

**te: Tuesday February 15<sup>th</sup>, 2022**

**To: Nikki Gilmore, Chief Administrative Officer**

**From: Tom Csima, Manager of Operations and Projects**

**Subject: Water Treatment Investigation Report**

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## **PURPOSE**

The purpose of this report is to present to Council the Water Treatment Investigation Report, and to discuss the Investing in Canada Infrastructure Program (ICIP) – Green Infrastructure Stream Environmental Quality (EQ) Program grant to fund a future Water treatment facility for the Village of Pemberton.

## **BACKGROUND**

### *Investigation*

As identified in the Village of Pemberton Water System Assessment Report 2020, and budgeted for in the 2021 Capital Projects budget, the Village has undergone preliminary investigations into the treatment of our existing water source, due to elevated levels of manganese and iron.

The purpose of the investigation was to review up to three (3) available water treatment options that would provide Village residents with potable water that meets Canadian Drinking Water Quality (GCDWQ) guidelines.

The following notable conclusions were made:

- The existing Wells 2 and 3 groundwater sources will eventually have elevated iron and manganese water levels that do not meet the requirements of the GCDWQ;
- The proposed water treatment process of oxidation with chlorine injection and catalytic media filtration (GreenSandPlus™) will provide adequate treatment and disinfection to the water from the existing wells;
- The proposed Water Treatment Plant (WTP) should be designed to operate at 60 L/s and will have provisions to supply any future adjacent development with the addition of domestic pumps dedicated for that development;
- Four WTP configurations were presented based on the location of the proposed WTP and access to sanitary system. Costs of the WTP range from **\$7.9 to \$8.2 Million** and include 40% contingency;
- Operation and maintenance costs to operate the WTP is estimated to be \$248,000 to \$285,000 per year, which includes staff time, electrical costs, consumable materials, etc. Costs will be impacted by access to sanitary system and sludge disposal.

The final draft of the Water Treatment Investigation Report, prepared by Kerr Wood Leidal is attached as **Appendix A**.

### *Grant*

The Village's engineering consultants have identified a major grant funding opportunity available for infrastructure improvements, known as the ICIP – EQ program grant, which announced its third intake in October 2021, designed for projects starting in 2023 and completing by 2026.

The EQ Program provides support for reliable water and wastewater systems projects that result in legislative standards being met. It will also support projects that remediate contaminated sites, divert solid waste from landfill, provide treatment or management for stormwater and reduce or remediate soil & air pollutants. Applications demonstrating consideration for environmental enhancement, climate change, water conservation, resource recovery and reuse, and added value for a better planet are said to have the best chance of success.

The funding provided by the federal government towards infrastructure projects is cost shared with the province and applying municipality. The levels of federal and provincial contribution are as follows:

- Government of Canada Contribution (up to): 40%
- Province of British Columbia Contribution (up to): 33.33%
- Remaining to be funded by the applicant, and federal stacking rules apply: approximately (26.67%).

For the estimated total project cost of **\$8.2 Million**, this would require a municipal contribution of **\$2.19 Million**.

At the Committee of the Whole Meeting No. 222, held Tuesday, January 18, 2022, Staff presented the draft Water Treatment Investigation Report and provided an overview of next steps including the option of applying for the Investing in Canada Infrastructure Program – Green Infrastructure Stream grant program. The Committee supported making application and provided a recommendation to Council which was considered at the Regular Council Meeting No. 1553, held later that same day. In this regard, Council passed the following resolution:

*Moved/Seconded*

***THAT*** Staff be directed to prepare and submit an application to the Canada-British Columbia: Investing in Canada Infrastructure Program; Green Infrastructure – Environmental Quality Sub-Stream, for funding to support the development of a new Water Treatment Plant Facility for the Village of Pemberton.

***AND THAT*** Staff prepare a report seeking the formal authorization by way of resolution required by the Village for this project for consideration by Council at the February 1, 2022 meeting.

**CARRIED**

## **DISCUSSION & COMMENTS**

To complete the grant application, the following requirements must be satisfied/included:

- a) Council Resolution
- b) Project Location
- c) Detailed Cost Estimate
- d) Site Plan/Map
- e) Feasibility Study/Preliminary Design Report
- f) List and status of required licenses, permits and approvals (or indicate if not applicable); All applicable legislative or regulatory requirements will or have been met:
- g) Evidence of Secured Funds
- h) For all projects related to drinking water or wastewater: Water Conservation Plan and a copy of Council/Board/Band Council endorsement for the plan

Staff are currently working with KWL to satisfy these requirements, however, items a), e), g) and h) identified above require Council endorsement. As this project is related to drinking water, a Water Conservation Plan has been developed and will be finalized before submission for funding and brought forward to Council for receipt at a later date (attached as **Appendix B**). This plan, as well as the preliminary design report, will need to be received by Council to be included in the grant application. Further, a Council resolution must be passed showing Council's support for the project. Details pertaining to item g) are discussed below.

As discussed earlier, the grant funding structure requires a 26.67% matching contribution from the applicant. The estimated contribution for the preferred design equals **\$2.19 Million**. Federal stacking rules apply, meaning any funding from other Federal and Provincial sources, reduce the Government of Canada contribution (up to): 40% and the Province of British Columbia contribution (up to): 33.33% and not the applicant's contribution. Therefore, Community Gas Tax Funds are not a suitable use of funds as it will not assist with the Village's contribution.

As a result, the Village will need to apply a combined approach to fund this project. This would include reserves, and long-term borrowing. As part of the grant application, the following evidence must be provided such as:

- If a local government has accumulated funds in a statutory reserve to finance a share of project costs, please submit evidence of these funds as at application date and supporting information directing the use of reserve funds.
- If a local government intends to borrow a share of costs, a bylaw to authorize the borrowing of funds should receive third reading by a local government prior to submitting an application to the program. A copy of that bylaw should accompany the application.
- Municipalities that intend to borrow should also submit a Liability Servicing Limit Certificate for the amount authorized in the bylaw. Please also submit information about any sources of applicant share of project costs other than reserves or borrowing.

The following table outlines the statutory and non-statutory reserves held by the Village at December 31, 2020 with 2021 budget allocations as identified in the 2021 – 2025 Five Year Financial Plan:

	2021 Budget Allocations			*2021	Ending
	December 31, 2020 Balance	Expenses	Contributions	Unaudited Contributions	Balance
Water Reserves	\$1,077,753	(\$285,265)	\$324,000		\$1,116,488
Water DCCs	\$25,668	\$0		\$100,934	\$126,601
<b>Totals</b>	<b>\$1,103,421</b>	<b>(\$285,265)</b>	<b>\$324,000</b>	<b>\$100,934</b>	<b>\$1,243,089</b>

At this time, the 2022 allocations are not yet known as we are at the beginning of the 2022 budget deliberations. As such, Staff are recommending the following sources and amounts to meet the 26.67% contribution for the grant application:

Source	Amount
Borrowing	\$1,690,000
Other Funding Sources	\$0.00
Reserves	\$500,000
<b>Totals</b>	<b>\$2,190,000</b>

### **Tax Implications:**

Current lending rates set by the MFA are 2.66% for the first ten (10) years. Loan requests with terms greater than ten (10) years will receive this lending rate for the first ten (10) years of their loan and at the end of ten (10) years; the relending rate will be reset at the current MFA market rate for a period to be determined at that point (likely five (5) years).

Principal repayments will occur annually, commencing one (1) year after funds are received. Associated with each principal payment is an “*actuarial adjustment*” which is a ‘*non-cash reduction*’ of the loan balance. An Actuarial is the expected earning that the MFA anticipates it will realize on each principal repayment.

Staff have estimated the tax implications on the same selection of properties used in the tax calculation process undertaken each year during budget deliberations. These properties include a variety of types such as townhomes, single family residences, apartments, businesses in the Downtown, businesses in the Industrial Park, recreation classed properties and farms.

Annual borrowing rates were determined using a 20 and 25 year amortization period. Results are shown in the tables shown below:

<b>20 Year Loan</b>					
		<b>2022 Completed Assessment</b>	<b>2021 Tax Rate</b>	<b>Borrowing Tax Rate</b>	<b>\$ 1,690,000.00</b>
<b>Residential</b>	<b>Area</b>				
<b>Annual Payments</b>					<b>\$ 112,794</b>
House	Poplar (H)	<b>1,056,000</b>	1.5593	0.0749	\$ 79.09
House	Laurel Street (H)	<b>1,051,000</b>	1.5593	0.0749	\$ 78.72
House	Hemlock	<b>1,206,000</b>	1.5593	0.0749	\$ 90.33
House	Pinewood (H)	<b>1,517,000</b>	1.5593	0.0749	\$ 113.62
House	Greenwood (H)	<b>1,448,000</b>	1.5593	0.0749	\$ 108.46
House	Elmwood	<b>1,224,000</b>	1.5593	0.0749	\$ 91.68
Duplex	Laburnum	<b>974,000</b>	1.5593	0.0749	\$ 72.95
Townhouse	Flint Street (TH)	<b>504,000</b>	1.5593	0.0749	\$ 37.75
Townhouse	Park Street (TH)	<b>715,000</b>	1.5593	0.0749	\$ 53.55
Townhouse	Laurel Street (TH)	<b>639,000</b>	1.5593	0.0749	\$ 47.86
Townhouse	Vine (TH)	<b>787,000</b>	1.5593	0.0749	\$ 58.95
<b>Light Industry</b>					
Business	Venture Place	<b>1,028,000</b>	5.3018	0.2547	\$ 261.83
<b>Commercial</b>					
Business	Downtown	<b>3,783,000</b>	3.5085	0.1685	\$ 637.44
Business	Downtown	<b>2,337,000</b>	3.5085	0.1685	\$ 393.78
Business	Industrial Park	<b>3,528,000</b>	3.5085	0.1685	\$ 594.47
Business	Industrial Park	<b>845,050</b>	3.5085	0.1685	\$ 142.39
<b>Rec./Non-Profit</b>					
Rec./Non-Profit	Downtown	<b>139,900</b>	1.5593	0.0749	\$ 10.48
Rec./Non-Profit	Airport	<b>955,000</b>	1.5593	0.0749	\$ 71.53
<b>Farm</b>					
Farm	Meadows	<b>20,791</b>	1.5593	0.0749	\$ 1.56
Farm	Downtown	<b>25,091</b>	1.5593	0.0749	\$ 1.88

<b>25 Year Loan</b>					
		<b>2022</b>			
<b>Residential</b>	<b>Area</b>	<b>Completed Assessment</b>	<b>2021 Tax Rate</b>	<b>Borrowing Tax Rate</b>	<b>\$ 1,690,000.00</b>
<b>Annual Payments</b>					<b>\$ 96,053</b>
House	Poplar (H)	<b>1,056,000</b>	1.5593	0.0638	\$ 67.37
House	Laurel Street (H)	<b>1,051,000</b>	1.5593	0.0638	\$ 67.05
House	Hemlock	<b>1,206,000</b>	1.5593	0.0638	\$ 76.94
House	Pinewood (H)	<b>1,517,000</b>	1.5593	0.0638	\$ 96.78
House	Greenwood (H)	<b>1,448,000</b>	1.5593	0.0638	\$ 92.38
House	Elmwood	<b>1,224,000</b>	1.5593	0.0638	\$ 78.09
Duplex	Laburnum	<b>974,000</b>	1.5593	0.0638	\$ 62.14
Townhouse	Flint Street (TH)	<b>504,000</b>	1.5593	0.0638	\$ 32.16
Townhouse	Park Street (TH)	<b>715,000</b>	1.5593	0.0638	\$ 45.62
Townhouse	Laurel Street (TH)	<b>639,000</b>	1.5593	0.0638	\$ 40.77
Townhouse	Vine (TH)	<b>787,000</b>	1.5593	0.0638	\$ 50.21
<b>Light Industry</b>					
Business	Venture Place	<b>1,028,000</b>	5.3364	0.2169	\$ 222.97
<b>Commercial</b>					
Business	Downtown	<b>3,783,000</b>	3.5314	0.1435	\$ 542.86
Business	Downtown	<b>2,337,000</b>	3.5314	0.1435	\$ 335.36
Business	Industrial Park	<b>3,528,000</b>	3.5314	0.1435	\$ 506.27
Business	Industrial Park	<b>845,050</b>	3.5314	0.1435	\$ 121.26
<b>Rec./Non-Profit</b>					
Rec./Non-Profit	Downtown	<b>139,900</b>	1.5593	0.0638	\$ 8.93
Rec./Non-Profit	Airport	<b>955,000</b>	1.5593	0.0638	\$ 60.93
<b>Farm</b>					
Farm	Meadows	<b>20,791</b>	1.5593	0.0638	\$ 1.33
Farm	Downtown	<b>25,091</b>	1.5593	0.0638	\$ 1.60

It should be noted, that the average residential assessment (vacant land, single family, strata and other) on the BC Assessment Completed Roll and the respective tax implications on this average are as follows:

Average Residential Assessment **\$762,632.98**

**Option 1: 20 Year Long Term Borrowing**  
 Tax Implication: **\$57.12**

**Option 2: 25 Year Long Term Borrowing**  
 Tax Implication: **\$48.66**

In order to borrow funds over a period longer than five (5) years, Municipalities are required to seek approval of the electorate through an Alternative Approval Process (AAP) or assent of the electorate by Referendum. Both processes provide the electors an opportunity to indicate whether Council may or may not proceed with the borrowing bylaw. At this time, as the grant funders only require a bylaw to authorize the borrowing of funds at third reading prior to submitting an application to the program, there is no need to proceed with approval from the electorate. Should the Village be successful in receiving the grant funding, Staff will bring forward a detailed

report outlining the next steps. The Village of Pemberton Water Treatment Facility Loan Authorization Bylaw No. 922, 2022 is presented under Bylaws in the agenda package for consideration of First, Second and Third Readings.

### **COMMUNICATIONS**

There are no communications considerations required for this initiative at this time. Should grant funding be successful, future communication elements will be required.

### **LEGAL CONSIDERATIONS**

There are no legal considerations at this time.

### **IMPACT ON BUDGET & STAFFING**

As noted above, this project to investigate and design the water treatment facility has been included in the 2021 capital budget and costs associated with it have already been accommodated. The overall project cost will require budget allocations as required in the grant submission and reflected in the discussion section of this report. The Village's consultants will facilitate the work of applying for the grant and delivering all necessary design elements, including the Water Conservation Plan, with oversight by Village Staff, the time which will be incorporated into the day-to-day activities of the Operations Department.

### **INTERDEPARTMENTAL IMPACT & APPROVAL**

The success of this application will impact other departments including Planning and Development Services, as well as Finance, and the office of the CAO, as it would be a major infrastructure project.

### **IMPACT ON THE REGION OR NEIGHBOURING JURISDICTIONS**

The treatment of manganese and iron in the Village of Pemberton water system is beneficial to the Squamish-Lillooet Regional District, specifically for the Pemberton North Water System as the Village provides water through a water service agreement to residents in that area.

### **ALTERNATIVE OPTIONS**

There are no alternative options for consideration.

### **RECOMMENDATIONS**

#### **Recommendation One:**

**THAT** Council receives the Water Treatment Investigation Report, dated January 31<sup>st</sup>, 2022, prepared by Kerr Wood Leidal.

#### **Recommendation Two:**

**THAT** staff publish the Water Treatment Investigation Report on the Village of Pemberton website.

**Recommendation Three:**

**THAT** staff be directed to submit an application for grant funding for the Village of Pemberton Water Treatment Facility Project through the Investing in Canada Infrastructure Program – Environmental Quality.

**Recommendation Four:**

**THAT** Council supports the project and commits to its share of up to \$2.19M of the project, as well as cost overruns.

**Recommendation Five:**

**THAT** Council give First, Second and Third Readings to the Water Treatment Facility Loan Authorization Bylaw No. 922, 2022.

**APPENDICES:**

**Appendix A:** Final Water Treatment Investigation Report, dated January 31st, 2022, prepared by Kerr Wood Leidal

**Appendix B:** Draft Water Conservation Plan, dated January 31<sup>st</sup> 2022, prepared by Kerr Wood Leidal.

Submitted by:	Tom Csimá, Manager of Operations and Projects
CAO Approval by:	Nikki Gilmore, Chief Administrative Officer