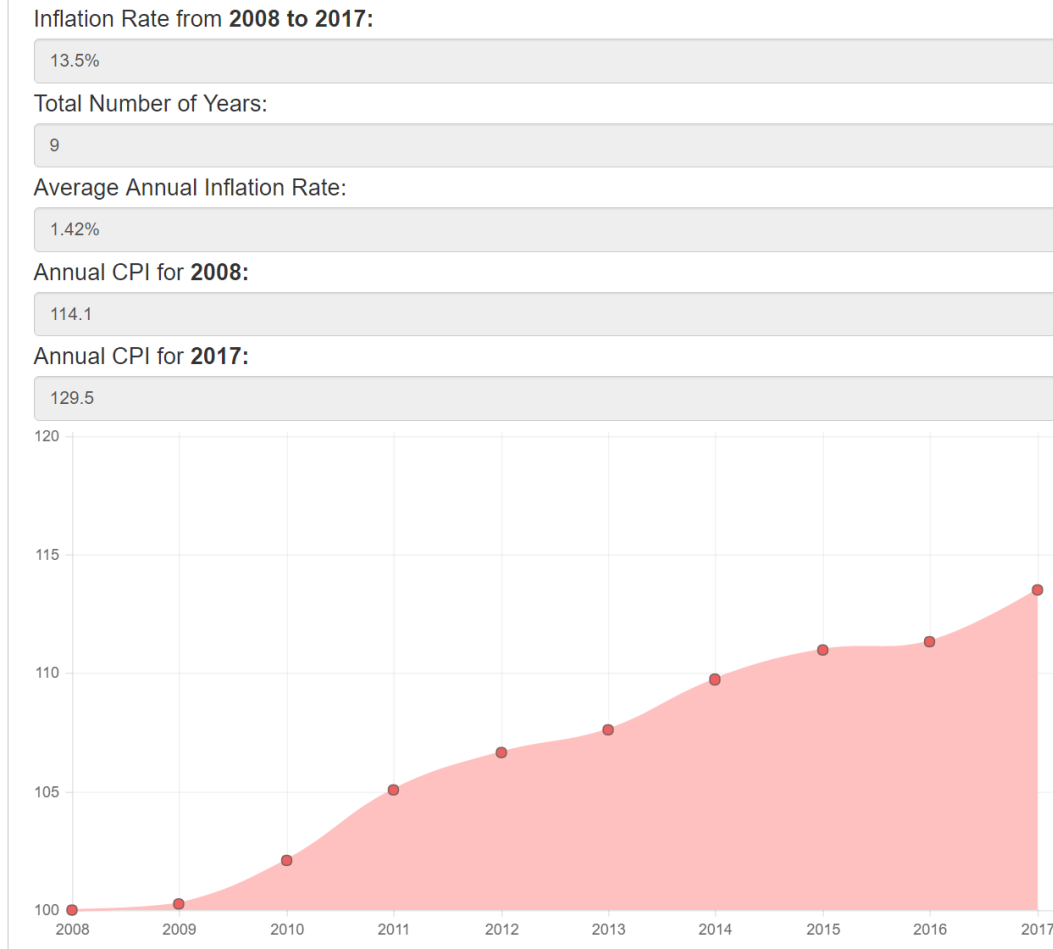
In 2014/15, there was a change in accounting reporting practices. Expense amounts in the statement of income, no longer included GST amounts that are claimable. As a result, the GST rebate was also no longer shown in the statement of income.

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### Operating Expenses Items 20-47

For expense items where it was appropriate we have used the Bank of Canada consumer price index to calculate the rate of inflation of 13.5% since the last tariff increase in 2008. The average annual inflation rate over this period was 1.0142%.



The method of calculation that was used for the projections for each expense line item is explained below.

#### Item; 20 Asset amortization

\$1000 annually for amortization of major tools and equipment is a reasonable amount. We have not used the full budget in recent year but the utility is due for a purchase of new portable water sample analyzers.

#### Item; 21 Bad debts

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## Pro-forma Statement

This item is just about nonexistent so there has been no proposed rate budget assigned to it.

### Item; 22 Bank Charges

This item does not seem to be driven by inflation, therefore it was estimated for 2016/17 by averaging the previous seven years. We have also increase this budget in the projections by an amount proportionate to the increase in the number of customers from the previous years.

### Item; 23 Bookkeeper wages

This item was estimated for 2016/17 by increasing the 2008 approved budget by the 13.5% inflation increase since then. It was also increased by an amount proportionate to the increase in the number of customers since 2008.

Then increased by the one-year inflation rate for each year of the projections years, as well as by an amount proportionate to the increase in the number of customers from the previous year.

### Item; 24 Chlorine

This item was estimated for 2016/17 by averaging the previous seven years. It was also increased by an amount proportionate to the increase in the number of customers since 2008.

We have increase the projection year's by one-year inflation rate and an amount proportionate to the increase in the number of customers from the previous year.

### Item; 25 Insurance

In 2014, this item was combined with item 26 so for estimates of previous years both lines have been combined.

This item was estimated for 16/17 by averaging the previous seven years. Then increased for the one year inflation rate for each year of the projections

### Item; 26 Licensing fees

In 2014, this item line became redundant when it was combined with item 25

### Item; 27 Management fees

This item was estimated for 2016/17 by increasing the 2008 approved budget by the 13.5% inflation increase since then. It was also increased by an amount proportionate to the increase in the number of customers since 2008.

Then increased by the one-year inflation rate for each year of the projections years, as well as by an amount proportionate to the increase in the number of customers from the previous year.

### Item; 28 Office Rent

The office area needed to support the Management and Bookkeeping needs of the system has remained the 226 ft<sup>2</sup> reported in the 2008 rate review. This item was estimated for 2016/17 by increasing the 2008 approved budget by the 13.5%

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inflation increase since then. In the 2008 rate setting, the budget was approved at \$26.54 per ft<sup>2</sup> annually with the inflation adjustment we are now paying \$30.00 per ft<sup>2</sup> annually. A recent online review of 10 commercial office space rental advertisements in the Cowichan valley area has shown a range of \$15.00 to \$42.00 per ft<sup>2</sup> annually.

*There was an accounting error in the last two years for this item and almost all of the 2014/15 costs were claimed in the 2015/16 year.*

### Item; 29 Office Supplies

There seems to be some saving occurring over the operating years for this item so we have estimated for 2016/17 by averaging the previous seven years and increased for the one-year inflation rate.

It was also increased by the one-year inflation rate for each year subsequent projections years, as well as by an amount proportionate to the increase in the number of customers from the previous year.

### Items; 30, 31 Operator Costs

The 2008 approved budget for this line item never reflected the industry standard for a Level 1 operator. Therefore you can see that we have always paid our operator an amount above the approved amount in the form of a company dividend or shareholders loan, shown as line item 31. In the year 2015/16, we adjusted the operator expense by increasing the 2008 approved budget by the 13.5% inflation increase since then. It was also increased by an amount proportionate to the increase in the number of customers since 2008. The new wage worked out to an annual rate of \$57,737, of which \$2376 was taken as a shareholders loan. All subsequent estimates have been increased by the one-year inflation rate for each year, as well as by an amount proportionate to the increase in the number of customers from the previous year.

### Item; 32 Postage

We have estimated for 2016/17 by averaging the previous seven years and increased for the one-year inflation rate, plus an amount proportionate to the increase in the number of customers from the previous year.

We have also increased by the one year inflation rate for each year of the projections years, as well as by an amount proportionate to the increase in the number of customers from the previous year.

### Item; 33 Professional fees

We have estimated for 2016/17 by averaging the previous seven years and increased for the one-year inflation rate, plus an amount proportionate to the increase in the number of customers from the previous year.

We have also increased by the one-year inflation rate for each year of the projections years, as well as by an amount proportionate to the increase in the number of customers from the previous year.



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### Item; 34 Promotion

We have estimated for 2016/17 by averaging the previous seven years and increased for the one-year inflation rate. We have also increased by the one-year inflation rate for each year of the projections years.

### Item; 35 Property taxes

We have estimated for 2016/17 by averaging the previous seven years and increased for the one-year inflation rate. We have also increased by the one-year inflation rate for each year of the projections years.

### Item; 36 RRTF provision

This expense item is a product of the RRFT Contribution percentage (item 4) applied to all of the customer's rates revenue (items 10-14 inclusive)

### Item 37 and 38 Repairs and Maintenance

The combination of these two rows make up the full Repairs and Maintenance budget from previous years. Row 38 represents the R& M portion of the Subcontractor line items on the financial statements that were not covered by Trust fund releases, therefore become part of the repair and maintenance budget. We have estimated for 2016/17 by averaging the previous seven years and increased for the one-year inflation rate, plus an amount proportionate to the increase in the number of customers from the previous year.

We have also increased by the one-year inflation rate for each year of the projections years, as well as by an amount proportionate to the increase in the number of customers from the previous year.

### Item 39 Subcontractors (Trust fund contracts)

This item varies from year to year based on trust fund projects; it is offset by trust fund releases shown by the "Funds from Trust" revenue on item 17. Therefore, it is a non-rate setting line item and is only shown for the purposes of duplicating the financial statements in this worksheet.

### Item 40 Storage

This item was estimated for 2016/17 by increasing the 2008 approved budget by the 13.5% inflation increase since then. Then increased by the one-year inflation rate for each year of the projections years.

### Item 41 Utilities

We have used the BC Hydro rate increase information taken from the Order in Council No. 097, Direction No. 7, section 10 that indicates an annual increase of 4.00 percent over the projection years. We have also increased each projection year by an amount proportionate to the increase in the number of customers from the previous year.

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### Item 42 Vehicle lease and maintenance

This item was estimated for 2016/17 by increasing the 2008 approved budget by the 13.5% inflation increase since then. Then increased by the one-year inflation rate for each year of the projections years.

### Item 43 Wage benefits (EI, CPP, and WCB)

This item was estimated for 2016/17 by increasing the 2008 approved budget by the 13.5% inflation increase since then. Then increased by the one-year inflation rate for each year of the projections years.

### Item 44

We are a 30% stakeholder in the management, operation, and maintenance of the weir. We are invoice annually for our portion of the actual costs by the CVRD. We have estimated for 2016/17 by averaging the previous seven years and increased for the one-year inflation rate. We have also increased by the one-year inflation rate for each year of the projections years.

### Item 45 Treatment Plant Annual Financing

This item represents the largest item reflected part two of the rate increase. We have secured a one year loan to complete the Water System Improvement Project which the financing cost covered by that loan. Once construction is complete and the final costs are known we will be able to secure a 5-year term with a 30-year amortization period. The actual amount of this item will be dictated by the financing rates available at that time. For this estimate we have used the government of Canada 5 year bond rate plus 335 basis points for a rate of 4.41%. This rate is reflected in the Treatment Plant Annual Financing Costs (item 45).

### Item 46 Treatment plant operating cost (no labour)

This item represents the annual cost for replacement filters, lamps and tubes required for the new treatment plant. The increase operator labour to run the treatment plant is accounted for in the operators' budget.

### Item 47 Trust fund project management fee

In the past, for ease of accounting, all project management work and associated costs for any trust fund projects were contracted out to our consulting engineers. These costs vary considerably from year to year as can be seen by item 39. As per the direction of the Water Comptroller's office on January 31, 2017, the management of these projects must now be taken care of by the utility as part of the annual utilizes management budget. The industry standard or construction management fees is typically 10 per cent of the construction costs. As mention, it is difficult to quantify an annual budget as the expenses over the last seven years have varied from \$156,000 to \$9,000. We have taken the average of these previous years and applied 10 per cent to that amount to estimate the annual budget.