
TO: Committee of the Whole **MEETING:** January 8, 2019

FROM: Murray Walters **FILE:** 5500-22-SP-01
Manager, Water Services

SUBJECT: San Pareil Water Supply Local Service Area Capital Charge Bylaw No. 1781, 2019

RECOMMENDATION

Please note: The recommendation was varied by the Committee as follows:

- 1. That “San Pareil Water Supply Local Service Area Capital Charge Bylaw No. 1781, 2019” be introduced, read three times.**
- 2. That “San Pareil Water Supply Local Service Area Capital Charge Bylaw No. 1781, 2019” be adopted.**

That “San Pareil Water Supply Local Service Area Capital Charge Bylaw No. 1781, 2019” be introduced, read three times, adopted, and forwarded to the Inspector of Municipalities for Approval.

SUMMARY

The San Pareil Water Service Area (WSA) is a community water system located at the eastern boundary of the City of Parksville comprised of 282 residential connections. There are 42 residential properties located adjacent to the San Pareil WSA that are not connected to the community water system. A number of these residents have expressed interest in joining the water system. This Bylaw would establish a Capital Cost Charge (CCC) to be payable by each of these properties if and when they are able to join the WSA and connect to the community water system. The Capital Cost Charge bylaw is the first step in this process. For information only, the next steps (beyond the scope of this report) are:

1. Attain the residents’ assent to pay for the construction costs for the water main extension.
2. Complete a bylaw revision to adjust the boundaries of the WSA.
3. Complete the construction required to expand the system.
4. Connect residents to the new system upon request and upon receipt of the CCC payment.

BACKGROUND

Water Service Area Details

The WSA was established in 1999 when the Regional District of Nanaimo (RDN) acquired the existing Bubbling Springs Water Utility. This water system is located at the eastern boundary of the City of Parksville and is comprised of 282 residential connections. There are 42 small residential properties located adjacent to the San Pareil WSA that are not connected to the San Pareil WSA. The homes on these residential properties have been serviced by private wells since the 1960s.

Figure 1 shows the WSA and the un-serviced lots, and illustrates their close proximity.

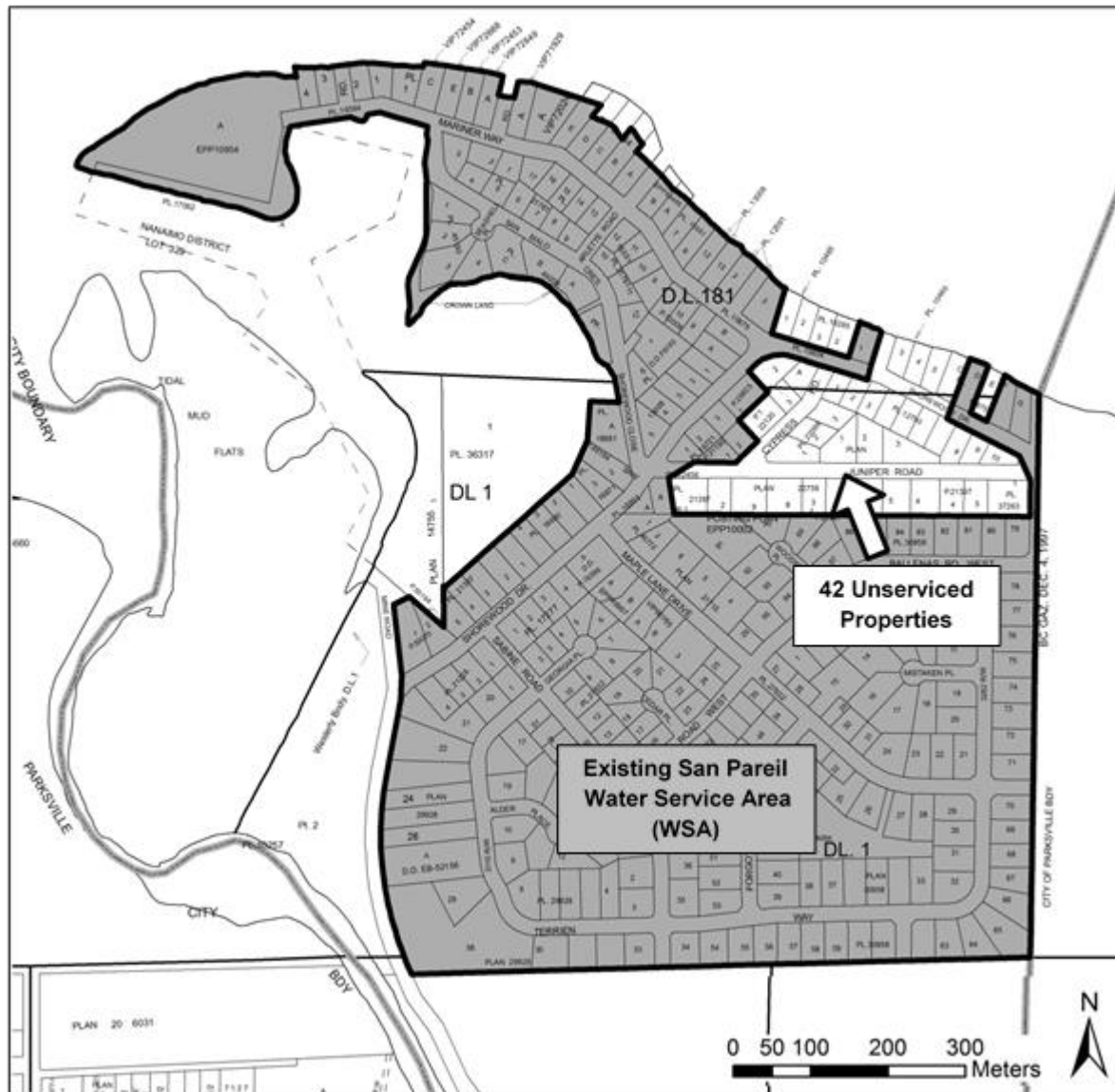


Figure 1 – San Pareil WSA Extents

The water source for the San Pareil WSA is a series of groundwater wells located within the neighbourhood. The water system also includes two reservoirs, ultraviolet and hypochlorite

water treatment systems, and the necessary delivery pumps, distribution water mains, and fire hydrants. Although some components of the water system are aged, the San Pareil water system is a valuable asset that has many years of satisfactory use remaining.

The population serviced with drinking water/domestic supply in San Pareil, based on the RDN average of 2.2 people per home (property), is estimated to be 620 people. The addition of the 42 un-serviced properties into the WSA would increase the number by 92 additional people, for an estimated future population of 712 people. The area is fully built out, so there is no potential for further growth.

Historical operating records indicate that the San Pareil water system has produced up to 137,600 m³/year. However, in the past eighteen years the average volume of water produced in the San Pareil WSA has been 111,900 m³/year. The addition of 42 homes or 92 people will increase the annual water demand by 16,600 m³/year (or 14.9%), to an expected total of 128,500 m³/year. The RDN's historic operating records and anticipated expansion of the San Pareil WSA were used in the RDN's recent application for an *Existing Use Groundwater License* to the Ministry of Forests, Lands, Natural Resource Operations & Rural Development (FLNRO). Based on this data, the application requested a licensed extraction volume of 157,050 m³/year. This amount was selected to meet the anticipated future demand with an additional 20% contingency. The license has not yet been issued due to a large backlog of applications. Table 1 summarizes this data.

Table 1: Summary of Current, Proposed, and Licensed Water Usage

| | <i>Current</i> | <i>Future</i> |
|---|-----------------------|----------------------|
| <i>Number of Connections</i> | 282 | 324 |
| <i>Population (estimated)</i> | 620 | 712 |
| <i>Average Water Demand (m³/year)</i> | 111,900 | 128,500 |
| <i>Licensed Water Extraction quantity (m³/year)</i> | 157,050 | 157,050 |

There are 3 supply wells in the San Pareil WSA: Well #1, Well #2, and Well #4. Well #1 and Well #4 are currently being utilized for drinking water. These pumps run intermittently to control reservoir level, and the pump speed is adjusted seasonally to maximize operational efficiency. Well #2 is a back-up well that currently serves as a monitoring well. Pump running time and the water pumping rate from each well are recorded to monitor the sustainable pumping rate of each well. In Table 2, it can be seen that the future production requirements and the licensed production capability are well within the current well ratings.

Table 2 – Summary of Well Performance and Capability

| | <i>Well #1</i> | <i>Well #4</i> | <i>Total</i> |
|---|-----------------------|-----------------------|---------------------|
| <i>2018 Well Rating or Maximum Pumping Rate(m³/min)</i> | 0.643 | 0.560 | 1.203 |
| <i>2018 Average Running Time required (hrs/day)</i> | | | 5 |
| <i>2018 Average Pumping Rate (m³/min)</i> | | | 0.204 |

| | |
|--|-------|
| <i>Average Pumping Rate required to meet future demand at current running time (m³/min),</i> <i>OR</i> | 0.235 |
| <i>Average Running Time required to meet future demand at current pumping rate (hr/day).</i> | 5.74 |
| <i>Average Pumping Rate required to meet licensed demand at current running time (m³/min),</i> <i>OR</i> | 0.286 |
| <i>Average Running Time required to meet licensed demand at current pumping rate (hr/day).</i> | 7.02 |

The existing water supply is deemed to be adequate to support the addition of the 42 un-serviced properties into the San Pareil WSA.

Capital Cost Charge Details

Between 2015 and in 2017, three property owners applied to join the San Pareil WSA for health/environmental reasons. The boundaries of the San Pareil WSA were amended by bylaw in these cases, and the owners were required to pay a “buy-in” fee to join the water system as a Capital Cost Charge (CCC) bylaw had not been established at that time. The “buy-in” fee of \$5,000 per property was charged in anticipation of a CCC bylaw being established in the future, and the language in the agreement makes the owners liable for any additional fees or refunds that result when the CCC charge is eventually established. One water connection request was also allowed in 2002 for compassionate reasons.

A group of homeowners within the un-serviced area recently approached the RDN with a request to start the process of allowing them to join the WSA. The first step toward making this a reality is to establish a Capital Cost Charge (CCC). The *Local Government Act* authorizes regional districts to impose a CCC on property owners outside a water service area who want to join an existing water system. The intent of the CCC is to establish the value of the community water system at a point in time so that any new connections are assessed a fair price to share in the ownership and advantages of the system. The current value of the water system is established according to the “Guide to the Amortization of Tangible Capital Assets” published by the Ministry of Community Services, and relies on data from the RDN’s Asset Management database and current, similar Class B construction estimates. Current asset values are developed using the straight-line depreciation method. The CCC is then calculated as the total value of the depreciated assets divided by the number of existing properties in the service area. The resulting cost is the per-unit value of each existing water connection in the service area.

Improvements to the San Pareil Fire Service Area, which involves some water system assets and includes all the properties in that area, were completed in 2014. The depreciated cost of these additions has not been included in the calculation of the CCC.

For comparison, the following RDN service areas currently have CCC Bylaws in place: Nanoose Bay Bulk Water, French Creek Sewer, Fairwinds Sewer, Surfside Sewer, and Cedar Sewer. These charges range from \$800 to \$8,000 per property, and are typically higher for small service areas where there are fewer properties. Capital Cost Charges in the Regional

District cannot be compared to those in nearby municipalities because the CCC is derived from the service area asset values alone rather than the entire municipality's asset values.

As shown in detail in Table 3, the total value of depreciated assets in San Pareil, minus the value of the depreciated Fire Service Area upgrades, and divided by the number of existing properties in the WSA results in a Capital Cost Charge of **\$7,386.30** per property.

Table 3 – San Pareil WSA Capital Cost Charge Calculation

| Category | No. of Units | Average Unit Replacement Cost | Approximate Useful Life (yrs) | Present (Depreciated) Value of Assets | Depreciated Fire Service Portion of Assets |
|---------------------|--------------|-------------------------------|-------------------------------|---------------------------------------|--|
| Alarm Systems | 2 | \$5,000.00 | 15 | \$ 10,000.00 | \$ 3,000.00 |
| Check Valves | 4 | \$5,000.00 | 40 | \$ 15,875.00 | \$ 8,500.00 |
| Chlorine System | 2 | \$5,000.00 | 25 | \$ 5,000.00 | |
| Electrical Controls | 2 | \$200,000.00 | 20 | \$ 178,500.00 | \$ 154,000.00 |
| Fencing | 1 | \$15,000.00 | 50 | \$ 9,300.00 | |
| Flushouts | 15 | \$3,000.00 | 40 | \$ 15,750.00 | \$ 5,100.00 |
| Generators | 1 | \$64,000.00 | 20 | \$ 54,400.00 | \$ 44,800.00 |
| HVAC | 1 | \$1,500.00 | 20 | \$ 7,750.00 | \$ 7,000.00 |
| Hydrants | 28 | \$3,500.00 | 40 | \$ 59,762.50 | \$ 55,250.00 |
| Pipes | 7473m | \$350/meter | 50 -80 yrs | \$ 1,328,403.68 | \$ 544,615.38 |
| Pump Stations | 2 | \$50,000.00 | 50 | \$ 52,000.00 | \$ 44,000.00 |
| Pumps | 11 | \$20,000.00 | 20 | \$ 110,250.00 | \$ 70,000.00 |
| Reservoirs | 2 | \$500,000.00 | 40 | \$ 450,000.00 | \$ 374,000.00 |
| Service Lines | 283 | \$1,000.00 | 50 | * | |
| Valves | 105 | \$2,000.00 | 40 | \$ 105,250.00 | \$ 53,040.00 |
| Water Meters | 282 | \$700.00 | 20 | * | |
| UV Treatment Equip. | 1 | \$800,000.00 | 20 | \$ 800,000.00 | |
| Wells | 3 | \$150,000.00 | 50 | \$ 244,000.00 | |
| Total | | | | \$ 3,446,241.18 | \$ 1,363,305.38 |

Subtract Fire Service Proj
Costs: **\$ 1,363,305.38**

Corrected Asset Value: **\$ 2,082,935.79**

Div by 282 existing
connections: 282

Capital Cost Charge per property to join LSA: \$ 7,386.30 per property

Reference: The Asset Values were taken from the RDN's Asset Management System (AMS) and are considered to be Class B estimates. The amortization method and asset life span were taken from recommendations in the "Guide to the Amortization of Tangible Capital

Assets", as published by the Ministry of Community Services.

* The values of the existing water service lines and water meters were not included in the total asset value of the water system for the purposes of establishing a Capital Cost Charge. Any new connections will be responsible for the cost of their own water service and water meter.

Other Cost Information

This Bylaw would establish a CCC to be payable by each of these properties if and when they are able to join the WSA and connect to the community water system. The CCC Bylaw is the first step in this process. For information only, the next steps (beyond the scope of this report) are described below:

1. Attain the residents' assent to pay for the construction costs for the water main extension. This cost is estimated at \$550,000, and if approved would be paid by the 42 properties currently outside the WSA.
2. Complete a Bylaw revision to adjust the boundaries of the WSA.
3. Complete the construction required to expand the system.
4. Connect residents to the new system upon request and upon receipt of the CCC payment. Residents are responsible for the cost of the water line from the RDN's water meter to their house, and the standard RDN fees payable for a new water connection.

ALTERNATIVES

1. Introduce, give three readings to, and adopt Bylaw No. 1781.
2. Do not introduce, give three readings to, or adopt Bylaw No. 1781. Provide alternate direction to staff.

FINANCIAL IMPLICATIONS

There are no negative financial implications to the RDN by establishing a CCC for the San Pareil WSA. The CCC would be charged to property owners at the time their properties are included within the water service area. If unpaid, the CCC would be applied to each property owner's building permit at the time he/she requests a connection to the water system. If no new properties are incorporated into the WSA, the bylaw remains in effect and there is no cost burden to the RDN or the existing water service area taxpayers.

There are two positive financial implications to the RDN and the residents of the San Pareil WSA with the establishment of a CCC. First, any CCC's paid would be added to reserves in the WSA, lessening the financial impact of future asset renewal projects. Second, as the number of properties in the WSA increases, the yearly tax requisition that pays for the operation of the community water system will be also be shared among that greater number of properties.

If a CCC for the San Pareil WSA is not established, there are no financial implications to the RDN. However, requests for new connections to the San Pareil WSA would continue to be received by the RDN, and staff would not be able to collect a fair "buy-in" cost on behalf of the existing San Pareil WSA customers.

STRATEGIC PLAN IMPLICATIONS

“Focus On Economic Health - We Recognize The Importance Of Water In Supporting Our Economic And Environmental Health“

The CCC Bylaw also aligns with two of the RDN Board’s governing principles:

1. **Be Fair and Equitable** where the cost of services should be shared as fairly as possible among those who benefit, and
2. **Be Responsive** by responding to the needs of the Region, and prioritizing projects that advance residents’ well-being.



Murray Walters
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December 14, 2018

Reviewed by:

- S. De Pol, Director, Water and Wastewater
- R. Alexander, General Manager, Regional and Community Utilities
- P. Carlyle, Chief Administrative Officer

Attachment:

1. San Pareil Water Supply Local Service Area Capital Charge Bylaw No. 1781, 2019