

# Port Renfrew Utility System

## 2021 Annual Report



**Drinking Water, Wastewater, Street Lighting and Refuse**

### **Introduction**

This report provides a summary of the Port Renfrew Utility Services for the year 2021 and includes a description of services and a summary of the water, sewer, street lighting, and refuse disposal services in terms of operations, maintenance, capital upgrades, and finances for each service.

### **Port Renfrew Utility Services Committee**

The Port Renfrew Utility Services Committee (PRUSC) has authority delegated by the Capital Regional District (CRD) Board for provision of water, sewer, street lighting and refuse disposal for the Port Renfrew community. Refuse disposal service is also provided to the Pacheedaht First Nation under a service delivery agreement. This Annual Report relates to the services provided under the authority of the PRUSC. Snuggery Cove Water Local Service (Debt Servicing) was created for the sole purpose of servicing debt relating to the expansion of the Port Renfrew water system to the Snuggery Cove area. The debt was paid off and the service budget was discontinued from 2021 onwards.

### **WATER SERVICE**

#### **Service Description**

The community of Port Renfrew, located in the Juan de Fuca Electoral Area of the CRD, is comprised of rural residential and commercial and institutional development. The Port Renfrew water service was originally owned by a forestry company and was transferred to the CRD in 1989 to service the Beach Camp area. In 2002, the water service area was extended to include the Snuggery Cove area and again in 2016 to include the lands to the south of Beach Camp. The water service consists of approximately 250 parcels, encompassing a total area of approximately 98.3 hectares. Of the 223 parcels, 315.6 Single Family Equivalents (SFE) were customers to the water system in 2021.



**Figure 1: Map of the Water Service Area**

The Port Renfrew water system is primarily comprised of:

- One groundwater well, related pumping and control equipment and building.
- Disinfection process equipment (chlorine) and an aeration tower/scrubber for hydrogen sulfide reduction to improve water taste and odour.
- Two steel storage tanks total combined volume is 888 cubic meters (or 235,000 US gallons).
- Distribution system: 4,400 metre network of 150 millimeters (mm) and 100 mm diameter asbestos cement (AC) water mains to the Beach Camp area and a 2,200 metres network of 150 mm and 100 mm polyvinyl chloride (PVC) water mains to the Snuggery Cove area.
- Other water system assets: 195 service connections, 25 hydrants and an auxiliary generator.

## Water Supply

2021 data shows that the water level in the winter, when at its highest, was 24 metres above the well pump, and in the summer at its lowest point was 15 metres above the pump. The water has an average temperature of 8.8°C (Celsius) which is 0.4°C higher than 2020, with a minimum temperature of 8.2°C, and a maximum temperature of 9.3°C.

## Water Production and Demand

Referring to Figure 2, 60,601 cubic meters of water was extracted (water production) from the well in 2021; a decrease of 7.5% over the previous year and 3% above the five year average. The monthly comparison of treated water volumes, produced for the years 2017 to 2021 inclusive, shows that there was a higher demand in August and September in 2021 than in the previous four years, before trending lower for the rest of the year.

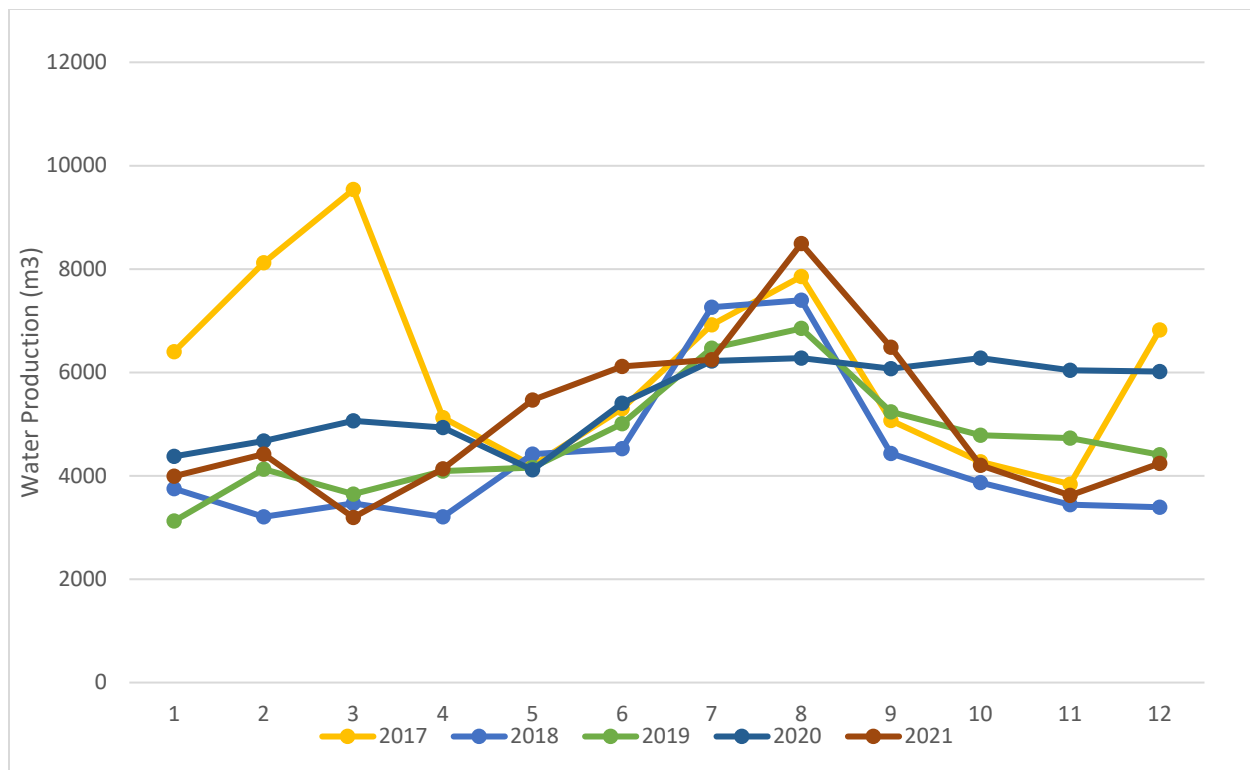


Figure 2: Water Service Monthly Water Production

## Drinking Water Quality

The analytical results (biological, chemical and physical parameters) of water samples collected in 2021 from the Port Renfrew water system indicate that the drinking water was generally of good quality and within Guidelines for Canadian Drinking Water Quality (GCDWQ) health-related regulatory and aesthetic limits, including disinfection by-products. There were two boil water advisories (BWA) in 2021 to protect the public health. One BWA was put in place on May 19 due to an *E.coli* positive lab result on one of the treated water samples in the distribution system. CRD emergency response procedures were immediately activated. After extensive flushing and resampling/retesting, the BWA was safely rescinded on May 22. The investigations were unable to reveal a cause for this *E.coli* result. Another BWA was required to protect customers from potential water contamination following the extreme rainfall event on November 14 and 15 which triggered flooding and inundation of portions of the water system headworks. After clean-up work and water testing with favourable results, the BWA was rescinded on November 19.

While the treated water temperature did exceed the aesthetic limit of 15°C during the summer months, this had no other negative impact on the drinking water quality.

Typical Port Renfrew drinking water quality characteristics for 2021 are summarized as follows:

### Raw Water

- Source water from the well was free of *E. coli* bacteria and only one sample had a very low concentration of total coliform bacteria.
- The well water was low in iron and manganese concentrations, slightly hard (mean hardness 41.4 mg/L) and had a neutral pH of 7.4.
- The median raw water turbidity was below the detection limit of 0.14 Nephelometric Turbidity unit (NTU).

#### Treated Water

- The water delivered to the customers was safe to drink throughout the year except for the two short periods when the system was under a BWA (May 19 to 22, November 15 to 19). Only three samples out of 122 compliance samples in the distribution system tested positive for total coliform bacteria outside the two BWA periods. Resamples were negative and therefore confirmed that no actual water contamination was the cause of the initial positive test results. One sample on May 18 tested positive for *E. coli* bacteria and led to one BWA.
- The mean annual free chlorine concentration in the distribution system was an acceptable 0.41 mg/L.
- The average annual disinfection by-product total concentrations for trihalomethanes (TTHM) and haloacetic acids (HAA) were well below the GCDWQ limit.

Table 1 and 2 below provide a summary of the 2021 raw and treated water test results.

Water Quality data collected from this drinking water system can also be reviewed on the CRD website:

<https://www.crd.bc.ca/about/data/drinking-water-quality-reports>

#### Water Service Operational Highlights

The following is a summary of the major operational issues that were addressed by CRD Integrated Water Services staff:

- Broken water meter at the fish plant.
- Water treatment plant clear well pressure transducer failure.
- Water treatment plant clear well flooded during storm event on November 15.
- Water valve riser installs to accommodate road work on Parkinson.

#### Water Service Capital Projects Update

The Capital Projects that were completed in 2021 include:

- Final completion of second water reservoir.

#### SEWER SERVICE

##### Service Description

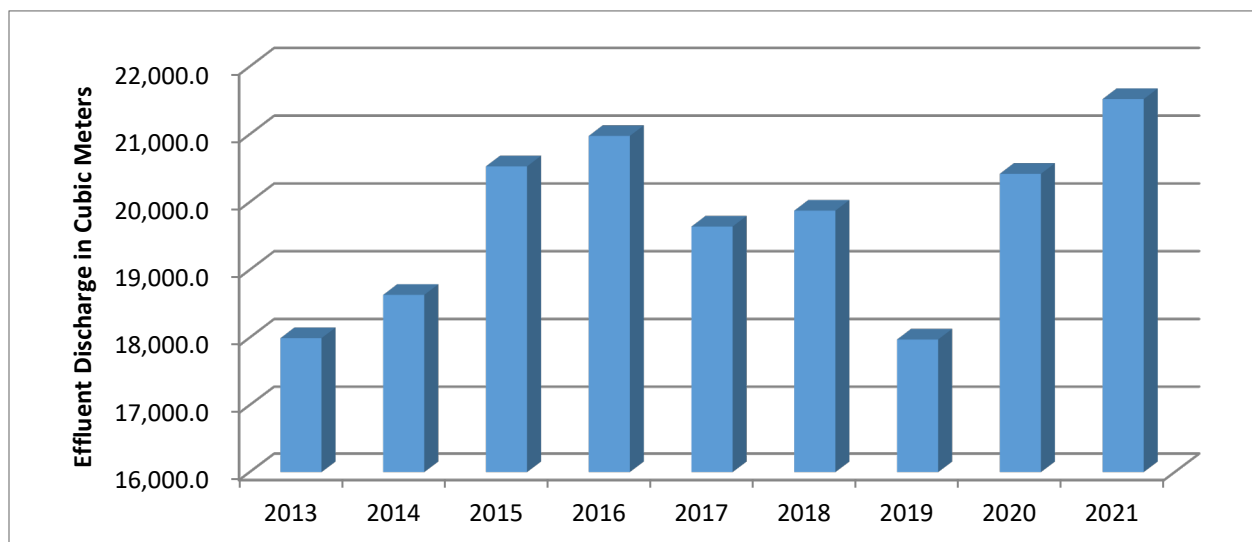
The Port Renfrew sewer system serves 88 properties in the Beach Camp and localized residential area below and has continued to operate reliably in the past year, although the wastewater treatment plant (WWTP) occasionally had difficulty processing peak flow events. The treatment process consists of an extended aeration facility and a steel outfall which discharges treated effluent to the San Juan River estuary under a Ministry of Environment permit. The 88 properties are comprised of 97.77 Single Family Equivalents (SFE's).



**Figure 3: Map of the Sewer Service Area**

A sewage volume of 21,521 cubic meters was treated and discharged in 2021 which equates to an average of 220 cubic meters/SFE. Sewage flows in Port Renfrew went up by 5% from 2020 which can be influenced by annual rainfall and tourist numbers. During the rainy season, inflow and infiltration water enters the sewer system through cracks and defects in the pipes and manholes that were installed in the 1960's.

Figure 4 shows Port Renfrew sewer flow trends over the last nine years.



**Figure 4: Port Renfrew Sewer Flow Trends**



## **Treated Effluent Discharge Quality**

### **Regulatory Compliance – Wastewater**

Flow and effluent quality are assessed for compliance with the provincial discharge permit on a daily and monthly basis, respectively. Mean daily flows in 2021 were similar to flow rates recorded since 2007; flow exceeded the permitted daily maximum four times in October and November, 2021, due to heavy rains. There were two total suspended solids (TSS) exceedances of the permitted effluent quality limits.

### **Receiving Water**

Routine receiving water monitoring was required at the Port Renfrew WWTP in 2020, but did not take place as planned. This monitoring is required every four years unless there are planned bypasses, plant failures/overflows, or wet weather overflows that exceed three days duration in the winter or one day duration in the summer. Sampling was conducted as shoreline marine monitoring in summer 2021. All results were below regulatory guidelines meaning that risk to human health was low.

## **Sewer Service Operational Highlights**

The following is a summary of the major operational issues that were addressed by CRD Integrated Water Services staff:

- Emergency back-up generator block heater replacement.
- Emergency repairs for blocked sewer on Alvarez Place.
- Treatment plant computer replacement.
- Blocked sewer investigation which was determined to be on the private property side and not in the collection system.

## **Sewer Service Capital Projects Update**

A structural assessment and upgrades were completed to the wet well, catwalks, and other items. A draft Options Analysis was prepared for future phased upgrades that will be required on the wastewater system, but it has not been finalized pending the outcome of future growth and planning in the area.

In future years it is expected that funds will need to be borrowed to replace parts of the aging sewer system and to increase the capacity of the treatment plant, to accommodate the increasing wastewater flows.

The WWTP Roof Replacement project has been delayed due to Covid-19 and the difficulty of finding a contractor to do this work.

## **Street Lighting Service**

Street lighting service is provided in the area of Port Renfrew known as Beach Camp. The street lights are operated and maintained by BC Hydro, and costs are recovered through a parcel tax and user charge on parcels in the area where the service is provided. There were no significant issues with this service in 2021.

## **Refuse Disposal Service**

The Port Renfrew Refuse Disposal service serves 332 properties (289 residential folios) within the service area and is funded through direct tax requisition based on the value of each property.

The Pacheedaht First Nation also utilizes the facility through a fee-for-service agreement. The tonnages of materials received and transferred at the Port Renfrew facility in 2021 are as follows:

|                          |                                |  |
|--------------------------|--------------------------------|--|
| Garbage                  |                                | 244 tonnes (21% increase from 2020)    |
| Recyclables              | Paper fibres                   | 23 tonnes (21% increase from 2020)     |
|                          | Glass/metal/plastic containers | 4 tonnes (20% decrease from 2020)      |
|                          | Polystyrene                    | 0.3 tonnes (50% increase from 2020)    |
|                          | Scrap metal                    | 37 tonnes (no change from 2020)        |
|                          | Kitchen scraps                 | 12 tonnes (20% decrease from 2020)     |
| <b>Total recyclables</b> |                                | <b>76 tonnes (no change from 2020)</b> |

## Financial Report

Please refer to the attached 2021 Statement of Operations and Reserve Balances for Port Renfrew Street Lighting, Water, Snuggery Cove Water, Sewer and Refuse Disposal services.

Revenue includes parcel taxes (Transfers from Government), fixed user fees (User Charges), Water Sales, interest on savings (Interest earnings), and miscellaneous revenue such as late payment charges (Other revenue).

Expenses include all costs for providing the services. General Government Services include budget preparation, financial management, utility billing and risk management services. CRD Labour and Operating Costs include CRD staff time as well as the cost of equipment, tools and vehicles. Debt servicing costs are interest and principal payments on long term debt. Other Expenses include all other costs to administer and operate the services, for example, insurance, supplies, water testing and electricity etc.

The difference between Revenue and Expenses is reported as Net revenue (expenses). Any transfers to or from capital or reserve funds for the service (Transfers to Own Funds) are deducted from this amount and added to any surplus or deficit carry forward from the prior year, yielding an Accumulated Surplus (or deficit) that is carried forward to the following year.

|               |   |
|---------------|---|
| Submitted by: | Matt McCrank, M.Sc., P.Eng., Senior Manager, Infrastructure Operations  |
|               | Ian Jesney, P.Eng., Senior Manager, Infrastructure Engineering          |
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| Concurrence   | Ted Robbins, B.Sc., C.Tech., General Manager, Integrated Water Services |

Attachment: 2021 Statement of Operations and Reserve Balances

For questions related to this Annual Report please email [IWSAdministration@crd.bc.ca](mailto:IWSAdministration@crd.bc.ca)

Table 1

| Table 1: 2021 Summary of Raw Water Test Results, Port Renfrew Water System |                  |                         |                  |       |      |                           |                     |                  |                 |
|--|------------------|-------------------------|------------------|-------|------|---------------------------|---------------------|------------------|-----------------|
| PARAMETER  |                  | 2021 ANALYTICAL RESULTS |                  |       |      | CANADIAN GUIDELINES       | 2011 - 2020 RESULTS |                  |                 |
| Parameter Name   | Units of Measure | Annual Median           | Samples Analyzed | Range |      | ≤ = Less than or equal to | Median              | Samples Analyzed | Range           |
|  |                  | Minimum                 | Maximum          |       |      |                           |                     |                  | Minimum-Maximum |
| ND means Not Detected by analytical method used                            |                  |                         |                  |       |      |                           |                     |                  |                 |
| Physical Parameters/Non-Metallic Inorganics                                |                  |                         |                  |       |      |                           |                     |                  |                 |
| Carbon, Total Organic  | mg/L             | 3.3                     | 4                | 0.46  | 43.0 |                           | 1.2                 | 19               | ND - 26.0       |
| Hardness as CaCO3  | mg/L             | 41.4                    | 4                | 38.8  | 47.8 | No Guideline Required     | 40.1                | 24               | 7.71 - 47.3     |
| pH   | pH units         | 7.4                     | 14               | 7.0   | 7.7  | 6.5 - 8.5 AO              | 8.20                | 30               | 6.6 - 8.5       |
| Turbidity  | NTU              | ND                      | 11               | ND    | ND   |                           | 0.14                | 26               | ND - 0.73       |
| Water Temperature  | °C               | 8.2                     | 17               | 7.9   | 9.4  | >15 AO                    | 9                   | 92               | 5.0 - 12.1      |
| Microbial Parameters   |                  |                         |                  |       |      |                           |                     |                  |                 |
| Indicator Bacteria and Turbidity   |                  |                         |                  |       |      |                           |                     |                  |                 |
| Coliform, Total  | CFU/100 mL       | ND                      | 17               | ND    | 1    |                           | ND                  | 114              | ND - 2          |
| E. coli  | CFU/100 mL       | ND                      | 17               | ND    | ND   |                           | ND                  | 114              | ND              |
| Metals   |                  |                         |                  |       |      |                           |                     |                  |                 |
| Aluminum   | ug/L as Al       | 6.75                    | 4                | 6.2   | 7.6  | 2900 MAC / 100 OG         | 7.8                 | 24               | 6.0 - 123       |
| Antimony   | ug/L as Sb       | ND                      | 4                | ND    | ND   | 6 MAC                     | ND                  | 24               | ND - 1.30       |
| Arsenic  | ug/L as As       | 0.13                    | 4                | 0.12  | 0.16 | 10 MAC                    | ND                  | 24               | ND - 0.14       |
| Barium   | ug/L as Ba       | 1.1                     | 4                | ND    | 1.3  | 1000 MAC                  | 1.20                | 24               | ND - 1.40       |
| Beryllium  | ug/L as Be       | ND                      | 4                | ND    | ND   |                           | ND                  | 24               | ND              |
| Bismuth  | ug/L as Bi       | ND                      | 4                | ND    | ND   |                           | ND                  | 18               | ND              |
| Boron  | ug/L as B        | 113.5                   | 4                | 102   | 120  | 5000 MAC                  | 106                 | 24               | ND - 943        |
| Cadmium  | ug/L as Cd       | ND                      | 4                | ND    | ND   | 5 MAC                     | ND                  | 24               | ND - 0.19       |
| Calcium  | mg/L as Ca       | 7.22                    | 4                | 6.89  | 8.39 | No Guideline Required     | 7.1                 | 24               | 2.63 - 8.34     |
| Chromium   | ug/L as Cr       | ND                      | 4                | ND    | ND   | 50 MAC                    | ND                  | 24               | ND              |
| Cobalt   | ug/L as Co       | ND                      | 4                | ND    | ND   |                           | ND                  | 24               | ND              |
| Copper   | ug/L as Cu       | ND                      | 4                | ND    | ND   | 2000 MAC / ≤ 1000 AO      | 0.79                | 24               | ND - 48.0       |
| Iron   | ug/L as Fe       | ND                      | 4                | ND    | ND   | ≤ 300 AO                  | 6.1                 | 24               | ND - 80.0       |
| Lead   | ug/L as Pb       | ND                      | 4                | ND    | ND   | 5 MAC                     | ND                  | 24               | ND              |
| Lithium  | ug/L as Li       | ND                      | 4                | ND    | ND   |                           | ND                  | 4                | ND              |
| Magnesium  | mg/L as Mg       | 5.69                    | 4                | 5.25  | 6.52 | No Guideline Required     | 5.5                 | 24               | 0.08 - 6.62     |
| Manganese  | ug/L as Mn       | 10.1                    | 4                | 9.5   | 11.4 | 120 MAC / ≤ 20 AO         | 10.0                | 24               | ND - 12.1       |
| Molybdenum   | ug/L as Mo       | ND                      | 4                | ND    | ND   |                           | ND                  | 24               | ND              |
| Nickel   | ug/L as Ni       | ND                      | 4                | ND    | ND   |                           | ND                  | 24               | ND              |
| Potassium  | mg/L as K        | 3.33                    | 4                | 3.19  | 3.73 |                           | 3.37                | 24               | 0.20 - 6.63     |
| Sulphur  | mg/L as S        | ND                      | 4                | ND    | 4.0  |                           | ND                  | 18               | ND - 3.7        |
| Selenium   | ug/L as Se       | 0.19                    | 4                | 0.13  | 2.95 | 50 MAC                    | 0.195               | 24               | ND - 3.04       |
| Silicon  | mg/L             | 4.44                    | 4                | 4.12  | 4.58 |                           | 4.32                | 24               | 1.03 - 7.12     |
| Silver   | ug/L as Ag       | ND                      | 4                | ND    | ND   | No Guideline Required     | ND                  | 24               | ND              |
| Sodium   | mg/L as Na       | 27.8                    | 4                | 25.2  | 32.2 | ≤ 200 AO                  | 26.8                | 24               | 19.1 - 38.2     |
| Strontium  | ug/L as Sr       | 53.8                    | 4                | 48.8  | 64.5 | 7000 MAC                  | 52.1                | 24               | 34.0 - 82.0     |
| Tin  | ug/L as Sn       | ND                      | 4                | ND    | ND   |                           | ND                  | 24               | ND              |
| Titanium   | ug/L as Ti       | ND                      | 4                | ND    | ND   |                           | ND                  | 24               | ND              |
| Thallium   | ug/L as Tl       | ND                      | 4                | ND    | ND   |                           | ND                  | 18               | ND              |
| Uranium  | ug/L as U        | ND                      | 4                | ND    | ND   | 20 MAC                    | ND                  | 18               | ND              |
| Vanadium   | ug/L as V        | ND                      | 4                | ND    | ND   |                           | ND                  | 24               | ND - 22.0       |
| Zinc   | ug/L as Zn       | ND                      | 4                | ND    | ND   | ≤ 5000 AO                 | ND                  | 24               | ND - 136        |
| Zirconium  | ug/L as Zr       | ND                      | 4                | ND    | ND   |                           | ND                  | 18               | ND              |



Table 2

| Table 2: 2021 Summary of Treated Water Test Results, Port Renfrew Water System |                  |                         |                  |                 |      |                           |                     |                  |                 |
|--|------------------|-------------------------|------------------|-----------------|------|---------------------------|---------------------|------------------|-----------------|
| PARAMETER  |                  | 2021 ANALYTICAL RESULTS |                  |                 |      | CANADIAN GUIDELINES       | 2011 - 2020 RESULTS |                  |                 |
| Parameter Name   | Units of Measure | Annual Median           | Samples Analyzed | Range Min. Max. |      | ≤ = Less than or equal to | Median              | Samples Analyzed | Range Min.-Max. |
| ND means Not Detected by analytical method used                                |                  |                         |                  |                 |      |                           |                     |                  |                 |
| Physical Parameters/Non-Metallic Inorganics                                    |                  |                         |                  |                 |      |                           |                     |                  |                 |
| Carbon, Total Organic  | mg/L as C        | 1.7                     | 4                | 0.48            | 6.7  |                           | 0.53                | 29               | ND - 15.0       |
| Hardness as CaCO3  | mg/L             | 41.4                    | 4                | 39.0            | 48.0 | No Guideline Required     | 40.5                | 21               | 22.9 - 47.6     |
| pH   | pH units         | 7.3                     | 14               | 7.1             | 7.4  | 6.5 - 8.5 AO              | 7.6                 | 19               | 6.9 - 8.3       |
| Turbidity  | NTU              | 0.2                     | 7                | ND              | 0.25 |                           | 0.16                | 13               | ND - 0.31       |
| Water Temperature  | degrees C        | 10.3                    | 391              | 2.2             | 18.4 |                           | 13.1                | 446              | 2.80 - 24.1     |
| Microbial Parameters   |                  |                         |                  |                 |      |                           |                     |                  |                 |
| Microbial Parameters   |                  |                         |                  |                 |      |                           |                     |                  |                 |
| Coliform, Total  | CFU/100 mL       | ND                      | 122              | ND              | 26   | 0 MAC                     | ND                  | 439              | ND - 2          |
| E. coli  | CFU/100 mL       | ND                      | 112              | ND              | 2    | 0 MAC                     | ND                  | 439              | ND              |
| Hetero. Plate Count, 7 day   | CFU/1 mL         | 60                      | 7                | ND              | 390  | No Guideline Required     | 50                  | 8                | 10 - 100        |
| Disinfectants  |                  |                         |                  |                 |      |                           |                     |                  |                 |
| Chlorine, Free Residual  | mg/L as Cl2      | 0.41                    | 433              | 0.03            | 1.06 | No Guideline Required     | 0.38                | 1111             | 0.1 - 1.84      |
| Chlorine, Total Residual   | mg/L as Cl2      | Not tested in 2021      |                  |                 |      | No Guideline Required     | 0.44                | 802              | 0.05 - 1.41     |
| Disinfection By-Products   |                  |                         |                  |                 |      |                           |                     |                  |                 |
| Trihalomethanes (THMs)   |                  |                         |                  |                 |      |                           |                     |                  |                 |
| Bromodichloromethane   | ug/L             | 17.0                    | 4                | 15.0            | 18.0 |                           | 17.0                | 24               | 1.94 - 26.7     |
| Bromoform  | ug/L             | 10.5                    | 4                | 5.3             | 20.0 |                           | 7.9                 | 24               | ND - 20.7       |
| Chloroform   | ug/L             | 9.35                    | 4                | 8.4             | 11.0 |                           | 9.75                | 24               | 1.84 - 16.7     |
| Chlorodibromomethane   | ug/L             | 29.5                    | 4                | 20.0            | 36.0 |                           | 23.0                | 24               | ND - 40.3       |
| Total Trihalomethanes  | ug/L             | 67.5                    | 4                | 50.0            | 82.0 | 100 MAC                   | 57.5                | 24               | 3.78 - 98.8     |
| Haloacetic Acids (HAAs)  |                  |                         |                  |                 |      |                           |                     |                  |                 |
| HAA5   | ug/L             | 8.4                     | 4                | ND              | 12.0 | 80 MAC                    |                     |                  |                 |
| Metals   |                  |                         |                  |                 |      |                           |                     |                  |                 |
| Aluminum   | ug/L as Al       | 7.65                    | 4                | 6.6             | 8.1  | 2900 MAC / 100 OG         | 8.8                 | 21               | 6.5 - 102       |
| Antimony   | ug/L as Sb       | ND                      | 4                | ND              | ND   | 6 MAC                     | ND                  | 21               | ND - 1.25       |
| Arsenic  | ug/L as As       | 0.14                    | 4                | 0.12            | 0.15 | 10 MAC                    | 0.14                | 21               | ND - 0.11       |
| Barium   | ug/L as Ba       | 1.65                    | 4                | 1.5             | 1.7  | 1000 MAC                  | 1.7                 | 21               | 1.0 - 26.0      |
| Beryllium  | ug/L as Be       | ND                      | 4                | ND              | ND   |                           | ND                  | 21               | ND              |
| Bismuth  | ug/L as Bi       | ND                      | 4                | ND              | ND   |                           | ND                  | 21               | ND              |
| Boron  | ug/L as B        | 115                     | 4                | 104             | 117  | 5000 MAC                  | 106                 | 21               | ND - 505        |
| Cadmium  | ug/L as Cd       | ND                      | 4                | ND              | ND   | 5 MAC                     | ND                  | 21               | ND              |
| Calcium  | mg/L as Ca       | 7.49                    | 4                | 7.11            | 8.81 | No Guideline Required     | 7.46                | 21               | 2.36 - 8.7      |
| Chromium   | ug/L as Cr       | ND                      | 4                | ND              | ND   | 50 MAC                    | ND                  | 21               | ND              |
| Cobalt   | ug/L as Co       | ND                      | 4                | ND              | ND   |                           | ND                  | 21               | ND              |
| Copper   | ug/L as Cu       | 2.53                    | 4                | 1.5             | 2.77 | 2000 MAC / ≤ 1000 AO      | 2.81                | 21               | 0.20 - 136      |
| Iron   | ug/L as Fe       | 9.9                     | 4                | 6.1             | 14.7 | ≤ 300 AO                  | 16.0                | 21               | ND - 221.0      |
| Lead   | ug/L as Pb       | ND                      | 4                | ND              | 0.3  | 5 MAC                     | ND                  | 21               | ND - 0.79       |
| Lithium  | ug/L as Li       | ND                      | 4                | ND              | ND   |                           | ND                  | 3                | ND              |
| Magnesium  | mg/L as Mg       | 5.5                     | 4                | 5.16            | 6.32 | No Guideline Required     | 5.38                | 21               | 4.14 - 6.28     |
| Manganese  | ug/L as Mn       | 6.3                     | 4                | 4.4             | 8.0  | 120 MAC / ≤ 20 AO         | 6.9                 | 21               | 2.70 - 217.0    |
| Molybdenum   | ug/L as Mo       | ND                      | 4                | ND              | ND   |                           | ND                  | 21               | ND              |
| Nickel   | ug/L as Ni       | ND                      | 4                | ND              | ND   |                           | ND                  | 21               | ND              |
| Potassium  | mg/L as K        | 3.36                    | 4                | 3.1             | 3.61 |                           | 3.33                | 21               | 2.55 - 22.1     |
| Selenium   | ug/L as Se       | ND                      | 4                | ND              | ND   | 50 MAC                    | ND                  | 21               | ND - 0.82       |
| Sulphur  | mg/L as S        | ND                      | 4                | ND              | ND   |                           | ND                  | 16               | ND              |
| Silver   | ug/L as Ag       | ND                      | 4                | ND              | ND   | No Guideline Required     | ND                  | 21               | ND              |
| Sodium   | mg/L as Na       | 31.3                    | 4                | 29.9            | 36.0 | ≤ 200 AO                  | 30.2                | 21               | 23.1 - 82.6     |
| Silicon  | mg/L             | 4.43                    | 4                | 4.15            | 4.60 |                           | 4.32                | 21               | 0.98 - 5.00     |
| Strontium  | ug/L as Sr       | 54.7                    | 4                | 48.3            | 65.6 | 7000 MAC                  | 51.6                | 21               | 34.0 - 60.9     |
| Tin  | ug/L as Sn       | ND                      | 4                | ND              | ND   |                           | ND                  | 21               | ND              |
| Thallium   | ug/L as Tl       | ND                      | 4                | ND              | ND   |                           | ND                  | 16               | ND              |
| Titanium   | ug/L as Ti       | ND                      | 4                | ND              | ND   |                           | ND                  | 21               | ND              |
| Uranium  | ug/L as U        | ND                      | 4                | ND              | ND   | 20 MAC                    | ND                  | 16               | ND              |
| Vanadium   | ug/L as V        | ND                      | 4                | ND              | ND   |                           | ND                  | 21               | ND              |
| Zinc   | ug/L as Zn       | ND                      | 4                | ND              | 12.5 | ≤ 5000 AO                 | 3.90                | 21               | 2.0 - 17.2      |
| Zirconium  | ug/L as Zr       | ND                      | 4                | ND              | ND   |                           | ND                  | 16               | ND - 0.12       |

## CAPITAL REGIONAL DISTRICT

### PORT RENFREW WATER

#### Statement of Operations (Unaudited)

For the Year Ended December 31, 2021

|   | 2021           | 2020           |
|---|----------------|----------------|
| <b>Revenue</b>                                    |                |                |
| Transfers from government                         | 60,016         | 58,327         |
| User Charges                                      | 60,200         | 59,752         |
| Water Sales                                       | -              | 500            |
| Other revenue from own sources:                   |                |                |
| Insurance Settlement                              | -              | 24,748         |
| Interest earnings                                 | -              | 50             |
| Other revenue                                     | 833            | 1,151          |
| <b>Total Revenue</b>                              | <b>121,049</b> | <b>144,527</b> |
| <b>Expenses</b>                                   |                |                |
| General government services                       | 5,540          | 5,401          |
| Contract for Services                             | 3,158          | 19,253         |
| CRD Labour and Operating costs                    | 92,956         | 94,317         |
| Other expenses                                    | 17,341         | 22,038         |
| <b>Total Expenses</b>                             | <b>118,995</b> | <b>141,008</b> |
| <b>Net revenue (expenses)</b>                     | <b>2,054</b>   | <b>3,519</b>   |
| Transfers to own funds:                           |                |                |
| Capital Reserve Fund                              | 54             | 1,519          |
| Operating Reserve Fund                            | 2,000          | 2,000          |
| <b>Annual surplus/(deficit)</b>                   | <b>-</b>       | <b>-</b>       |
| Accumulated surplus/(deficit), beginning of year  | -              | -              |
| <b>Accumulated surplus/(deficit), end of year</b> | <b>\$ -</b>    | <b>-</b>       |

## CAPITAL REGIONAL DISTRICT

### PORT RENFREW WATER Statement of Reserve Balances (Unaudited) For the Year Ended December 31, 2021

|   | Capital Reserve |               |
|---|-----------------|---------------|
|   | 2021            | 2020          |
| <b>Beginning Balance</b>                  | 80,799          | 72,955        |
| Transfer from Operating Budget            | 54              | 1,519         |
| Transfers from Completed Capital Projects | 5,484           | 4,848         |
| Transfer to Capital Projects              | (35,093)        | -             |
| Interest Income                           | 1,256           | 1,478         |
| <b>Ending Balance</b>                     | <b>52,500</b>   | <b>80,799</b> |

|                                | Operating Reserve |              |
|--------------------------------|-------------------|--------------|
|                                | 2021              | 2020         |
| <b>Beginning Balance</b>       | 2,021             | -            |
| Transfer from Operating Budget | 2,000             | 2,000        |
| Transfer to Operating Budget   | -                 | -            |
| Interest Income                | 50                | 21           |
| <b>Ending Balance</b>          | <b>4,071</b>      | <b>2,021</b> |

## CAPITAL REGIONAL DISTRICT

### SNUGGERY COVE WATER

#### Statement of Operations (Unaudited)

For the Year Ended December 31, 2021

Discontinued in 2020

|   | 2021        | 2020     |
|---|-------------|----------|
| <b>Revenue</b>                                    |             |          |
| Transfers from government                         | -           | (8,034)  |
| Other revenue from own sources:                   |             |          |
| Transfer from capital fund                        | -           | -        |
| Other revenue                                     | -           | -        |
| <b>Total Revenue</b>                              | -           | (8,034)  |
| <b>Expenses</b>                                   |             |          |
| General government services                       | -           | -        |
| Debt Servicing Costs                              | -           | -        |
| Other Expenses                                    | -           | -        |
| <b>Total Expenses</b>                             | -           | -        |
| <b>Annual surplus/(deficit)</b>                   | -           | (8,034)  |
| Accumulated surplus/(deficit), beginning of year  | -           | 8,034    |
| <b>Accumulated surplus/(deficit), end of year</b> | <b>\$ -</b> | <b>-</b> |

## CAPITAL REGIONAL DISTRICT

### PORT RENFREW SEWER

#### Statement of Operations (Unaudited)

For the Year Ended December 31, 2021

|   | 2021           | 2020           |
|---|----------------|----------------|
| <b>Revenue</b>                                    |                |                |
| Transfers from government                         | 59,456         | 48,210         |
| User Charges                                      | 57,308         | 48,724         |
| Recovery Cost                                     | 2,744          | -              |
| Other revenue from own sources:                   |                |                |
| Interest earnings                                 | 9              | 44             |
| Grants  | -              | 13,470         |
| Other revenue                                     | 1,145          | 1,083          |
| <b>Total Revenue</b>                              | <b>120,661</b> | <b>111,531</b> |
| <b>Expenses</b>                                   |                |                |
| General government services                       | 4,260          | 3,764          |
| Contract for Services                             | 3,148          | 19,080         |
| CRD Labour and Operating costs                    | 85,381         | 70,154         |
| Other expenses                                    | 23,634         | 20,736         |
| <b>Total Expenses</b>                             | <b>116,424</b> | <b>113,733</b> |
| <b>Net revenue (expenses)</b>                     | <b>4,238</b>   | <b>(2,202)</b> |
| Transfers to own funds:                           |                |                |
| Capital Reserve Fund                              | 2,035          | -              |
| <b>Annual surplus/(deficit)</b>                   | <b>2,202</b>   | <b>(2,202)</b> |
| Accumulated surplus/(deficit), beginning of year  | (2,202)        | -              |
| <b>Accumulated surplus/(deficit), end of year</b> | <b>\$ -</b>    | <b>(2,202)</b> |

## CAPITAL REGIONAL DISTRICT

### PORT RENFREW SEWER

#### Statement of Reserve Balances (Unaudited)

For the Year Ended December 31, 2021

|   | Capital Reserve |               |
|---|-----------------|---------------|
|   | 2021            | 2020          |
| <b>Beginning Balance</b>                  | 21,548          | 19,828        |
| Transfer from Operating Budget            | 2,035           | -             |
| Transfers from Completed Capital Projects | 3,849           | 1,310         |
| Transfer to Capital Projects              | (20,000)        | -             |
| Interest Income                           | 180             | 410           |
| <b>Ending Balance</b>                     | <b>7,612</b>    | <b>21,548</b> |

|                                | Operating Reserve |           |
|--------------------------------|-------------------|-----------|
|                                | 2021              | 2020      |
| <b>Beginning Balance</b>       | 21                | -         |
| Transfer from Operating Budget | -                 | -         |
| Transfer from Reserves         | 305               | -         |
| Transfer to Operating Budget   | -                 | -         |
| Interest Income                | 23                | 21        |
| <b>Ending Balance</b>          | <b>349</b>        | <b>21</b> |



## CAPITAL REGIONAL DISTRICT

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### PORT RENFREW STREET LIGHTING

#### Statement of Operations (Unaudited)

#### For the Year Ended December 31, 2021

|   | 2021            | 2020         |
|---|-----------------|--------------|
| <b>Revenue</b>                                    |                 |              |
| Transfers from government                         | 3,321           | 3,763        |
| User Charges                                      | 3,071           | 3,017        |
| Other revenue from own sources:                   |                 |              |
| Interest earnings                                 | 20              | 30           |
| Other revenue                                     | 281             | 326          |
| <b>Total Revenue</b>                              | <b>6,693</b>    | <b>7,135</b> |
| <b>Expenses</b>                                   |                 |              |
| General government services                       | 425             | 404          |
| Electricity                                       | 6,813           | 6,455        |
| Other expenses                                    | 83              | 72           |
| <b>Total Expenses</b>                             | <b>7,321</b>    | <b>6,930</b> |
| <b>Net revenue (expenses)</b>                     | <b>(628)</b>    | <b>205</b>   |
| <b>Annual surplus/(deficit)</b>                   | <b>(628)</b>    | <b>205</b>   |
| Accumulated surplus/(deficit), beginning of year  | 2,148           | 1,943        |
| <b>Accumulated surplus/(deficit), end of year</b> | <b>\$ 1,520</b> | <b>2,148</b> |

## CAPITAL REGIONAL DISTRICT

### PORT RENFREW REFUSE

#### Statement of Operations (Unaudited)

For the Year Ended December 31, 2021

|   | 2021          | 2020          |
|---|---------------|---------------|
| <b>Revenue</b>                                    |               |               |
| Transfers from government                         | 33,324        | 32,855        |
| Recovery from Pacheedaht FN                       | 36,137        | 35,159        |
| Recovery from CRD Solid Waste                     | 15,590        | 15,330        |
| Recyclables Sales                                 | 14,351        | 3,452         |
| Other revenue from own sources:                   |               |               |
| Interest earnings                                 | 23            | 66            |
| Other revenue                                     | 334           | 305           |
| <b>Total Revenue</b>                              | <b>99,759</b> | <b>87,167</b> |
| <b>Expenses</b>                                   |               |               |
| General government services                       | 3,867         | 3,419         |
| Contract for Services                             | 89,287        | 74,007        |
| Utilities & Telecommunications                    | 1,796         | 1,860         |
| Other expenses                                    | 402           | 123           |
| <b>Total Expenses</b>                             | <b>95,352</b> | <b>79,409</b> |
| <b>Net revenue (expenses)</b>                     | <b>4,407</b>  | <b>7,758</b>  |
| Transfers to own funds:                           |               |               |
| Capital Reserve Fund                              | 4,000         | 4,704         |
| Equipment Replacement Fund                        | 407           | 3,054         |
| <b>Annual surplus/(deficit)</b>                   | <b>-</b>      | <b>-</b>      |
| Accumulated surplus/(deficit), beginning of year  | -             | -             |
| <b>Accumulated surplus/(deficit), end of year</b> | <b>\$ -</b>   | <b>-</b>      |

## CAPITAL REGIONAL DISTRICT

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### PORT RENFREW REFUSE

#### Statement of Reserve Balances (Unaudited)

For the Year Ended December 31, 2021

|                                | <b>Capital Reserve</b> |               |
|--------------------------------|------------------------|---------------|
|                                | <b>2021</b>            | <b>2020</b>   |
| <b>Beginning Balance</b>       | 73,400                 | 67,364        |
| Transfer from Operating Budget | 4,000                  | 4,704         |
| Transfer to Capital Projects   | (23,000)               | -             |
| Interest Income                | 860                    | 1,332         |
| <b>Ending Balance</b>          | <b>55,260</b>          | <b>73,400</b> |

|                                | <b>Equipment Replacement Fund</b> |               |
|--------------------------------|-----------------------------------|---------------|
|                                | <b>2021</b>                       | <b>2020</b>   |
| <b>Beginning Balance</b>       | 37,222                            | 33,851        |
| Transfer from Operating Budget | 407                               | 3,054         |
| Purchases from ERF             | -                                 | -             |
| Interest Income                | 242                               | 317           |
| <b>Ending Balance</b>          | <b>37,871</b>                     | <b>37,222</b> |