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PORT RENFREW UTILITY SERVICES COMMITTEE
Notice of Meeting on **Tuesday, June 28, 2022 at 3:00 p.m.**
Goldstream Conference Room, 479 Island Highway, Victoria, BC

For members of the **public who wish to listen to the meeting** via telephone please call **1-833-353-8610** and enter the **Participant Code 1911461 followed by #.** You will not be heard in the meeting room but will be able to listen to the proceedings.

C. Welham (Chair) | M. Hicks, Electoral Area Director | Q. MacDonald | D. Quigley

AGENDA

1. **APPROVAL OF AGENDA**

2. **ADOPTION OF MINUTES** 3

   ***Recommendation**: That the minutes of the February 22, 2022 meeting be adopted.*

3. **CHAIR'S REMARKS**

4. **PRESENTATIONS/DELEGATIONS**

   The public are welcome to attend Committee meetings in-person.

   Delegations will have the option to participate electronically. Please complete the online application for "Addressing the Board" on our website and staff will respond with details.

   Alternatively, you may email your comments on an agenda item to the Port Renfrew Utility Services Committee at iwsadministration@crd.bc.ca.

   Requests must be received no later than 4:30 p.m. two calendar days prior to the meeting.

5. **SENIOR MANAGER'S REPORT**
   - Bylaw No. 4451 – A Bylaw to Amend Appointment for the Port Renfrew Utility Services Committee (Bylaw No. 3281)
   - Verbal discussion to introduce draft Local Service Area Water Conservation Bylaw

6. **COMMITTEE BUSINESS**

   6.1. Project and Operations Update 6

   There is no recommendation. This report is for information only.

   6.2. 2021 Annual Report 10

   There is no recommendation. This report is for information only.

7. **CORRESPONDENCE**

*To ensure quorum, advise **Mikayla Risvold 250.474.9518** if you cannot attend.*

IWSS-297445977-9391

8. NEW BUSINESS

9. ADJOURNMENT

Next Meeting: November 2022

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MINUTES OF A MEETING OF THE Port Renfrew Utility Services Committee, held Tuesday, February 22, 2022 at 3:00 p.m., In the Goldstream Meeting Room, 479 Island Highway, Victoria, BC

PRESENT: **Committee Members:** C. Welham (Chair); M. Hicks, Electoral Area Director; D. Quigley (EP)

Staff: M. McCrank, Senior Manager, Wastewater Infrastructure Operations; D. Puskas, Manager, Capital Projects; T. Watkins, Manager, Solid Waste Operations (EP); Joseph Marr, Acting Senior Manager, Infrastructure Engineering; T. Duthie, Manager, Administrative Services; M. Risvold, Committee and Administrative Clerk (Recorder)

REGRETS: Q. MacDonald

EP = Electronic Participation

The meeting was called to order at 3:00.

1. ELECTION OF CHAIR

The Senior Manager called for nominations for the position of Chair of the Port Renfrew Utility Services Committee for 2022.

D. Quigley nominated C. Welham. C. Welham accepted the nomination.

The Senior Manager called for nominations a second time.

The Senior Manager called for nominations a third and final time.

Hearing no further nominations, the Senior Manager declared C. Welham Chair of the Port Renfrew Utility Services Committee for 2022 by acclamation.

2. APPROVAL OF AGENDA

MOVED by M. Hicks, **SECONDED** by D. Quigley,
That the agenda be approved.

CARRIED

3. ADOPTION OF MINUTES

MOVED by D. Quigley, **SECONDED** by M. Hicks,
That the minutes of the following meetings be adopted:

- November 27, 2020 – Special Meeting
- October 25, 2021

CARRIED

4. CHAIR'S REMARKS

The Chair thanked everyone for attending the meeting.

5. PRESENTATIONS/DELEGATIONS

There were no presentations or delegations.

6. SENIOR MANAGER'S REPORT

M. McCrank provided the committee meeting schedule for the year, advising there will be three meetings held in 2022. The meetings will be held in the months of February, June and in the Fall. Additional meetings remain at the call of the Chair.

7. COMMITTEE BUSINESS

7.1. Project and Operations Update

T. Watkins provided a Capital Projects update for Port Renfrew Refuse Disposal.

Staff advised the fencing project is for the front gate access to the transfer station to control after hour's use, and an attempt to control bears accessing the area.

D. Puskas provided a Capital Projects update for Port Renfrew Water.

Staff responded to a question from the committee in regard to the Hydrant Replacement Program. Staff advised they will investigate the hydrant replacement locations to determine if the current locations are ideal or if the hydrants should be placed elsewhere. Staff will review the possibility of having a hydrant added near the marina as there is currently not a hydrant close by.

Staff responded to a question from the committee in regard to the alternative approval process (AAP), and advised there is a section of asbestos cement (AC) pipe that requires replacement. An AAP is in the current operating and capital budget plan to seek elector consent to borrow funds for the replacement. The Electoral Area Director committed to contributing Community Works Funds (CWF) to fund the design for the remainder of the supply line and section of AC pipe replacement in Beach Camp.

MOVED by C. Welham, **SECONDED** by D. Quigley,
That the Port Renfrew Utility Services Committee direct staff to apply for Community Works Funds to fund the design for the remainder of the supply line and section of AC pipe replacement in Beach Camp, for a maximum of $40,000.

CARRIED

D. Puskas provided a Capital Projects update for Port Renfrew Sewer.

Staff responded to a question from the Committee regarding the genset upgrade, advising the existing genset only provides power for the influent pumps. A new genset is required to provide standby power for the entire Wastewater Treatment Plant (WWTP).

Staff advised the outfall has been covered by river sediments in previous years. The WWTP is currently in compliance and costs have been recently over budget on the operational side. Questions have been raised by the Federal Government regarding shellfish closures in the San Juan area, which was determined to be due to the WWTP. A phased approach to upgrades is being proposed as there will likely be regulatory and financial pressure in the future. Discussion ensued.

Operational Update

M. McCrank provided the operational update.

Discussion ensued regarding Emergency response repairing a watermain that had been struck by a third party contractor installing culverts across Parkinson's Road.

MOVED by M. Hicks, **SECONDED** by D. Quigley,
The Port Renfrew Utility Services Committee receives this report for information.

CARRIED

8. CORRESPONDENCE

There was no correspondence.

9. NEW BUSINESS

Discussion ensued regarding the Port Renfrew snow plow.

10. ADJOURNMENT

MOVED by M. Hicks, **SECONDED** by D. Quigley,
That the February 22, 2022 meeting be adjourned at 4:03.

CARRIED

_____
CHAIR

_____
SECRETARY

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REPORT TO PORT RENFREW UTILITY SERVICES COMMITTEE
MEETING OF TUESDAY, JUNE 28, 2022

SUBJECT **Capital Project Status Reports and Operational Updates – June 2022**

ISSUE SUMMARY

To provide the Port Renfrew Utility Services Committee with capital project status reports and operational updates.

BACKGROUND

The Port Renfrew Water System is located on the west coast of Vancouver Island in the Juan de Fuca Electoral Area and provides drinking water to approximately 187 customers in a part of the Town of Port Renfrew, known as Beach Camp and Snuggery Cove. Capital Regional District (CRD) Integrated Water Services is responsible for the overall operation of the water system with day-to-day operation and maintenance, design and construction of water system facilities provided by the CRD Infrastructure Engineering and Operations Divisions. The quality of drinking water provided to customers in the Port Renfrew Water System is overseen by the CRD Water Quality Division.

CAPITAL PROJECT UPDATE

Port Renfrew Refuse Disposal

19-02 | Fencing

Project Description: Replace aged site fencing and install access gate.

Project Rationale: Fencing for the transfer station passed its useful life and was replaced in 2021. Phase two of the fence work entails the installation of a gate to control access to the site in accordance with the CRD's contractual requirements with Recycle BC, the organization that funds the collection of packaging and printed products at the facility.

Due to the high cost of the work, the installation of the gate was deferred to 2022 for budgetary reasons and is expected to be complete by September.

Project Update and Milestones:

Milestone	Completion Date
Complete installation of fenced gate	September 2022

Port Renfrew Water

20-01 | Hydrant Replacement Program

Project Description: Hydrants are reaching their end of life and require replacement.

Project Rationale: The hydrants in the water system are nearing their end of life. To maintain fire protection planned hydrant replacement is required on an annual basis. Priority is based on Operator and community input.

Project Update and Milestones:

Milestone	Completion Date
First two hydrant replacements	Summer of 2022

22-01 Alternative Approval Process (AAP)

Project Description: An (AAP) to fund Supply System Replacement and asbestos cement (AC) Pipe Replacement Program.

Project Rationale: A referendum is required to seek elector consent to borrow to fund the supply system replacement, AC pipe replacement, and Supervisory Control and Data Acquisition (SCADA) replacements.

Project Update and Milestones:

Milestone	Completion Date
Project information is being gathered for the communications strategy	Ongoing
Project funding will have final approval at the CRD Board	March 16, 2022
AAP process will commence with communications and coordination with CRD Legislative Services	Q2

Port Renfrew Sewer

19-03 | WWTP Roof Replacement

Project Description: A new roof was required for the wastewater treatment plant (WWTP) as the existing roof and support system is rotten. The roof was dangerous to walk on and walk under as it could collapse. Roof replacement included support studs, rafters, insulation, sheeting, skylight and a torch-on roof. A construction contractor was engaged, the roof has been replaced and the project is now complete.

22-01 | Genset Upgrade

Project Description: A new genset is required to provide standby power for the whole WWTP.

Project Rationale: The existing genset only provides standby power for the influent pumps. During a power outage, the blowers do not operate and this puts the WWTP out of compliance

with the regulations. A new genset is required to provide standby power for the whole WWTP.

Project Update and Milestones:

Milestone	Completion Date
A Community Works Fund application is in process for approval. Upon approval, procurement through a quotation process will be used and upon delivery the genset installed at the new facility.	In progress

22-02 | Alternative Approval Process – Project Has Been Deferred To 2023

Project Description: Based on information in the Options Study (21-02), carry out an AAP in order to borrow funds for required system renewal (one or multiple phases).

Project Rationale: Based on information in the Options Study (21-02), carry out an AAP in order to borrow funds for required system renewal (one or multiple phases). With the first phase being design and construct a new outfall, planning and acquiring land for a new WWTP, and repair leaking sewer conveyance piping.

Project Update and Milestones:

Milestone	Completion Date
Project information is being gathered for the communications strategy.	Ongoing
Project funding will have final approval at the CRD Board'	March 16, 2022
AAP process will commence with communications and coordination with CRD Legislative Services	Q2
Project deferred	Fiscal 2023

OPERATIONAL UPDATE

Port Renfrew Water

- January 19, 2022 local operations staff responded to a leak at Klannanith Street and Parkinson Road where a contractor had damaged the 150 millimeter AC water while installing a new culvert pipe. Positive pressure was maintained within the watermain and local operators repaired the leak by installing a leak clamp.
- The aerator motor for the water treatment plant H_2S scrubber has reached the end of it's useful life and will soon need to be replaced. The motor has been ordered in anticipation of failure and to have on hand for installation later this year. It will take a significant effort to replace the motor as scaffolding will have to be erected to access the motor.
- Operations staff have been working to expose buried isolation valves on the watermains. Many of the valves have been paved over, buried or covered in overgrowth. Operators will locate and mark these valves so they are available in an emergency or when needed to isolate the water system for maintenance.

Port Renfrew Sewer

- As the Beach Camp community has moved from seasonal to year round living the stresses on the WWTP have increased. In the past the sludge tank required pumping out four to six times per year. This year it is on pace for 10 to 12 pump-outs.
- The wooden weirs and backflow prevention device at the WWTP will both require replacement this year. This work will be scheduled during the summer months.
- There was a flow exceedance at the WWTP due to the inflow and infiltration as a result of the January 13 and 14 storm event.
- There is a requirement to inspect the WWTP outfall on a regular basis. The Port Renfrew inspection will happen this summer in conjunction with other outfall inspections for which Integrated Water Services is responsible.

RECOMMENDATION

There is no recommendation. This report is for information only.

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

Port Renfrew Utility System

2021 Annual Report

CRD | 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.

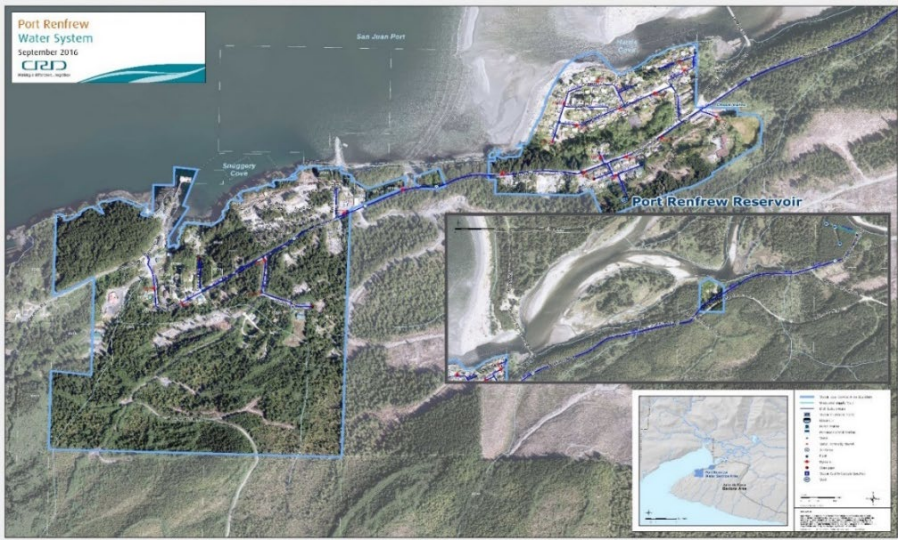

Figure 1: Map of the Water Service Area

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.

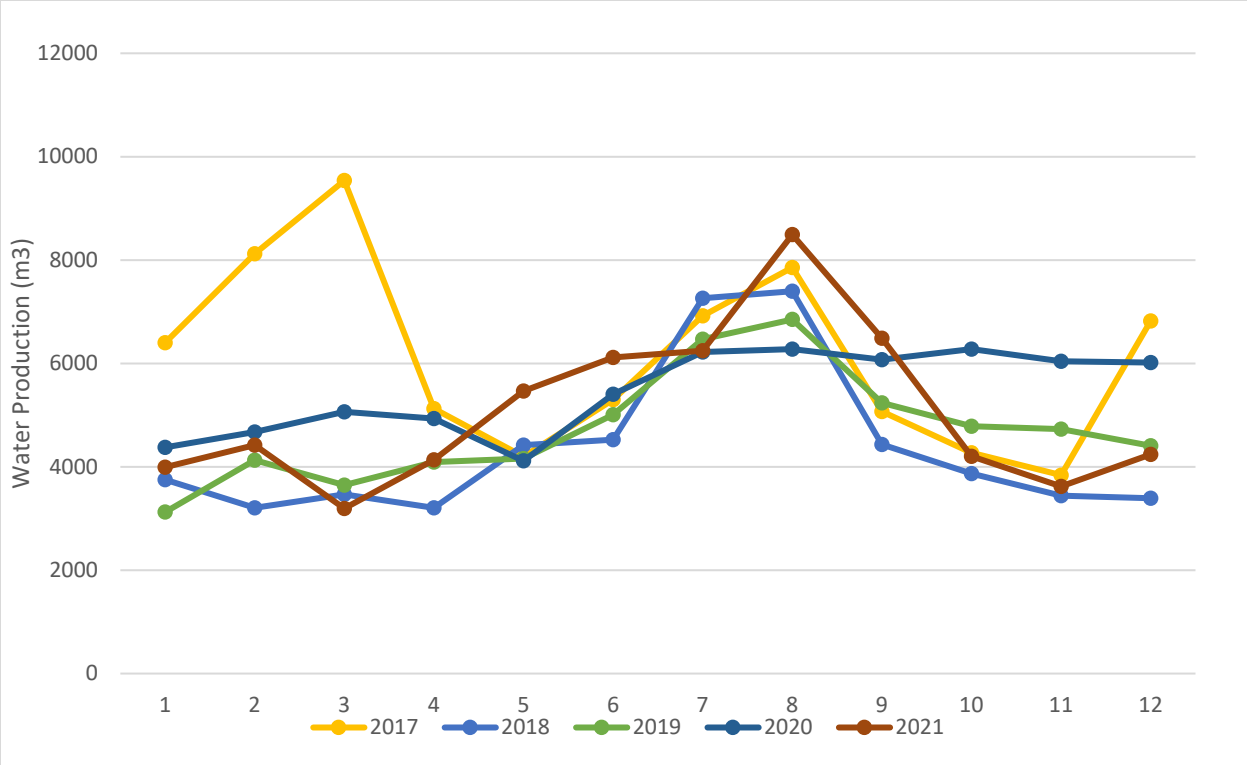

Figure 2: Water Service Monthly Water Production

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).

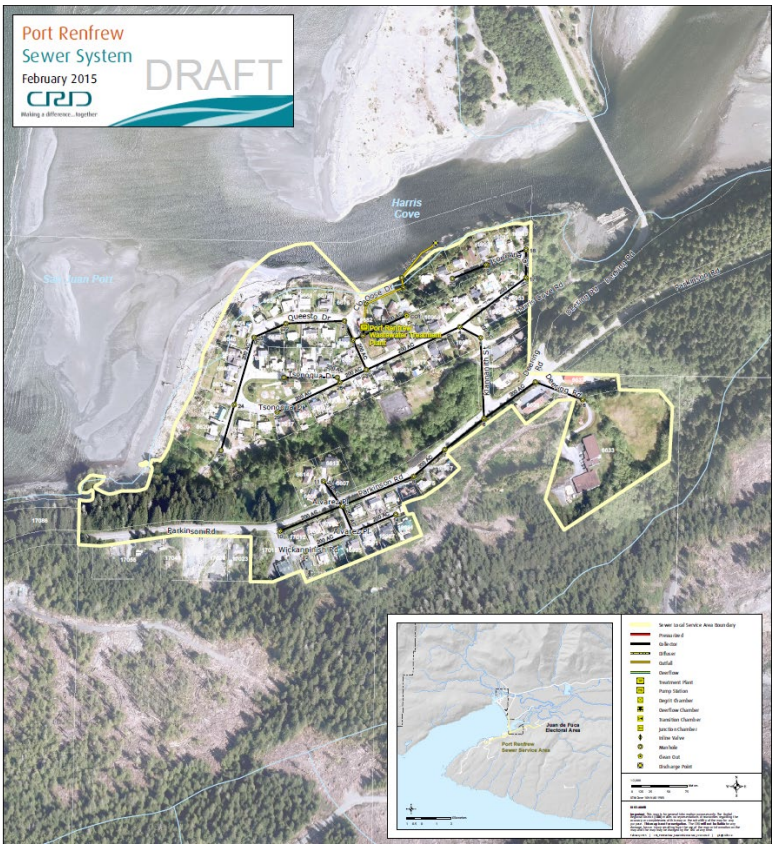

Figure 3: Map of the Sewer Service Area

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.

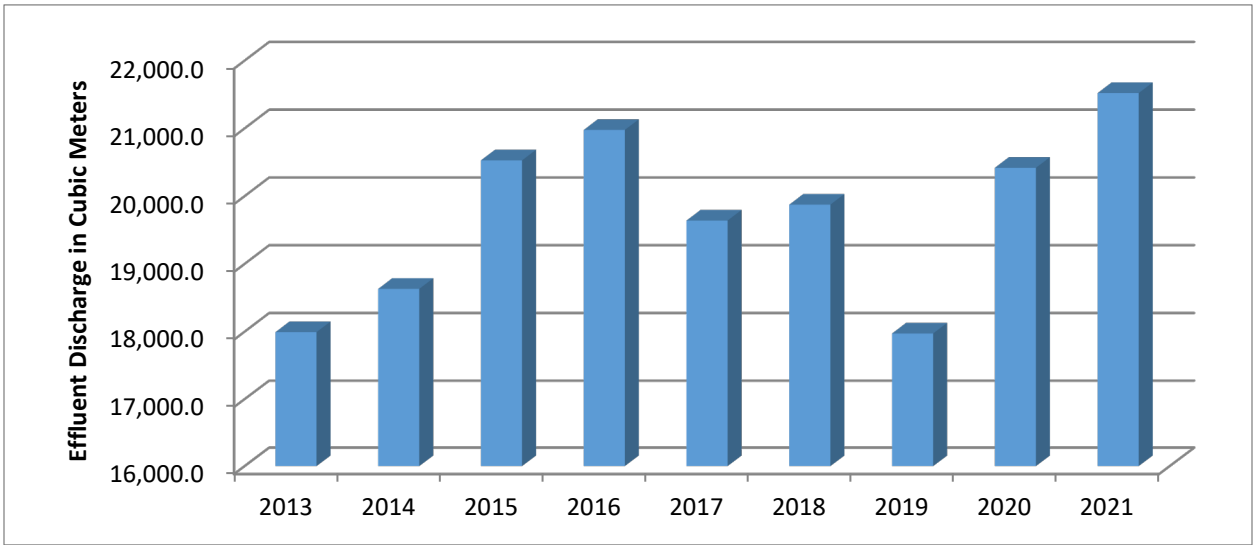

Figure 4: Port Renfrew Sewer Flow Trends

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)
	Total recyclables	**76 tonnes (no change from 2020)**

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
	Glenn Harris, Ph.D., R.P.Bio., Senior Manager, Environmental Protection
	Rianna Lachance, BCom, CPA, CA, Senior Manager, Financial Services
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

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 Minimum	Range Maximum	≤ = Less than or equal to	Median	Samples Analyzed	Range 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.	Range 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
Revenue		
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
Total Revenue	121,049	144,527
Expenses		
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
Total Expenses	118,995	141,008
Net revenue (expenses)	2,054	3,519
Transfers to own funds:		
Capital Reserve Fund	54	1,519
Operating Reserve Fund	2,000	2,000
Annual surplus/(deficit)	-	-
Accumulated surplus/(deficit), beginning of year	-	-
Accumulated surplus/(deficit), end of year $	-	-

CAPITAL REGIONAL DISTRICT

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

	Capital Reserve	
	2021	**2020**
Beginning Balance	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
Ending Balance	52,500	80,799

	Operating Reserve	
	2021	**2020**
Beginning Balance	2,021	-
Transfer from Operating Budget	2,000	2,000
Transfer to Operating Budget	-	-
Interest Income	50	21
Ending Balance	4,071	2,021

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CAPITAL REGIONAL DISTRICT

SNUGGERY COVE WATER
Statement of Operations (Unaudited)
For the Year Ended December 31, 2021
Discontinued in 2020

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

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CAPITAL REGIONAL DISTRICT

PORT RENFREW SEWER
Statement of Operations (Unaudited)
For the Year Ended December 31, 2021

	2021	2020
Revenue		
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
Total Revenue	120,661	111,531
Expenses		
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
Total Expenses	116,424	113,733
Net revenue (expenses)	4,238	(2,202)
Transfers to own funds:		
Capital Reserve Fund	2,035	-
Annual surplus/(deficit)	2,202	(2,202)
Accumulated surplus/(deficit), beginning of year	(2,202)	-
Accumulated surplus/(deficit), end of year	$ -	(2,202)

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CAPITAL REGIONAL DISTRICT

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

	Capital Reserve	
	2021	**2020**
Beginning Balance	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
Ending Balance	7,612	21,548

	Operating Reserve	
	2021	**2020**
Beginning Balance	21	-
Transfer from Operating Budget	-	-
Transfer from Reserves	305	-
Transfer to Operating Budget	-	-
Interest Income	23	21
Ending Balance	349	21

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CAPITAL REGIONAL DISTRICT

PORT RENFREW STREET LIGHTING
Statement of Operations (Unaudited)
For the Year Ended December 31, 2021

	2021	2020
Revenue		
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
Total Revenue	6,693	7,135
Expenses		
General government services	425	404
Electricity	6,813	6,455
Other expenses	83	72
Total Expenses	7,321	6,930
Net revenue (expenses)	(628)	205
Annual surplus/(deficit)	(628)	205
Accumulated surplus/(deficit), beginning of year	2,148	1,943
Accumulated surplus/(deficit), end of year	$ 1,520	2,148

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CAPITAL REGIONAL DISTRICT

PORT RENFREW REFUSE
Statement of Operations (Unaudited)
For the Year Ended December 31, 2021

	2021	2020
Revenue		
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
Total Revenue	99,759	87,167
Expenses		
General government services	3,867	3,419
Contract for Services	89,287	74,007
Utilities & Telecommunications	1,796	1,860
Other expenses	402	123
Total Expenses	95,352	79,409
Net revenue (expenses)	4,407	7,758
Transfers to own funds:		
Capital Reserve Fund	4,000	4,704
Equipment Replacement Fund	407	3,054
Annual surplus/(deficit)	-	-
Accumulated surplus/(deficit), beginning of year	-	-
Accumulated surplus/(deficit), end of year	$ -	-

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CAPITAL REGIONAL DISTRICT

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

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

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

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